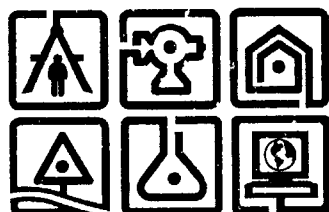


May 2005



## Remedial Design Work Plan

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

Independent Leather  
Site Number B-00158-5  
321-333 South Main Street  
City of Gloversville  
Fulton County, New York

*Prepared for:*

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**ENVIRONMENTAL RESTORATION PROJECT  
REMEDIAL DESIGN WORK PLAN  
INDEPENDENT LEATHER  
321-333 SOUTH MAIN STREET  
GLOVERSVILLE, NEW YORK**

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**ENVIRONMENTAL RESTORATION PROJECT  
REMEDIAL DESIGN WORK PLAN  
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- Appendix A: February 1, 2005 Data Usability Summary Report for Soil Gas

## 1.0 INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the Independent Leather Tannery located at 321-333 South Main Street in the City of Gloversville, Fulton County, New York. The components of the remedy are detailed in the February 2004 Environmental Restoration Record of Decision (ROD), as prepared by NYSDEC.

For implementation of the NYSDEC selected remedy, a detailed design and construction of the remedy conceptualized in the Record of Decision is required. This Remedial Design (RD) Work Plan is intended to establish the documents that will be prepared as part of the detailed design, and provides a schedule for their submittal.

The result of the Remedial Design is a set of plans, specifications and construction cost estimates which are suitable for bidding and construction. Asbestos Abatement and Building Demolition plans and specifications have already been prepared, approved and implemented to complete Phase I Remediation of this project. Plans and specifications for Phase II Remediation will be prepared on the basis of this Remedial Design Work Plan and the associated Remedial Design Report.

### 1.1 Remedial Action Approach

The selected remedial action for this project was Alternative No. 4 of the February 2004 ROD issued by NYSDEC, which is entitled "Expanded soil excavation and disposal of select contaminated areas and soil barrier to contact within institutional controls for the remaining contaminated areas". The generalized elements of the remedy are as follows:

- demolish and dispose the remaining building to allow access to underlying contaminated soils;
- excavation and disposal of petroleum contaminated soils on the eastern portion of the site;
- further sampling and investigation, and potential excavation and disposal of arsenic impacted soils on the eastern portion of the site;

- conduct surface soil sampling on the off-site properties south of the site to determine arsenic and chromium concentrations in soil;
- provide a barrier to contact in site locations where arsenic, chromium and petroleum contamination exists above Standards, Criteria and Guidance (SCGs);
- develop a Site Management Plan (SMP) to address encountering residual contaminated soil during future site development, to evaluate and mitigate potential for vapor intrusion, and restrict groundwater use;
- impose institutional controls with an Environmental Easement to limit the use and development of the site to commercial and industrial uses only, to restrict groundwater use as a source of potable or process water without treatment, and to require the owner of the site to complete and submit an annual certification to NYSDEC;
- develop an Operations, Maintenance and Monitoring (OM&M) Plan and Manual for implementing a long-term monitoring program to periodically sample select monitoring wells to monitor the groundwater quality relative to site contamination;
- provide an annual certification prepared and submitted by a professional engineer or environmental professional acceptable to the Department, which would certify that the institutional and engineering controls put in place, are unchanged from the previous certification and that the ability to control protection of public health or the environment complies with the OM&M plan and SMP; and
- notify NYSDEC prior to site development and change in ownership.

It is planned to complete the design and implementation of the remedial action in two phases. The components of Phase I and Phase II remediation are described in the following sections.

## 1.2 Phase I Remediation

The first phase of remediation was construction of a temporary haul road for construction traffic, installation of fencing preventing public access, removal of the deteriorated existing bridge, installation of new bridge abutments and bridge to cross the creek and provide access the east side of the site, abatement of asbestos containing materials (ACM) associated with the building, and demolition of the remaining site building. Figure 1 depicts the site and its associated Phase I Remediation (Demolition Plan) scope of work, which was completed in May 2005.

Building demolition was necessary for the purpose of soil remediation beneath the building's floor slab. The USEPA, as part of their previous Emergency Response Action completed at the site, evaluated and subsequently removed all wastes from the interior and decontaminated the interior surfaces of this building. On the basis of this information, materials other than ACM did not require special handling prior to demolition.

Some of the components of the Phase I Remediation, specifically the chain link fence, haul road, and new bridge were left in-place upon completion of the Phase I Remediation to facilitate completion of Phase II Remediation. Since impacted soils are expected beneath the building floor slab, the concrete slab was left in-place during Phase I Remediation. The removal of the slab will occur during Phase II Remediation when the underlying soils can be subsequently investigated and remediated, as necessary.

C.T. Male has already prepared technical plans and specifications for publicly bidding Phase I remediation in accordance with the NYSDEC Environmental Restoration Program (ERP) requirements. NYSDEC was involved in the review and approval of the bidding documents and approval to award the project to the low responsive bidder. Ritter and Paratore Contracting, Inc. of Utica, New York was issued the Notice of Award on January 19, 2005 and the Notice to Proceed on February 24, 2005. Phase I Remediation was recently completed on May 10, 2005.

### **1.3 Phase II Remediation**

The second phase of remediation at the site will involve further characterization of the site with respect to arsenic and chromium impacts to soil, excavation and disposal of the building's concrete floor slab, excavation and disposal of impacted soils (petroleum, arsenic and/or chromium), soil dewatering and treatment of the impacted water removed, removal of the temporary haul road, and installation of a soil barrier to contact. The bridge and chain link fence remain after completion of Phase II Remediation and will remain after completion of Phase II Remediation. Figure 2 depicts the site and a Preliminary Phase II Remediation scope of work, which is planned for summer or fall of 2005.

Additional investigative sampling was performed to resolve uncertainties relative to the extent of arsenic and chromium contamination on the eastern side of the site for preparation of the technical plans and specifications for bidding. C.T. Male will utilize the findings of this additional sampling to prepare technical plans and specifications for publicly bidding Phase II Remediation in accordance with the NYSDEC Environmental Restoration Program (ERP) requirements.

The submittals for Phase II Remediation design will be completed at 30%, 75% and 95% of final design. The 30% design will consist of the submission of this Remedial Design Work Plan. The 75% design will consist of the submission of the Remedial Design Report. The 95% design will consist of the design plans and specifications to be used for public bidding. Each of these design stages will require NYSDEC review and input.

Final design documents will be submitted to NYSDEC for approval prior to advertisement to bid. The final design submission of the plans and specifications will be all inclusive, which is signed and stamped by a professional engineer licensed to practice in New York State. Submission of final plans and specifications for Phase II is expected to be in spring 2005.

### **1.4 Off-site Investigation and Potential Remediation**

A component of the site's ROD was to sample the off-site properties located south of the site, specifically 5 Hill Street and 7 Hill Street, to determine the arsenic and chromium

concentrations in soils. The intent of the sampling was to determine if there were arsenic and/or chromium impacts to soil existing on these adjoining properties.

C.T. Male collected and analyzed three soil samples (Off-site SS-1 through Off-site SS-3) from the 7 Hill Street property in June/July 2004. The analytical results were transmitted to NYSDEC in an October 7, 2004 letter from C.T. Male and also transmitted to the Mr. Carden and Mr. Vrooman, owners of the 5 Hill Street and 7 Hill Street properties, respectively in an October 27, 2004 letter from NYSDEC.

The soil samples were collected from three discreet depth intervals at each sampling location. The depth intervals were; 0-2 inches beneath vegetative root zone; 10-12 inches below grade; and 18-20 inches below grade. The soil samples were analyzed for total arsenic and chromium. The analytical results are summarized as follows:

<b>Off-site SS-1</b>	<b>0-2"</b>	<b>10-12"</b>	<b>18-20"</b>
Total Arsenic (mg/kg)	70.9	69.8	32.9
Total Chromium (mg/kg)	11,700	11,700	7,920
<b>Off-site SS-2</b>	<b>0-2"</b>	<b>10-12"</b>	<b>18-20"</b>
Total Arsenic (mg/kg)	5.2	6	Not Analyzed
Total Chromium (mg/kg)	21.7	32.2	36.3
<b>Off-site SS-3</b>	<b>0-2"</b>	<b>10-12"</b>	<b>18-20"</b>
Total Arsenic (mg/kg)	1.3	0.95	Not Analyzed
Total Chromium (mg/kg)	8.8	4.5	Not Analyzed

Based on the initial analytical results shown above, some of the concentrations of arsenic and chromium were above NYSDEC regulatory values. Therefore, the extent of arsenic and chromium concentration in soils remained undetermined based on the limited number of samples collected. Additional investigation of the adjoining properties was warranted and performed as described in Section 2.2.



## 2.0 REMEDIAL DESIGN SAMPLING

### 2.1 General

For the preparation of technical plans and specifications and engineer's cost estimates for bidding, further investigation of the arsenic and chromium was required on the eastern part of the site (on-site sampling) and on the adjoining properties to the south known as 5 and 7 Hill Street properties (off-site sampling). The sampling consisted of collecting surface and subsurface soil samples and analyzing them for total arsenic and chromium. The samples were collected and analyzed to the depth necessary to achieve NYSDEC TAGM recommended soil cleanup objective values for arsenic and chromium, 7.5 mg/kg and 50 mg/kg, respectively. The goal of the sampling was to evaluate the site concentrations of arsenic and chromium so that the appropriate site specific action level could be determined relative to the future use scenarios. The Department will be consulted on the cleanup criteria for the site and off-site properties.

In addition to the soil sampling, soil gas vapor and tannery equipment wood sampling and laboratory analyses was warranted. Completion of this sampling will be used to identify those remedial design considerations necessary for implementing the remedial action at the site. The scope of work for the remedial design sampling has been submitted to NYSDEC in the following correspondences:

- April 23, 2004 Letter entitled Surface Soil and Soil Gas Sampling Plan (Revised)
- November 1, 2004 Letter entitled Supplemental Off-site Sampling Scope
- November 10, 2004, Letter entitled Remedial Design Sampling Scope

Each of the work scopes described in these letters were reviewed and approved by NYSDEC prior to implementing. The following sections describe the current progress relative to the various remedial design sampling tasks being performed.

### 2.2 On-site Soil Sampling

As described in a March 8, 2005 Remedial Design Preliminary Results Letter to NYSDEC, C.T. Male analyzed the majority of the soil samples collected from subsurface

boring locations RD01 through RD17 as part of the remedial design in accordance with the February 2004 NYSDEC Record of Decision (ROD). The locations of the borings RD01 through RD17 are shown on Figure 3. The letter presented and described the results of sampling completed and requested the Department's concurrence that no further analysis of the remaining sampling intervals being retained at the laboratory is required.

Prior to completing the additional on-site sample, it was anticipated that the arsenic and chromium concentrations in soil would decrease with depth to concentrations at or below NYSDEC regulatory values and the concentrations would define the depth of soil removal required as part of the site's remedial actions. The analytical results did not entirely define the limits of arsenic and chromium within the depths explored and it is our opinion that the depth of soil removal should be on the order of one to two feet so that the existing site grade can remain similar to the proposed site grade after placement of the soil barrier to contact. With this proposed depth of soil removal, arsenic and chromium will remain on-site beneath the soil barrier to contact at concentrations greater than NYSDEC TAGM 4046 recommended soil cleanup objective values, as shown on the attached analytical summary table.

Acceptance of C.T. Male's proposed depth of soil removal and placement of a similar depth of soil barrier to contact is pending from NYSDEC and NYSDOH. The analytical results for on-site sampling event will be subjected to third party data validation in accordance with NYSDEC Guidance for Preparation of Data Usability Summary Reports (DUSR). The DUSR will be forwarded to NYSDEC upon completion.

### **2.3 Off-site Soil Sampling**

C.T. Male conducted a NYSDEC approved sampling event in March 2005 which included collection and analyses of soils samples from twenty-eight sampling locations (Off01 through Off28), as shown on Figure 4. Representative soil samples from each location were collected from the 0-2, 10-12, 18-20, 24-26, 36-38 and 46-48 inch below grade intervals. The first three sampling intervals were analyzed for arsenic and chromium, and the other intervals were placed on hold at the lab pending analysis of the previous. If sample results of the first three intervals are above NYSDEC regulatory values, additional intervals will be released for analyses until NYSDEC regulatory values are met. The analytical results for this sampling event are currently pending, but

when available (within a month), will be presented to NYSDEC for evaluating and implementing the appropriate remedial actions, if any, on the adjoining properties. The analytical results will then be subjected to third party data validation in accordance with NYSDEC Guidance for Preparation of Data Usability Summary Reports (DUSR). The DUSR will be forwarded to NYSDEC upon completion.

## 2.4 Soil Vapor Sampling

C.T. Male conducted a NYSDEC approved sampling event in September 2004 which included collection and analyses of soil gas vapor samples from six sampling locations (Soil Gas-1 through Soil Gas-5), as shown on Figure 3. One of the six proposed sampling locations (Soil Gas-6) was not analyzed due to equipment failure at the time of sampling. All of the remaining analytical data has been received and subjected to third party data validation. A copy of the February 1, 2005 DUSR is provided as Appendix A. The validated analytical results (detections only) for the soil vapor are presented in Table 2.4-1.

Table 2.4-1						
Soil Gas Analytical Results (Validated Data)						
TO-15 Compound	Ambient	Soil Gas-1	Soil Gas-2	Soil Gas-3	Soil Gas-4	Soil Gas-5
Chloroethane	ND (1.3)	ND (13)	1.1	ND (260)	ND (1.3)	ND (1.5)
Trichloro- fluoromethane	ND (0.5)	ND (28)	ND (2.8)	ND (560)	ND (2.8)	3.7 J
Methylene Chloride	ND (1.7)	ND (17)	ND (1.7)	520	ND (1.7)	ND (1.9)
Chloroform	ND (0.5)	ND (24)	ND (2.4)	ND (490)	5.9	2.8 NJ
Toluene	ND (0.5)	ND (19)	7.9	1,100	4.1	5.7 J
Tetrachloro- ethene	ND (0.5)	ND (34)	ND (3.4)	ND (680)	ND (3.4)	5.4
Chlorobenzene	ND (2.3)	ND (23)	ND (2.3)	460	ND (2.3)	ND (2.5)

Table 2.4-1 Soil Gas Analytical Results (Validated Data)						
TO-15 Compound	Ambient	Soil Gas-1	Soil Gas-2	Soil Gas-3	Soil Gas-4	Soil Gas-5
Xylene (m,p)	ND (0.5)	ND (22)	3.9	ND (430)	2.8	5.2 J
Carbon Disulfide	5.3	ND (16)	5.9	1,300	ND (1.6)	ND (1.7)
Acetone	13 J	ND (120)	29 J	2,400	19 J	29 J
Cyclohexane	ND (1.7)	ND (17)	13	340	ND (1.7)	ND (1.9 J)
Methyl Ethyl Ketone	1.7	ND (15)	4.7 NJ	ND (290)	2.2	3.2 J
Methyl Isobutyl Ketone	ND (2)	ND (20)	2.5	ND (410)	ND (11)	ND (14)
Methyl Butyl Ketone	ND (2)	ND (20)	ND (2)	ND (410)	ND (2)	27 J
n-Hexane	2.3	ND (18)	6.3	1,000	7	7.4
Total Xylene	ND (2.2)	ND (22)	4.2	ND (430)	3	5.6

## Notes:

All results are presented in micrograms per cubic meter of ug/m<sup>3</sup>.

"ND" denotes non-detect at the numeric laboratory detection limited listed in parenthesis.

"J" denotes a qualifier for an estimated value.

"N" denotes a qualifier for a tentative value.

The intent of the soil gas sampling was to assess the potential for soil vapor intrusion into proposed site structures. The analytical results indicate that a limited number of volatile organic compounds were detected at relatively low level concentrations. Based on a relative comparison of the analytical results, the concentrations of volatile organic compounds appear to be elevated at Soil Gas-3. Otherwise, the detected concentrations at the remaining locations appear to be of similar magnitude as background

concentrations listed in the Draft Guidance for Evaluating Soil Vapor Intrusion in the State of New York (February 2005) prepared by NYSDOH.

At this time, proposed development of the site is uncertain and remedial actions are pending. After completion of remedial actions, further evaluation of the site's soil vapor intrusion potential may be necessary in the footprint of proposed site structures prior to site development. Construction of a vapor barrier beneath proposed structures may be a viable alternative in lieu of performing additional soil vapor intrusion sampling and testing. NYSDEC will be consulted in this regard prior to site development.

## **2.5 Tannery Equipment Sampling**

There were two large wooden tanning drums located within the structure that was demolished as part of Phase I Remediation. No other tannery equipment had remained in the building prior to demolition. The technical plans and specifications for building demolition were designed such that the contractor was required to remove these wheels from the building and staged them on-site (on plastic and covered with plastic) for characterization by the Engineer. The plans and specifications did not require the contractor to dispose of these drums as part of the contract due to the uncertainty in their environmental quality.

Based on our experience at other tanning facilities, the potential existed for these drums to contain arsenic and/or chromium at hazardous levels. As the use of these drums was unclear, representative wood samples were collected in February 2004 from these wheels and analyzed for hazardous waste characterization following the Toxicity Characteristics Rule to determine if the drums are defined as hazardous waste and need to be addressed as such for the scheduled building demolition. The analytical results were received and discussed in a March 28, 2005 Tannery Equipment Wood Sample Results Letter to NYSDEC. The analytical data used for the preparation of that letter were not sent for DUSR validation as it was primarily for waste characterization.

The majority of the analytical parameters were not detected above the laboratory method detection limit. The remaining parameters detected above the method detection limit were at relatively low concentrations below their respective NYSDEC Hazardous Waste Regulatory Levels. Based on the analytical results described in the

March 28, 2005 letter, the tanning drums were not hazardous on the basis of known site contaminants, ignitability, corrosivity and reactivity. Considering these results, there were no special disposal requirements for the tanning equipment drums. The Contractor disposed the tannery equipment as construction and demolition debris at the Fulton County Landfill with the other wooden demolition debris from building demolition.

### **3.0 PHASE II PLANS AND SPECIFICATIONS**

#### **3.1 General**

Plans and specifications have already been prepared, approved by NYSDEC, used for competitive public bidding, and used to complete Phase I remediation. Phase II remediation plans and specifications will be prepared on the basis of the results of the remedial design sampling and preliminary design considerations described herein. The remedial action design will be submitted to NYSDEC for approval prior to implementation.

#### **3.2 Analytical Sampling**

##### **3.2.1 Post-remediation Verification Samples**

Verification sampling will be required upon satisfactory completion of the petroleum impacted soil removal and prior to placement of backfill. This is anticipated to be required in the area of the former 20,000 gallon fuel oil tank and possibly beneath the building floor slab, if petroleum impacts are observed at the time of the floor slab removal.

Verification soil samples will be collected from the excavation floor and walls at frequencies and locations consistent with Section 5.4, Remedial Action Performance Compliance of NYSDEC Draft DER-10, dated December 2002. The verification samples will be analyzed for the NYSDEC STARS Memo No. 1 list of volatile organic compounds and semi-volatile organic compounds (base-neutral) by EPA Methods 8021 and 8270, respectively. The main purpose of the verification sampling is to document the effectiveness of the petroleum impacted soil removal remedial action. If groundwater infiltration is significant a groundwater sample from the open excavation may replace excavation floor samples. The following sampling guidelines will be followed:

- For excavations less than 20 feet in perimeter, at least one bottom sample and one sidewall sample biased in the direction of surface runoff.

- For excavations 20 to 300 feet in perimeter, one sample from the bottom of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
- For excavations larger than 300 feet in perimeter, the sampling frequency will be reduced based on consultation with NYSDEC.

Post-remediation verification soil sampling will not be required upon completion of surface soil removal for arsenic/chromium remediation and placement of the soil barrier to contact. Verification sampling is not necessary as numerous samples have already been collected and analyzed from various locations and depths on the eastern portion of the site and the remaining soils will be covered with an acceptable surface cover in accordance with the Section 3.6.

### **3.2.2 Waste Characterization**

Analytical sampling will be required for on-site soil planned for off-site disposal. The frequency and parameters of the sampling will be dictated by the disposal facility accepting the material. The disposal location must be permitted by NYSDEC to accept the materials requiring disposal. The contractor awarded the Phase II remediation work will be required to perform appropriate waste characterization for proper waste disposal as part of contract documents.

If remedial activities at the site reveal unforeseen or unexpected conditions such as drums or unusually discolored soil, supplemental analytical testing (i.e., TCLP testing) may be required. If these conditions are encountered, NYSDEC will be consulted as to the frequency and parameters of supplemental analytical requirements beyond what may be required for waste characterization and off-site disposal.

### **3.3 Air Monitoring Considerations**

A Community Air Monitoring Plan (CAMP) will be followed by C.T. Male during ground intrusive remedial activities (i.e., excavation and handling of site soils) and handling of potentially contaminated building materials. The intent of CAMP is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of



investigative and remedial work activities. The CAMP is not intended for use in establishing action levels for worker respiratory protection. The CAMP will monitor the air for dust (particulate air monitoring, see Section 3.3.1) and volatile organic compound vapors (VOC air monitoring, see Section 3.3.2) at the downwind perimeter of each designated work area. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown.

### **3.3.1 Particulate Air Monitoring**

C.T. Male will utilize three real-time particulate monitors capable of continuously measuring concentrations of particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less). The instruments will be placed at temporary monitoring stations based on the prevailing wind direction each day, one upwind and one downwind of the work area. The particulate monitoring instruments will be capable of displaying the short term exposure limit (STEL) or 15 minute averaging period, which will be field checked and recorded for comparison to the NYSDOH Generic Community Air Monitoring Plan action levels for VOCs, as listed below. The particulate readings will be manually monitored, but the instruments are programmed to alarm at preset action levels. Instantaneous readings will be recorded periodically throughout the work day. At the end of each day, the readings for each instrument will be downloaded to a PC and retained for future reference and reporting.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter ( $\text{mcg}/\text{m}^3$ ) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150  $\text{mcg}/\text{m}^3$  above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150  $\text{mcg}/\text{m}^3$  above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150  $\text{mcg}/\text{m}^3$  of the upwind level and in preventing visible dust migration.

In the event of poor weather such as heavy snow or rain, particulate monitoring will not be performed for protection of instrumentation. These weather conditions would

limit the effectiveness of the sensitive monitoring equipment and likely suppress particulate generation. Work activities will be halted if fugitive dust migration is visually observed for a sustained period of time.

### **3.3.2 Volatile Organic Compound Air Monitoring**

The contaminants of concern for the site include petroleum products, which are volatile and semi-volatile organic compounds that have the potential to be released to the environment when disturbed. C.T. Male will monitor for volatile organic compounds (VOCs) at the downwind perimeter of the immediate work area on a periodic basis with a MiniRAE 2000 handheld VOC monitor or equal. Upwind concentrations will also be measured at the start of the work day and periodically thereafter to evaluate the site's background conditions. This unit is capable of displaying the STEL (15 minute averaging period) which will be field checked and recorded for comparison to the NYSDOH Generic Community Air Monitoring Plan action levels for VOCs, as listed below. The VOC readings (STEL) will be manually recorded for future reference and reporting. Instantaneous readings will be recorded periodically throughout the work day.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. Work activities will then be evaluated to determine the source and engineering controls required to reduce/eliminate organic vapors.

### **3.4 Dust Control**

Dust suppression techniques will be required of the contractor awarded the Phase I remediation work, as necessary to control fugitive dust to the extent practical during remediation. Such techniques must be employed, at a minimum, if the community air monitoring results indicate that particulate levels are above action levels. All reasonable attempts will be made to inhibit visible and/or fugitive dusts. Techniques to be utilized by the contractor may include one or more of the following:

- Applying water to haul roads.
- Wetting equipment and excavation faces.
- Spraying water on buckets during excavation and dumping.
- Hauling materials in properly tarped containers or vehicles.
- Restricting vehicle speeds on-site.
- Covering excavated areas and materials after excavation immediately after activity ceases.

The contractor will be required to perform dust control measure in a manner consistent with the applicable portions of the "New York Guidelines for Urban Erosion and Sediment Control" and the "New York State Stormwater Management Design Manual".

### **3.5 Backfill and Compaction**

Backfill and compaction requirements will be a function of the planned redevelopment (i.e., pavement, building pad, etc.) if known at the time of completion. If redevelopment plans are unknown at the time of Phase II remediation implementation, the type of backfill and method of compaction will be provided in a manner to stabilize site soils for future development. This will be accomplished by specifying that backfill will be placed in a maximum of 12-inch lifts and compacted with six passes with a smooth drum vibratory roller that has a minimum 10-ton weight. Compaction inspection by a qualified testing agency may be required to assure quality control/quality assurance of the backfill placement.

It is anticipated that an imported material will be necessary for construction of the soil barrier to contact. Laboratory testing of this material will be required to show adequate

environmental quality. The imported material will be required to satisfy the following criteria:

- Off-site borrow soils that are documented as having originated from locations having no evidence of disposal or release of hazardous, toxic or radioactive substances, wastes products, chemical products or petroleum products.
- Off-site soil that does not meet the definition of solid waste in accordance with 6NYCRR Part 360-1.2(a).
- Virgin soil (i.e., derived from a natural pit) that is documented in writing to be native soil material from areas not having supported any known prior historical industrial, commercial development, or agricultural use. Virgin soil will be subject to collection of one representative composite sample per source. The sample should be analyzed for the Target Compound List (TCL) volatile organic compounds, semi-volatile organic compounds, pesticides, PCBs, and metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and cyanide). The soil will be acceptable for use as backfill provided that all parameters are equal to or below site SCGs.
- Non-virgin soils (i.e., not derived from a natural pit) that will be analyzed at a frequency of one composite sample for every 500 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are borrowed from a given off-site non-virgin soil source area and both samples for the first 1,000 cubic yards meet site SCGs, the sample collection frequency will be reduced to one composite sample for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample for every 5,000 cubic yards, provided previous samples met site SCGs.

### **3.6 Acceptable Surface Cover Requirements**

The purpose of the surface cover is to mitigate the potential for human contact with impacted soils, reduce and/or eliminate infiltration of precipitation through fill soils to groundwater and to eliminate the potential for contaminated runoff from the property. The acceptable surface cover will consist of one of the following types of material.

- Soil: Twelve inches of vegetated soil cover. The soil must be below the site SCGs or Eastern USA Background on a total basis. A demarcation layer will underlie the soil as an indicator of surface cover breakdown. A demarcation layer will consist of a material or materials, which upon observation or excavation, readily demarcate the acceptable surface cover from underlying existing soils.
- Asphalt: a minimum of six inches of material (asphalt and subbase) in areas that will become roads, sidewalks, and parking lots.
- Concrete: a minimum of six inches of material (concrete and subbase) in areas that will become structures (slab on grade or with basements) or for roads, sidewalks, and parking lots in lieu of asphalt. For slab-on-grade habitable structures, a vapor barrier will be designed and constructed beneath the concrete slab to prevent vapors from entering site structures.

### **3.7 Stormwater Management**

C.T. Male, as part of Phase I remediation, prepared a Stormwater Pollution Prevention Plan (SWPPP) in December 2004. The contractor who performed the Phase I Remediation was required to comply with the requirements of the SWPPP. The contractor awarded the Phase II Remediation will also be required to comply with the December 2004 SWPPP. The owner will be responsible for issuing the Notice of Intent and Notice of Termination to NYSDEC. NYSDEC Acknowledgment of Notice of Intent sent from the Owner was dated February 23, 2005, which identifies the permit identification number for the Independent Leather site as NYR10I341.

In order to satisfy the post construction surface water runoff treatment requirements for the stormwater management regulations, a swale and sand filter system will be installed along the retaining wall on the eastern side of the site and on the western side of the creek traversing the site. The site will be graded post-remediation (Phase II) to slope towards the swale/sand filter system. Underdrains will be installed below the sand filter to direct "filtered" runoff to the Cayadutta Creek through retaining wall penetrations. The swale is designed to detain flow during storm events, ensuring that runoff enters the sand filter in lieu of flowing directly to the creek. The design parameters of the swale/sand filter system are described in the SWPPP.

### 3.8 Soil Dewatering, Storage and Treatment

Soil dewatering may be required to facilitate soil removal depending on the depth of excavation required for Phase II Remediation implementation. The depths to groundwater on the eastern part of the site have been measured to be from three to eight feet below existing site grades. Based on historical analytical testing, groundwater has been impacted from historical site use. Therefore, groundwater generated from soil dewatering operations will require containerization for off-site disposal or on-site treatment. The treated water will be discharged to the local sewer system with coordination and permission from the appropriate agencies.

For groundwater treatment design, the groundwater quality (i.e., contaminants of concern above SCGs) on the eastern portion of the site primarily consists of metals (arsenic, iron, manganese and sodium) and petroleum constituents (benzene, ethylbenzene, xylenes, naphthalene and phenol). The concentrations of these analytes and compounds from site groundwater testing will be used to determine appropriate treatment methods. The treatment system will be designed prior to bidding Phase II remediation or the analytical data will be provided to each bidder for preparation the preparation of their bid (i.e., off-site disposal versus on-site treatment/disposal).

#### **4.0 PHASE I REMEDIATION SCHEDULE AND REPORTING**

##### **4.1 General**

Phase I Remediation was completed in May 2005. C.T. Male provided full-time observation of the site work and periodic updates were provided to the NYSDEC project manager. A final report will be prepared, as described in the Section 4.3.

##### **4.2 Stormwater Pollution Prevention Plan**

The cumulative area of disturbance for this project (Phase I and Phase II) was estimated to be greater than one acre. In accordance with the New York Guidelines for Urban Erosion and Sediment Control and the New York State Stormwater Management Design Manual, erosion and sediment control measures, pollution prevention measures, and post-construction water quality treatment have been designed and presented in a December 2004 Stormwater Pollution Prevention Plan (SWPPP) prepared by C.T. Male. As required, the Notice of Intent (NOI) for stormwater discharges associated with construction activity under the general SPDES General Permit was submitted prior to start of Phase I Remediation. A Notice of Termination will not be submitted after completion of Phase I Remediation, but will be submitted when stabilization occurs after completion of Phase II Remediation.

##### **4.3 Phase I Remediation Final Report**

A draft Phase I Remediation Report will be prepared and submitted to NYSDEC for approval. The report will be prepared in general conformance with the ERP Procedures Handbook, DER-10 Technical Guidance for Site Investigation and Remediation and commonly employed engineering practices. The Final Report will be submitted to NYSDEC within thirty (30) days after receiving formal written comments from NYSDEC.

The primary objective of the Phase I Remediation Final Report is to summarize and discuss the remedial activities completed and any non-conformance to the NYSDEC approved Contract Documents. The Phase I Remediation Final Report will be prepared

and stamped by a New York State licensed professional engineer and may include the following:

- summary of remedy;
- description of problems encountered and their resolution;
- description of changes to the design documents;
- description of change orders;
- list of waste streams, quantity of materials disposed and their disposal location; and
- description of source of fill.



## **5.0 PHASE II REMEDIATION SCHEDULE AND REPORTING**

### **5.1 General**

Phase II Remediation is currently within the design stage. The following sections list and describe the documents that are anticipated to be prepared as part of the remedial design process until project completion. Public bidding for completing Phase II Remediation is targeted for summer of 2005.

### **5.2 Remedial Design Report**

This document will summarize the analytical results of the sampling performed as described in Section 2.0 of this document, present mapping showing the extent of soil impacts by arsenic and chromium, where appropriate, and present a copy of the Data Usability Summary Reports (DUSR) for third party data validation of the analytical results. This report or applicable portions thereof will be incorporated into the soil remediation plans and specifications.

The following design considerations will be presented, in more detail, in the Remedial Design Report and included, where appropriate, within the plans and specifications for Phase II Remediation.

#### **5.2.1 Quality Assurance/Quality Control (QA/QC) Procedures**

Quality control and quality assurance procedures during Phase II Remediation implementation will include horizontal and vertical control through surveying techniques, field measurements, analytical sampling and full time construction observation. These procedures, in part, will be implemented to record and document what areas of the site will be and were excavated as part of the remedial actions, to determine the quality of site media, and for documenting the thickness of acceptable surface cover, and for general conformance to plans and specifications.

When analytical sampling is required for post-remedial verification sampling, a New York State Department of Health (NYSDOH) ELAP certified analytical laboratory will perform the analysis. The analysis will be performed in accordance with NYSDEC ASP Category B protocols. The data deliverables will be subjected to third party data

validation in accordance with NYSDEC Data Usability Summary Reports (DUSR) to document the data is valid and usable.

Waste characterization samples will be necessary for off-site disposal of wastes generated from the remedial activities. Analysis of characterization samples will not require NYSDEC ASP Category B data deliverables, nor will the analytical results be subjected to third party DUSR data validation.

### **5.2.2 Health and Safety Plan (HASP)**

A Health and Safety Plan (HASP) describing the minimum acceptable goals for protection will be included in the bid specifications. The successful bidder for Phase II Remediation will be required to provide a site specific HASP that is certified by a Certified Industrial Hygienist or equivalent. The contractor's employees will be required to have read and understood their company's HASP prior to completing the work.

Health and safety procedures to be followed by C.T. Male personnel will be conducted in accordance with the existing NYSDEC approved site-specific HASP (Exhibit 3 of the November 2001 Site Investigation Work Plan). The existing site specific HASP may be amended for those specific remedial tasks that are not already addressed within that plan prior to implementation of field work.

A copy of the health and safety plans will be available at the site during the performance of remedial activities to which they are applicable.

### **5.2.3 Air Monitoring**

Volatile organic compound (VOC) and particulate air monitoring with electronic instrumentation will be performed during Phase II Remediation. C.T. Male will be observing excavation activities, monitoring vapor and dust monitoring instrumentation, and determining when levels exceed action levels. VOC and particulate air monitoring will be performed at temporary stations (location based on the daily prevailing wind direction) during disturbance activities including subgrade excavation, grading and soil handling in accordance with the applicable sections of the NYSDOH Generic Community Air Monitoring Plan.

#### **5.2.4 Operations, Maintenance and Monitoring (OM&M) Plan & Manual**

An Operations, Maintenance and Monitoring (OM&M) Plan and Manual will be required for this project. The OM&M Plan and Manual will focus primarily on the requirements of the long-term groundwater quality monitoring program, and will guide personnel associated with the site how to maintain the property to meet New York State ERP requirements. There will be no remedial equipment installed as part of the remedy; therefore, maintaining the acceptable surface cover system will be the main components of the OM&M documents. The draft OM&M Plan and Manual will be prepared as part of the remedial design for preliminary review and the final OM&M Plan and Manual will be completed at the time of completion of the remedy.

#### **5.3 Municipality's Request for Authorization to Award**

The municipality will request authorization to award the Phase II Remediation contract to the apparent low responsive bidder in accordance with the Municipal Assistance for ERP Procedures Handbook. The municipality's request will include the bid tabulation, engineer's pre-bid estimate, and other miscellaneous information. The pre-bid estimate will be certified by a registered New York State Professional Engineer. These items will be summarized and packaged for NYSDEC and contract award will not occur until NYSDEC issues written approval to do so. The following miscellaneous items will be included with the municipality's request for authorization to award as supporting documentation.

- Copy of the apparent low bid.
- Evidence of intent of surety to issue the necessary performance and labor material bonds, and evidence of intent to obtain the required insurance for the apparent low bidder.
- A statement from the authorized municipal official indicating the names of the bidder(s) to whom the contract(s) are to be rewarded, the amount of the contract(s), a discussion of the bid process, and recommendation for award.
- Proof of advertising, indicating the circulation of the publication and time allowed for preparation and receipt of bids.

- A copy of each addendum issued during the bidding period and acknowledgment of receipt by all of the bidders.
- Signed copies of the certification by the apparent low bidder regarding compliance with non-collusive bidding requirements.

#### **5.4 Phase II Remediation Final Report**

Upon completion of the Phase II remedial activities and receipt of the analytical laboratory data, if any, a draft Phase II Remediation Report will be prepared and submitted to NYSDEC for approval. The report will be prepared in general conformance with the ERP Procedures Handbook, DER-10 Technical Guidance for Site Investigation and Remediation and commonly employed engineering practices. The Final Report will be submitted to NYSDEC within thirty (30) days after receiving formal written comments from NYSDEC.

The primary objective of the Phase II Remediation Final Report is to summarize and discuss the remedial activities completed and any non-conformance to the NYSDEC approved Remedial Design Work Plan and Contract Documents. The Phase II Remediation Final Report will be prepared and stamped by a New York State licensed professional engineer and may include the following:

- summary of remedy;
- description of problems encountered and their resolution;
- description of changes to the design documents;
- description of change orders;
- list of waste streams, quantity of materials disposed and their disposal location;
- description of source of fill;
- analytical results of samples collected and analyzed (if any);
- dust monitoring results; and
- documentation of areas of the site excavated and/or filled (i.e., as-built drawings).

APPENDIX A

**FEBRUARY 1, 2005 DATA USABILITY SUMMARY  
REPORT FOR SOIL GAS**

# Data Validation Services

120 Cobble Creek Road P. O. Box 208

North Creek, N. Y. 12853

Phone 518-251-4429

Facsimile 518-251-4428

February 1, 2005

Jeff Marx  
C. T. Male Associates  
50 Century Hill Dr.  
Latham, NY 12110

RE: Validation of Independent Leather data -air samples  
STL-VT SDG No. 102472

Dear Mr. Marx:

Review has been completed for the data package generated by Severn Trent Laboratories that pertains to air samples collected 09/17//04 at the Independent Leather site. Seven 6 L summa canister samples (including a field duplicate) were analyzed for volatile analytes by USEPA GC/MS method TO-15 full scan. Matrix spikes and field duplicates were also processed.

The data packages submitted contained full deliverables for validation, but this usability report is generated from review of the summary form information, with review of sample raw data, and some review of associated QC raw data. Full validation has not been performed. However, the reported summary forms have been reviewed for application of validation qualifiers, with guidance from the USEPA Region 2 validation SOP HW-18 and the USEPA National Functional Guidelines for Data Review, as affects the usability of the sample data. The following items were reviewed:

- \* Data Completeness
- \* Case Narrative
- \* Custody Documentation
- \* Holding Times
- \* Internal Standard Responses
- \* Method and Canister Blanks
- \* Field Duplicate Correlations
- \* Laboratory Control Sample (LCS) Recoveries and Correlations
- \* Instrumental Tunes
- \* Initial and Continuing Calibration Standards
- \* Method Compliance
- \* Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable.

**In summary**, sample processing was conducted in compliance with the modified methods. All sample reported results are usable, although some samples have elevated reporting limits due to the matrix, some of the reported detections have been corrected to reflect nondetection, some of the sample analytes are qualified as estimated due to typical processing issues. No data are rejected.

A copy of the laboratory case narrative is attached to this text, and should be reviewed in conjunction with this report. Also included are copies of sample result forms with edits and qualifiers applied in red ink.

### **Data Completeness**

Data packages are complete as received; no resubmissions were required.

### **Volatile Analyses by EPA TO-15**

The detection of 1,1,2-trichloroethane in SOIL GAS-1 is edited to nondetection at the originally reported concentration. The mass spectrum of the associated sample response does not reflect the fragmentation of that compound (nor the standard spectrum of the analyte).

Additionally, the report form for that sample shows an incorrect detection of chlorobenzene not supported by the raw data (no response was observed). This has been edited to nondetection at the CRDL.

This sample was run at dilution due to non-target matrix interferences, resulting in elevated reporting limits.

Due to poor mass spectral match, the detections of methyl isobutyl ketone in SOIL GAS-4 and SOIL GAS-5 are edited to nondetection at the originally reported concentration, (resulting in elevated reporting limits).

Due to poor mass spectral match, the detections of 2-butanone in SOIL GAS-2, and of chloroform and 1,2,4-trimethylbenzene in SOIL GAS-5 are to be qualified as tentative in identification and estimated in value ("NJ" qualifiers). Those results should be used with caution.

Blind field duplicate evaluation was performed on SOIL GAS-5. About half of the detected analyte results show poor correlation, with the Duplicate usually showing significantly higher concentrations than those of the parent sample. It is also observed that the custody notations for the canister pressure readings on Duplicate indicate a malfunction of the system. The following outliers (above 50%RPD or  $>\pm$ CRDL) were observed, results for which are qualified estimated ("J" or "UJ") in the parent sample and its associated duplicate:

<u>Analytes</u>	<u>Correlation (concs in ppbv for parent and duplicate)</u>
Dichlorodifluoromethane	$>\pm$ CRDL (<0.55 and 2.7)
trichlorofluoromethane	$>\pm$ CRDL (<0.55 and 6.6)
toluene	$>\pm$ CRDL (1.5 and 6.3)
m,p-xylene	$>\pm$ CRDL (1.2 and 3.6)
cyclohexane	$>\pm$ CRDL (<0.55 and 3.9)
methyl ethyl ketone	$>\pm$ CRDL (1.1 and 2.4)
methyl butyl ketone	$>\pm$ CRDL (6.5 and <0.5)

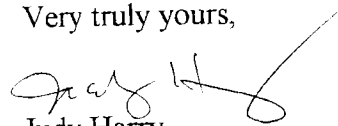
Calibration standard responses are within protocol and validation guidelines, with the following exception, results for which are qualified as estimated in the indicated samples:

- dichlorodifluoromethane (27%D) in AMBIENT, DUPLICATE SOIL GAS-2, SOIL GAS-4, and SOIL GAS-5
- acetone (30%D) in AMBIENT, DUPLICATE SOIL GAS-2, SOIL GAS-4, and SOIL GAS-5

Internal standard responses were compliant. Holding times and instrument tunes meet requirements. Method blanks show no contamination. LCSs were spiked in duplicate, and show acceptable accuracy and precision.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,



Judy Harry





STL

**STL Burlington**

208 South Park Drive, Suite 1  
Colchester, VT 05446

Tel: 802 655 1203 Fax: 802 655 1248  
www.stl-inc.com

October 28, 2004

Ms. Jill Pfister  
Severn Trent Laboratories  
128 Long Hill Cross Road  
Shelton, CT 06484

Re: Laboratory Project No. 24001  
Case: 24001; SDG: 102473

Dear Ms. Pfister:

Enclosed are the analytical results for samples received by STL Burlington on September 21, 2004. This report is sequentially numbered starting with page 0001 and ending with page 0292.

Laboratory numbers have been assigned and designated as follows:

<u>Lab ID</u>	<u>Client Sample ID</u>	<u>Sample Date</u>	<u>Sample Matrix</u>
Received: 09/21/04 ETR No: 102473			
587065	AMBIENT (6363)	09/17/04	Air
587067	SOIL GAS-5 (6434)	09/17/04	Air
587068	DUPLICATE (6402)	09/17/04	Air
587069	SOIL GAS-4 (6486)	09/17/04	Air
587070	SOIL GAS-3 (6672)	09/17/04	Air
587071	SOIL GAS-2 (6426)	09/17/04	Air
587072	SOIL GAS-1 (6567)	09/17/04	Air
587073	TRIP BLANK		Air

Documentation of the condition of the samples at the time their receipt and any exceptions to the laboratory's Sample Acceptance Policy is included in the Sample Handling section of this submittal. The field sample identified as SOIL GAS-6 (6384) was received under full canister vacuum. Therefore, there was no sample volume available for analysis.

In order to accommodate field length limitations in processing the data summary forms, the laboratory did, in certain instances, abbreviate the sample identifiers. The electronically formatted data provides the full sample identifier.

**Method TO-15 – Volatile Organics:**

The analyses of the field samples SOILGAS16567, SOILGAS36672 and SOILGAS56434 were accomplished at dilutions in order to provide quantification of all target analytes within the calibrated range of instrument response. The results of the dilution analyses yielded results that were within the calibration range of the instrument.

The analyses of the blank spike sample R1LCS exhibited a percent recovery of the target compound Dichlorofluoromethane that was marginally outside the control criterion. This outlier is presented on the analytical form 3s.

0001A


**Method TO-15 – Volatile Organics:**

The responses for the target compounds Acetone, Bromoform, 4-Ethyltoluene and 1,1,2,2-Tetrachloroethane in select continuing calibration check acquisitions exceeded the maximum percent difference criterion (30%). These compounds were not detected in the samples of this delivery group.

The analytical results presented in this data report were generated under a quality system that adheres to the requirements specified in the NELAC standard. This report shall not be reproduced, except in full, without the written approval of the laboratory. The release of the data in this report is authorized by the Laboratory Director or his designee, as verified by the following signature.

If there are any questions regarding this submittal, please contact Ron Pentkowski at (802) 655-1203.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Wheeler", with a stylized flourish at the end.

Michael F. Wheeler, Ph.D.  
Laboratory Director

Enclosure

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

AMBIENT (6363)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587065

Date Analyzed: 10/04/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	0.50	U J	0.50	2.5	U J	2.5
Chloromethane	74-87-3	0.50	U	0.50	1.0	U	1.0
Vinyl Chloride	75-01-4	0.50	U	0.50	1.3	U	1.3
Bromomethane	74-83-9	0.50	U	0.50	1.9	U	1.9
Chloroethane	75-00-3	0.50	U	0.50	1.3	U	1.3
Trichlorofluoromethane	75-69-4	0.50	U	0.50	2.8	U	2.8
Freon TF	76-13-1	0.50	U	0.50	3.8	U	3.8
1,1-Dichloroethene	75-35-4	0.50	U	0.50	2.0	U	2.0
Methylene Chloride	75-09-2	0.50	U	0.50	1.7	U	1.7
1,1-Dichloroethane	75-34-3	0.50	U	0.50	2.0	U	2.0
cis-1,2-Dichloroethene	156-59-2	0.50	U	0.50	2.0	U	2.0
Chloroform	67-66-3	0.50	U	0.50	2.4	U	2.4
1,1,1-Trichloroethane	71-55-6	0.50	U	0.50	2.7	U	2.7
Carbon Tetrachloride	56-23-5	0.50	U	0.50	3.1	U	3.1
Benzene	71-43-2	0.50	U	0.50	1.6	U	1.6
1,2-Dichloroethane	107-06-2	0.50	U	0.50	2.0	U	2.0
Trichloroethene	79-01-6	0.50	U	0.50	2.7	U	2.7
1,2-Dichloropropane	78-87-5	0.50	U	0.50	2.3	U	2.3
cis-1,3-Dichloropropene	10061-01-5	0.50	U	0.50	2.3	U	2.3
Toluene	108-88-3	0.50	U	0.50	1.9	U	1.9
trans-1,3-Dichloropropene	10061-02-6	0.50	U	0.50	2.3	U	2.3
1,1,2-Trichloroethane	79-00-5	0.50	U	0.50	2.7	U	2.7
Tetrachloroethene	127-18-4	0.50	U	0.50	3.4	U	3.4
Chlorobenzene	108-90-7	0.50	U	0.50	2.3	U	2.3
Ethylbenzene	100-41-4	0.50	U	0.50	2.2	U	2.2
Xylene (m,p)	1330-20-7	0.50	U	0.50	2.2	U	2.2
Styrene	100-42-5	0.50	U	0.50	2.1	U	2.1
Xylene (o)	95-47-6	0.50	U	0.50	2.2	U	2.2
1,1,2,2-Tetrachloroethane	79-34-5	0.50	U	0.50	3.4	U	3.4
1,3-Dichlorobenzene	541-73-1	0.50	U	0.50	3.0	U	3.0
1,4-Dichlorobenzene	106-46-7	0.50	U	0.50	3.0	U	3.0
1,2-Dichlorobenzene	95-50-1	0.50	U	0.50	3.0	U	3.0
1,2,4-Trichlorobenzene	120-82-1	0.50	U	0.50	3.7	U	3.7

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

AMBIENT (6363)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587065

Date Analyzed: 10/04/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Hexachlorobutadiene	87-68-3	0.50	U	0.50	5.3	U	5.3
1,3,5-Trimethylbenzene	108-67-8	0.50	U	0.50	2.5	U	2.5
1,2,4-Trimethylbenzene	95-63-6	0.50	U	0.50	2.5	U	2.5
1,2-Dichlorotetrafluoroethane	76-14-2	0.50	U	0.50	3.5	U	3.5
1,2-Dibromoethane	106-93-4	0.50	U	0.50	3.8	U	3.8
1,3-Butadiene	106-99-0	0.50	U	0.50	1.1	U	1.1
Carbon Disulfide	75-15-0	1.7		0.50	5.3		1.6
Acetone	67-64-1	5.3	J	5.0	13	J	12
Isopropyl Alcohol	67-63-0	5.0	U	5.0	12	U	12
Methyl tert-Butyl Ether	1634-04-4	0.50	U	0.50	1.8	U	1.8
Cyclohexane	110-82-7	0.50	U	0.50	1.7	U	1.7
Dibromochloromethane	124-48-1	0.50	U	0.50	4.3	U	4.3
Methyl Ethyl Ketone	78-93-3	0.59		0.50	1.7		1.5
1,4-Dioxane	123-91-1	5.0	U	5.0	18	U	18
Methyl Isobutyl Ketone	108-10-1	0.50	U	0.50	2.0	U	2.0
Methyl Butyl Ketone	591-78-6	0.50	U	0.50	2.0	U	2.0
Bromoform	75-25-2	0.50	U	0.50	5.2	U	5.2
Bromodichloromethane	75-27-4	0.50	U	0.50	3.4	U	3.4
trans-1,2-Dichloroethene	156-60-5	0.50	U	0.50	2.0	U	2.0
4-Ethyltoluene	622-96-8	0.50	U	0.50	2.5	U	2.5
3-Chloropropene	107-05-1	0.50	U	0.50	1.6	U	1.6
2,2,4-Trimethylpentane	540-84-1	0.50	U	0.50	2.3	U	2.3
Bromoethene	593-60-2	0.50	U	0.50	2.2	U	2.2
2-Chlorotoluene	95-49-8	0.50	U	0.50	2.6	U	2.6
n-Hexane	110-54-3	0.64		0.50	2.3		1.8
Tetrahydrofuran	109-99-9	5.0	U	5.0	15	U	15
n-Heptane	142-82-5	0.50	U	0.50	2.0	U	2.0
1,2-Dichloroethene (total)	540-59-0	0.50	U	0.50	2.0	U	2.0
Xylene (total)	1330-20-7	0.50	U	0.50	2.2	U	2.2
tert-Butyl Alcohol	75-65-0	5.0	U	5.0	15	U	15

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

SOIL GAS-5 (6434)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587067

Date Analyzed: 10/05/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	0.55	U J	0.55	2.7	U J	2.7
Chloromethane	74-87-3	0.55	U	0.55	1.1	U	1.1
Vinyl Chloride	75-01-4	0.55	U	0.55	1.4	U	1.4
Bromomethane	74-83-9	0.55	U	0.55	2.1	U	2.1
Chloroethane	75-00-3	0.55	U	0.55	1.5	U	1.5
Trichlorofluoromethane	75-69-4	0.65	J	0.55	3.7	J	3.1
Freon TF	76-13-1	0.55	U	0.55	4.2	U	4.2
1,1-Dichloroethene	75-35-4	0.55	U	0.55	2.2	U	2.2
Methylene Chloride	75-09-2	0.55	U	0.55	1.9	U	1.9
1,1-Dichloroethane	75-34-3	0.55	U	0.55	2.2	U	2.2
cis-1,2-Dichloroethene	156-59-2	0.55	U	0.55	2.2	U	2.2
Chloroform	67-66-3	0.58	NJ	0.55	2.8	NJ	2.7
1,1,1-Trichloroethane	71-55-6	0.55	U	0.55	3.0	U	3.0
Carbon Tetrachloride	56-23-5	0.55	U	0.55	3.5	U	3.5
Benzene	71-43-2	0.55	U	0.55	1.8	U	1.8
1,2-Dichloroethane	107-06-2	0.55	U	0.55	2.2	U	2.2
Trichloroethene	79-01-6	0.55	U	0.55	3.0	U	3.0
1,2-Dichloropropane	78-87-5	0.55	U	0.55	2.5	U	2.5
cis-1,3-Dichloropropene	10061-01-5	0.55	U	0.55	2.5	U	2.5
Toluene	108-88-3	1.5	J	0.55	5.7	J	2.1
trans-1,3-Dichloropropene	10061-02-6	0.55	U	0.55	2.5	U	2.5
1,1,2-Trichloroethane	79-00-5	0.55	U	0.55	3.0	U	3.0
Tetrachloroethene	127-18-4	0.80		0.55	5.4		3.7
Chlorobenzene	108-90-7	0.55	U	0.55	2.5	U	2.5
Ethylbenzene	100-41-4	0.55	U	0.55	2.4	U	2.4
Xylene (m,p)	1330-20-7	1.2	J	0.55	5.2	J	2.4
Styrene	100-42-5	0.55	U	0.55	2.3	U	2.3
Xylene (o)	95-47-6	0.55	U	0.55	2.4	U	2.4
1,1,2,2-Tetrachloroethane	79-34-5	0.55	U	0.55	3.8	U	3.8
1,3-Dichlorobenzene	541-73-1	0.55	U	0.55	3.3	U	3.3
1,4-Dichlorobenzene	106-46-7	0.55	U	0.55	3.3	U	3.3
1,2-Dichlorobenzene	95-50-1	0.55	U	0.55	3.3	U	3.3
1,2,4-Trichlorobenzene	120-82-1	0.55	U	0.55	4.1	U	4.1

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

SOIL GAS-5 (6434)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587067

Date Analyzed: 10/05/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Hexachlorobutadiene	87-68-3	0.55	U	0.55	5.9	U	5.9
1,3,5-Trimethylbenzene	108-67-8	0.55	U	0.55	2.7	U	2.7
1,2,4-Trimethylbenzene	95-63-6	0.60	NJ	0.55	2.9	NJ	2.7
1,2-Dichlorotetrafluoroethane	76-14-2	0.55	U	0.55	3.8	U	3.8
1,2-Dibromoethane	106-93-4	0.55	U	0.55	4.2	U	4.2
1,3-Butadiene	106-99-0	0.55	U	0.55	1.2	U	1.2
Carbon Disulfide	75-15-0	0.55	U	0.55	1.7	U	1.7
Acetone	67-64-1	12	J	5.5	29	J	13
Isopropyl Alcohol	67-63-0	5.5	U	5.5	14	U	14
Methyl tert-Butyl Ether	1634-04-4	0.55	U	0.55	2.0	U	2.0
Cyclohexane	110-82-7	0.55	UJ	0.55	1.9	UJ	1.9
Dibromochloromethane	124-48-1	0.55	U	0.55	4.7	U	4.7
Methyl Ethyl Ketone	78-93-3	1.1	J	0.55	3.2	J	1.6
1,4-Dioxane	123-91-1	5.5	U	5.5	20	U	20
Methyl Isobutyl Ketone	108-10-1	3.4	U	0.55	14	U	2.3
Methyl Butyl Ketone	591-78-6	6.5	J	0.55	27	J	2.3
Bromoform	75-25-2	0.55	U	0.55	5.7	U	5.7
Bromodichloromethane	75-27-4	0.55	U	0.55	3.7	U	3.7
trans-1,2-Dichloroethene	156-60-5	0.55	U	0.55	2.2	U	2.2
4-Ethyltoluene	622-96-8	0.55	U	0.55	2.7	U	2.7
3-Chloropropene	107-05-1	0.55	U	0.55	1.7	U	1.7
2,2,4-Trimethylpentane	540-84-1	0.55	U	0.55	2.6	U	2.6
Bromoethene	593-60-2	0.55	U	0.55	2.4	U	2.4
2-Chlorotoluene	95-49-8	0.55	U	0.55	2.8	U	2.8
n-Hexane	110-54-3	2.1		0.55	7.4		1.9
Tetrahydrofuran	109-99-9	5.5	U	5.5	16	U	16
n-Heptane	142-82-5	0.55	U	0.55	2.3	U	2.3
1,2-Dichloroethene (total)	540-59-0	0.55	U	0.55	2.2	U	2.2
Xylene (total)	1330-20-7	1.3		0.55	5.6		2.4
tert-Butyl Alcohol	75-65-0	5.5	U	5.5	17	U	17

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

DUPLICATE (6402)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587068

Date Analyzed: 10/05/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	2.7	J	0.50	13	J	2.5
Chloromethane	74-87-3	0.50	U	0.50	1.0	U	1.0
Vinyl Chloride	75-01-4	0.50	U	0.50	1.3	U	1.3
Bromomethane	74-83-9	0.50	U	0.50	1.9	U	1.9
Chloroethane	75-00-3	0.50	U	0.50	1.3	U	1.3
Trichlorofluoromethane	75-69-4	6.6	J	0.50	37	J	2.8
Freon TF	76-13-1	0.50	U	0.50	3.8	U	3.8
1,1-Dichloroethene	75-35-4	0.50	U	0.50	2.0	U	2.0
Methylene Chloride	75-09-2	0.50	U	0.50	1.7	U	1.7
1,1-Dichloroethane	75-34-3	0.50	U	0.50	2.0	U	2.0
cis-1,2-Dichloroethene	156-59-2	0.50	U	0.50	2.0	U	2.0
Chloroform	67-66-3	0.50	U	0.50	2.4	U	2.4
1,1,1-Trichloroethane	71-55-6	0.50	U	0.50	2.7	U	2.7
Carbon Tetrachloride	56-23-5	0.50	U	0.50	3.1	U	3.1
Benzene	71-43-2	0.68		0.50	2.2		1.6
1,2-Dichloroethane	107-06-2	0.50	U	0.50	2.0	U	2.0
Trichloroethene	79-01-6	0.50	U	0.50	2.7	U	2.7
1,2-Dichloropropane	78-87-5	0.50	U	0.50	2.3	U	2.3
cis-1,3-Dichloropropene	10061-01-5	0.50	U	0.50	2.3	U	2.3
Toluene	108-88-3	6.3	J	0.50	24	J	1.9
trans-1,3-Dichloropropene	10061-02-6	0.50	U	0.50	2.3	U	2.3
1,1,2-Trichloroethane	79-00-5	0.50	U	0.50	2.7	U	2.7
Tetrachloroethene	127-18-4	0.50	U	0.50	3.4	U	3.4
Chlorobenzene	108-90-7	0.50	U	0.50	2.3	U	2.3
Ethylbenzene	100-41-4	1.1		0.50	4.8		2.2
Xylene (m,p)	1330-20-7	3.6	J	0.50	16	J	2.2
Styrene	100-42-5	0.54		0.50	2.3		2.1
Xylene (o)	95-47-6	1.0		0.50	4.3		2.2
1,1,2,2-Tetrachloroethane	79-34-5	0.50	U	0.50	3.4	U	3.4
1,3-Dichlorobenzene	541-73-1	0.50	U	0.50	3.0	U	3.0
1,4-Dichlorobenzene	106-46-7	0.50	U	0.50	3.0	U	3.0
1,2-Dichlorobenzene	95-50-1	0.50	U	0.50	3.0	U	3.0
1,2,4-Trichlorobenzene	120-82-1	0.50	U	0.50	3.7	U	3.7

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

DUPLICATE (6402)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587068

Date Analyzed: 10/05/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Hexachlorobutadiene	87-68-3	0.50	U	0.50	5.3	U	5.3
1,3,5-Trimethylbenzene	108-67-8	0.50	U	0.50	2.5	U	2.5
1,2,4-Trimethylbenzene	95-63-6	0.56		0.50	2.8		2.5
1,2-Dichlorotetrafluoroethane	76-14-2	0.50	U	0.50	3.5	U	3.5
1,2-Dibromoethane	106-93-4	0.50	U	0.50	3.8	U	3.8
1,3-Butadiene	106-99-0	0.50	U	0.50	1.1	U	1.1
Carbon Disulfide	75-15-0	0.50	U	0.50	1.6	U	1.6
Acetone	67-64-1	15	J	5.0	36	J	12
Isopropyl Alcohol	67-63-0	11		5.0	27		12
Methyl tert-Butyl Ether	1634-04-4	0.50	U	0.50	1.8	U	1.8
Cyclohexane	110-82-7	3.9	J	0.50	13	J	1.7
Dibromochloromethane	124-48-1	0.50	U	0.50	4.3	U	4.3
Methyl Ethyl Ketone	78-93-3	2.4	J	0.50	7.1	J	1.5
1,4-Dioxane	123-91-1	5.0	U	5.0	18	U	18
Methyl Isobutyl Ketone	108-10-1	0.50	U	0.50	2.0	U	2.0
Methyl Butyl Ketone	591-78-6	0.50	UJ	0.50	2.0	UJ	2.0
Bromoform	75-25-2	0.50	U	0.50	5.2	U	5.2
Bromodichloromethane	75-27-4	0.50	U	0.50	3.4	U	3.4
trans-1,2-Dichloroethene	156-60-5	0.50	U	0.50	2.0	U	2.0
4-Ethyltoluene	622-96-8	0.54		0.50	2.7		2.5
3-Chloropropene	107-05-1	0.50	U	0.50	1.6	U	1.6
2,2,4-Trimethylpentane	540-84-1	0.50	U	0.50	2.3	U	2.3
Bromoethene	593-60-2	0.50	U	0.50	2.2	U	2.2
2-Chlorotoluene	95-49-8	0.50	U	0.50	2.6	U	2.6
n-Hexane	110-54-3	2.0		0.50	7.0		1.8
Tetrahydrofuran	109-99-9	5.0	U	5.0	15	U	15
n-Heptane	142-82-5	1.3		0.50	5.3		2.0
1,2-Dichloroethene (total)	540-59-0	0.50	U	0.50	2.0	U	2.0
Xylene (total)	1330-20-7	4.8		0.50	21		2.2
tert-Butyl Alcohol	75-65-0	5.0	U	5.0	15	U	15



TO-14/15  
Result Summary

CLIENT SAMPLE NO.

SOIL GAS-4 (6486)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587069

Date Analyzed: 10/05/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	0.50	U	0.50	2.5	U	2.5
Chloromethane	74-87-3	0.50	U	0.50	1.0	U	1.0
Vinyl Chloride	75-01-4	0.50	U	0.50	1.3	U	1.3
Bromomethane	74-83-9	0.50	U	0.50	1.9	U	1.9
Chloroethane	75-00-3	0.50	U	0.50	1.3	U	1.3
Trichlorofluoromethane	75-69-4	0.50	U	0.50	2.8	U	2.8
Freon TF	76-13-1	0.50	U	0.50	3.8	U	3.8
1,1-Dichloroethene	75-35-4	0.50	U	0.50	2.0	U	2.0
Methylene Chloride	75-09-2	0.50	U	0.50	1.7	U	1.7
1,1-Dichloroethane	75-34-3	0.50	U	0.50	2.0	U	2.0
cis-1,2-Dichloroethene	156-59-2	0.50	U	0.50	2.0	U	2.0
Chloroform	67-66-3	1.2		0.50	5.9		2.4
1,1,1-Trichloroethane	71-55-6	0.50	U	0.50	2.7	U	2.7
Carbon Tetrachloride	56-23-5	0.50	U	0.50	3.1	U	3.1
Benzene	71-43-2	0.50	U	0.50	1.6	U	1.6
1,2-Dichloroethane	107-06-2	0.50	U	0.50	2.0	U	2.0
Trichloroethene	79-01-6	0.50	U	0.50	2.7	U	2.7
1,2-Dichloropropane	78-87-5	0.50	U	0.50	2.3	U	2.3
cis-1,3-Dichloropropene	10061-01-5	0.50	U	0.50	2.3	U	2.3
Toluene	108-88-3	1.1		0.50	4.1		1.9
trans-1,3-Dichloropropene	10061-02-6	0.50	U	0.50	2.3	U	2.3
1,1,2-Trichloroethane	79-00-5	0.50	U	0.50	2.7	U	2.7
Tetrachloroethene	127-18-4	0.50	U	0.50	3.4	U	3.4
Chlorobenzene	108-90-7	0.50	U	0.50	2.3	U	2.3
Ethylbenzene	100-41-4	0.50	U	0.50	2.2	U	2.2
Xylene (m,p)	1330-20-7	0.64		0.50	2.8		2.2
Styrene	100-42-5	0.50	U	0.50	2.1	U	2.1
Xylene (o)	95-47-6	0.50	U	0.50	2.2	U	2.2
1,1,2,2-Tetrachloroethane	79-34-5	0.50	U	0.50	3.4	U	3.4
1,3-Dichlorobenzene	541-73-1	0.50	U	0.50	3.0	U	3.0
1,4-Dichlorobenzene	106-46-7	0.50	U	0.50	3.0	U	3.0
1,2-Dichlorobenzene	95-50-1	0.50	U	0.50	3.0	U	3.0
1,2,4-Trichlorobenzene	120-82-1	0.50	U	0.50	3.7	U	3.7

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

SOIL GAS-4 (6486)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587069

Date Analyzed: 10/05/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Hexachlorobutadiene	87-68-3	0.50	U	0.50	5.3	U	5.3
1,3,5-Trimethylbenzene	108-67-8	0.50	U	0.50	2.5	U	2.5
1,2,4-Trimethylbenzene	95-63-6	0.50	U	0.50	2.5	U	2.5
1,2-Dichlorotetrafluoroethane	76-14-2	0.50	U	0.50	3.5	U	3.5
1,2-Dibromoethane	106-93-4	0.50	U	0.50	3.8	U	3.8
1,3-Butadiene	106-99-0	0.50	U	0.50	1.1	U	1.1
Carbon Disulfide	75-15-0	0.50	U	0.50	1.6	U	1.6
Acetone	67-64-1	7.8	J	5.0	19	J	12
Isopropyl Alcohol	67-63-0	5.0	U	5.0	12	U	12
Methyl tert-Butyl Ether	1634-04-4	0.50	U	0.50	1.8	U	1.8
Cyclohexane	110-82-7	0.50	U	0.50	1.7	U	1.7
Dibromochloromethane	124-48-1	0.50	U	0.50	4.3	U	4.3
Methyl Ethyl Ketone	78-93-3	0.76		0.50	2.2		1.5
1,4-Dioxane	123-91-1	5.0	U	5.0	18	U	18
Methyl Isobutyl Ketone	108-10-1	2.8	U	0.50	11	U	2.0
Methyl Butyl Ketone	591-78-6	0.50	U	0.50	2.0	U	2.0
Bromoform	75-25-2	0.50	U	0.50	5.2	U	5.2
Bromodichloromethane	75-27-4	0.50	U	0.50	3.4	U	3.4
trans-1,2-Dichloroethene	156-60-5	0.50	U	0.50	2.0	U	2.0
4-Ethyltoluene	622-96-8	0.50	U	0.50	2.5	U	2.5
3-Chloropropene	107-05-1	0.50	U	0.50	1.6	U	1.6
2,2,4-Trimethylpentane	540-84-1	0.50	U	0.50	2.3	U	2.3
Bromoethene	593-60-2	0.50	U	0.50	2.2	U	2.2
2-Chlorotoluene	95-49-8	0.50	U	0.50	2.6	U	2.6
n-Hexane	110-54-3	2.0		0.50	7.0		1.8
Tetrahydrofuran	109-99-9	5.0	U	5.0	15	U	15
n-Heptane	142-82-5	0.50	U	0.50	2.0	U	2.0
1,2-Dichloroethene (total)	540-59-0	0.50	U	0.50	2.0	U	2.0
Xylene (total)	1330-20-7	0.68		0.50	3.0		2.2
tert-Butyl Alcohol	75-65-0	5.0	U	5.0	15	U	15

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

SOIL GAS-3 (6672)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587070

Date Analyzed: 10/07/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	100	U	100	490	U	490
Chloromethane	74-87-3	100	U	100	210	U	210
Vinyl Chloride	75-01-4	100	U	100	260	U	260
Bromomethane	74-83-9	100	U	100	390	U	390
Chloroethane	75-00-3	100	U	100	260	U	260
Trichlorofluoromethane	75-69-4	100	U	100	560	U	560
Freon TF	76-13-1	100	U	100	770	U	770
1,1-Dichloroethene	75-35-4	100	U	100	400	U	400
Methylene Chloride	75-09-2	150		100	520		350
1,1-Dichloroethane	75-34-3	100	U	100	400	U	400
cis-1,2-Dichloroethene	156-59-2	100	U	100	400	U	400
Chloroform	67-66-3	100	U	100	490	U	490
1,1,1-Trichloroethane	71-55-6	100	U	100	550	U	550
Carbon Tetrachloride	56-23-5	100	U	100	630	U	630
Benzene	71-43-2	100	U	100	320	U	320
1,2-Dichloroethane	107-06-2	100	U	100	400	U	400
Trichloroethene	79-01-6	100	U	100	540	U	540
1,2-Dichloropropane	78-87-5	100	U	100	460	U	400
cis-1,3-Dichloropropene	10061-01-5	100	U	100	450	U	450
Toluene	108-88-3	300		100	1100		380
trans-1,3-Dichloropropene	10061-02-6	100	U	100	450	U	450
1,1,2-Trichloroethane	79-00-5	100	U	100	550	U	550
Tetrachloroethene	127-18-4	100	U	100	680	U	680
Chlorobenzene	108-90-7	100		100	460		460
Ethylbenzene	100-41-4	100	U	100	430	U	430
Xylene (m,p)	1330-20-7	100	U	100	430	U	430
Styrene	100-42-5	100	U	100	430	U	430
Xylene (o)	95-47-6	100	U	100	430	U	430
1,1,2,2-Tetrachloroethane	79-34-5	100	U	100	690	U	690
1,3-Dichlorobenzene	541-73-1	100	U	100	600	U	600
1,4-Dichlorobenzene	106-46-7	100	U	100	600	U	600
1,2-Dichlorobenzene	95-50-1	100	U	100	600	U	600
1,2,4-Trichlorobenzene	120-82-1	100	U	100	740	U	740

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

SOIL GAS-3 (6672)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587070

Date Analyzed: 10/07/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Hexachlorobutadiene	87-68-3	100	U	100	1100	U	1100
1,3,5-Trimethylbenzene	108-67-8	100	U	100	490	U	490
1,2,4-Trimethylbenzene	95-63-6	100	U	100	490	U	490
1,2-Dichlorotetrafluoroethane	76-14-2	100	U	100	700	U	700
1,2-Dibromoethane	106-93-4	100	U	100	770	U	770
1,3-Butadiene	106-99-0	100	U	100	220	U	220
Carbon Disulfide	75-15-0	410		100	1300		310
Acetone	67-64-1	1000		1000	2400		2400
Isopropyl Alcohol	67-63-0	1000	U	1000	2500	U	2500
Methyl tert-Butyl Ether	1634-04-4	100	U	100	360	U	360
Cyclohexane	110-82-7	100		100	340		340
Dibromochloromethane	124-48-1	100	U	100	850	U	850
Methyl Ethyl Ketone	78-93-3	100	U	100	290	U	290
1,4-Dioxane	123-91-1	1000	U	1000	3600	U	3600
Methyl Isobutyl Ketone	108-10-1	100	U	100	410	U	410
Methyl Butyl Ketone	591-78-6	100	U	100	410	U	410
Bromoform	75-25-2	100	U	100	1000	U	1000
Bromodichloromethane	75-27-4	100	U	100	670	U	670
trans-1,2-Dichloroethene	156-60-5	100	U	100	400	U	400
4-Ethyltoluene	622-96-8	100	U	100	490	U	490
3-Chloropropene	107-05-1	100	U	100	310	U	310
2,2,4-Trimethylpentane	540-84-1	100	U	100	470	U	470
Bromoethene	593-60-2	100	U	100	440	U	440
2-Chlorotoluene	95-49-8	100	U	100	520	U	520
n-Hexane	110-54-3	290		100	1000		350
Tetrahydrofuran	109-99-9	1000	U	1000	2900	U	2900
n-Heptane	142-82-5	100	U	100	410	U	410
1,2-Dichloroethene (total)	540-59-0	100	U	100	400	U	400
Xylene (total)	1330-20-7	100	U	100	430	U	430
tert-Butyl Alcohol	75-65-0	1000	U	1000	3000	U	3000

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

SOIL GAS-2 (6426)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587071

Date Analyzed: 10/05/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	0.50	U	0.50	2.5	U	2.5
Chloromethane	74-87-3	0.52		0.50	1.1		1.0
Vinyl Chloride	75-01-4	0.50	U	0.50	1.3	U	1.3
Bromomethane	74-83-9	0.50	U	0.50	1.9	U	1.9
Chloroethane	75-00-3	0.50	U	0.50	1.3	U	1.3
Trichlorofluoromethane	75-69-4	0.50	U	0.50	2.8	U	2.8
Freon TF	76-13-1	0.50	U	0.50	3.8	U	3.8
1,1-Dichloroethene	75-35-4	0.50	U	0.50	2.0	U	2.0
Methylene Chloride	75-09-2	0.50	U	0.50	1.7	U	1.7
1,1-Dichloroethane	75-34-3	0.50	U	0.50	2.0	U	2.0
cis-1,2-Dichloroethene	156-59-2	0.50	U	0.50	2.0	U	2.0
Chloroform	67-66-3	0.50	U	0.50	2.4	U	2.4
1,1,1-Trichloroethane	71-55-6	0.50	U	0.50	2.7	U	2.7
Carbon Tetrachloride	56-23-5	0.50	U	0.50	3.1	U	3.1
Benzene	71-43-2	0.50	U	0.50	1.6	U	1.6
1,2-Dichloroethane	107-06-2	0.50	U	0.50	2.0	U	2.0
Trichloroethene	79-01-6	0.50	U	0.50	2.7	U	2.7
1,2-Dichloropropane	78-87-5	0.50	U	0.50	2.3	U	2.3
cis-1,3-Dichloropropene	10061-01-5	0.50	U	0.50	2.3	U	2.3
Toluene	108-88-3	2.1		0.50	7.9		1.9
trans-1,3-Dichloropropene	10061-02-6	0.50	U	0.50	2.3	U	2.3
1,1,2-Trichloroethane	79-00-5	0.50	U	0.50	2.7	U	2.7
Tetrachloroethene	127-18-4	0.50	U	0.50	3.4	U	3.4
Chlorobenzene	108-90-7	0.50	U	0.50	2.3	U	2.3
Ethylbenzene	100-41-4	0.50	U	0.50	2.2	U	2.2
Xylene (m,p)	1330-20-7	0.90		0.50	3.9		2.2
Styrene	100-42-5	0.50	U	0.50	2.1	U	2.1
Xylene (o)	95-47-6	0.50	U	0.50	2.2	U	2.2
1,1,2,2-Tetrachloroethane	79-34-5	0.50	U	0.50	3.4	U	3.4
1,3-Dichlorobenzene	541-73-1	0.50	U	0.50	3.0	U	3.0
1,4-Dichlorobenzene	106-46-7	0.50	U	0.50	3.0	U	3.0
1,2-Dichlorobenzene	95-50-1	0.50	U	0.50	3.0	U	3.0
1,2,4-Trichlorobenzene	120-82-1	0.50	U	0.50	3.7	U	3.7

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

SOIL GAS-2 (6426)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587071

Date Analyzed: 10/05/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Hexachlorobutadiene	87-68-3	0.50	U	0.50	5.3	U	5.3
1,3,5-Trimethylbenzene	108-67-8	0.50	U	0.50	2.5	U	2.5
1,2,4-Trimethylbenzene	95-63-6	0.50	U	0.50	2.5	U	2.5
1,2-Dichlorotetrafluoroethane	76-14-2	0.50	U	0.50	3.5	U	3.5
1,2-Dibromoethane	106-93-4	0.50	U	0.50	3.8	U	3.8
1,3-Butadiene	106-99-0	0.50	U	0.50	1.1	U	1.1
Carbon Disulfide	75-15-0	1.9		0.50	5.9		1.6
Acetone	67-64-1	12	J	5.0	29	J	12
Isopropyl Alcohol	67-63-0	5.0	U	5.0	12	U	12
Methyl tert-Butyl Ether	1634-04-4	0.50	U	0.50	1.8	U	1.8
Cyclohexane	110-82-7	3.8		0.50	13		1.7
Dibromochloromethane	124-48-1	0.50	U	0.50	4.3	U	4.3
Methyl Ethyl Ketone	78-93-3	1.6	NJ	0.50	4.7	NJ	1.5
1,4-Dioxane	123-91-1	5.0	U	5.0	18	U	18
Methyl Isobutyl Ketone	108-10-1	0.61		0.50	2.5		2.0
Methyl Butyl Ketone	591-78-6	0.50	U	0.50	2.0	U	2.0
Bromoform	75-25-2	0.50	U	0.50	5.2	U	5.2
Bromodichloromethane	75-27-4	0.50	U	0.50	3.4	U	3.4
trans-1,2-Dichloroethene	156-60-5	0.50	U	0.50	2.0	U	2.0
4-Ethyltoluene	622-96-8	0.50	U	0.50	2.5	U	2.5
3-Chloropropene	107-05-1	0.50	U	0.50	1.6	U	1.6
2,2,4-Trimethylpentane	540-84-1	0.50	U	0.50	2.3	U	2.3
Bromoethene	593-60-2	0.50	U	0.50	2.2	U	2.2
2-Chlorotoluene	95-49-8	0.50	U	0.50	2.6	U	2.6
n-Hexane	110-54-3	1.8		0.50	6.3		1.8
Tetrahydrofuran	109-99-9	5.0	U	5.0	15	U	15
n-Heptane	142-82-5	0.50	U	0.50	2.0	U	2.0
1,2-Dichloroethene (total)	540-59-0	0.50	U	0.50	2.0	U	2.0
Xylene (total)	1330-20-7	0.96		0.50	4.2		2.2
tert-Butyl Alcohol	75-65-0	5.0	U	5.0	15	U	15

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

SOIL GAS-1 (6567)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587072

Date Analyzed: 10/07/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	5.0	U	5.0	25	U	25
Chloromethane	74-87-3	5.0	U	5.0	10	U	10
Vinyl Chloride	75-01-4	5.0	U	5.0	13	U	13
Bromomethane	74-83-9	5.0	U	5.0	19	U	19
Chloroethane	75-00-3	5.0	U	5.0	13	U	13
Trichlorofluoromethane	75-69-4	5.0	U	5.0	28	U	28
Freon TF	76-13-1	5.0	U	5.0	38	U	38
1,1-Dichloroethene	75-35-4	5.0	U	5.0	20	U	20
Methylene Chloride	75-09-2	5.0	U	5.0	17	U	17
1,1-Dichloroethane	75-34-3	5.0	U	5.0	20	U	20
cis-1,2-Dichloroethene	156-59-2	5.0	U	5.0	20	U	20
Chloroform	67-66-3	5.0	U	5.0	24	U	24
1,1,1-Trichloroethane	71-55-6	5.0	U	5.0	27	U	27
Carbon Tetrachloride	56-23-5	5.0	U	5.0	31	U	31
Benzene	71-43-2	5.0	U	5.0	16	U	16
1,2-Dichloroethane	107-06-2	5.0	U	5.0	20	U	20
Trichloroethene	79-01-6	5.0	U	5.0	27	U	27
1,2-Dichloropropane	78-87-5	5.0	U	5.0	23	U	23
cis-1,3-Dichloropropene	10061-01-5	5.0	U	5.0	23	U	23
Toluene	108-88-3	5.0	U	5.0	19	U	19
trans-1,3-Dichloropropene	10061-02-6	5.0	U	5.0	23	U	23
1,1,2-Trichloroethane	79-00-5	32	U	5.0	170	U	27
Tetrachloroethene	127-18-4	5.0	U	5.0	34	U	34
Chlorobenzene	108-90-7	5.0	U	5.0	23	U	23
Ethylbenzene	100-41-4	5.0	U	5.0	22	U	22
Xylene (m,p)	1330-20-7	5.0	U	5.0	22	U	22
Styrene	100-42-5	5.0	U	5.0	21	U	21
Xylene (o)	95-47-6	5.0	U	5.0	22	U	22
1,1,2,2-Tetrachloroethane	79-34-5	5.0	U	5.0	34	U	34
1,3-Dichlorobenzene	541-73-1	5.0	U	5.0	30	U	30
1,4-Dichlorobenzene	106-46-7	5.0	U	5.0	30	U	30
1,2-Dichlorobenzene	95-50-1	5.0	U	5.0	30	U	30
1,2,4-Trichlorobenzene	120-82-1	5.0	U	5.0	37	U	37

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

SOIL GAS-1 (6567)

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587072

Date Analyzed: 10/07/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Hexachlorobutadiene	87-68-3	5.0	U	5.0	53	U	53
1,3,5-Trimethylbenzene	108-67-8	5.0	U	5.0	25	U	25
1,2,4-Trimethylbenzene	95-63-6	5.0	U	5.0	25	U	25
1,2-Dichlorotetrafluoroethane	76-14-2	5.0	U	5.0	35	U	35
1,2-Dibromoethane	106-93-4	5.0	U	5.0	38	U	38
1,3-Butadiene	106-99-0	5.0	U	5.0	11	U	11
Carbon Disulfide	75-15-0	5.0	U	5.0	16	U	16
Acetone	67-64-1	50	U	50	120	U	120
Isopropyl Alcohol	67-63-0	50	U	50	120	U	120
Methyl tert-Butyl Ether	1634-04-4	5.0	U	5.0	18	U	18
Cyclohexane	110-82-7	5.0	U	5.0	17	U	17
Dibromochloromethane	124-48-1	5.0	U	5.0	43	U	43
Methyl Ethyl Ketone	78-93-3	5.0	U	5.0	15	U	15
1,4-Dioxane	123-91-1	50	U	50	180	U	180
Methyl Isobutyl Ketone	108-10-1	5.0	U	5.0	20	U	20
Methyl Butyl Ketone	591-78-6	5.0	U	5.0	20	U	20
Bromoform	75-25-2	5.0	U	5.0	52	U	52
Bromodichloromethane	75-27-4	5.0	U	5.0	34	U	34
trans-1,2-Dichloroethene	156-60-5	5.0	U	5.0	20	U	20
4-Ethyltoluene	622-96-8	5.0	U	5.0	25	U	25
3-Chloropropene	107-05-1	5.0	U	5.0	16	U	16
2,2,4-Trimethylpentane	540-84-1	5.0	U	5.0	23	U	23
Bromoethene	593-60-2	5.0	U	5.0	22	U	22
2-Chlorotoluene	95-49-8	5.0	U	5.0	26	U	26
n-Hexane	110-54-3	5.0	U	5.0	18	U	18
Tetrahydrofuran	109-99-9	50	U	50	150	U	150
n-Heptane	142-82-5	5.0	U	5.0	20	U	20
1,2-Dichloroethene (total)	540-59-0	5.0	U	5.0	20	U	20
Xylene (total)	1330-20-7	5.0	U	5.0	22	U	22
tert-Butyl Alcohol	75-65-0	50	U	50	150	U	150



TO-14/15  
Result Summary

CLIENT SAMPLE NO.

TRIP BLANK

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587073

Date Analyzed: 10/05/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	0.50	U	0.50	2.5	U	2.5
Chloromethane	74-87-3	0.50	U	0.50	1.0	U	1.0
Vinyl Chloride	75-01-4	0.50	U	0.50	1.3	U	1.3
Bromomethane	74-83-9	0.50	U	0.50	1.9	U	1.9
Chloroethane	75-00-3	0.50	U	0.50	1.3	U	1.3
Trichlorofluoromethane	75-69-4	0.50	U	0.50	2.8	U	2.8
Freon TF	76-13-1	0.50	U	0.50	3.8	U	3.8
1,1-Dichloroethene	75-35-4	0.50	U	0.50	2.0	U	2.0
Methylene Chloride	75-09-2	0.50	U	0.50	1.7	U	1.7
1,1-Dichloroethane	75-34-3	0.50	U	0.50	2.0	U	2.0
cis-1,2-Dichloroethene	156-59-2	0.50	U	0.50	2.0	U	2.0
Chloroform	67-66-3	0.50	U	0.50	2.4	U	2.4
1,1,1-Trichloroethane	71-55-6	0.50	U	0.50	2.7	U	2.7
Carbon Tetrachloride	56-23-5	0.50	U	0.50	3.1	U	3.1
Benzene	71-43-2	0.50	U	0.50	1.6	U	1.6
1,2-Dichloroethane	107-06-2	0.50	U	0.50	2.0	U	2.0
Trichloroethene	79-01-6	0.50	U	0.50	2.7	U	2.7
1,2-Dichloropropane	78-87-5	0.50	U	0.50	2.3	U	2.3
cis-1,3-Dichloropropene	10061-01-5	0.50	U	0.50	2.3	U	2.3
Toluene	108-88-3	0.50	U	0.50	1.9	U	1.9
trans-1,3-Dichloropropene	10061-02-6	0.50	U	0.50	2.3	U	2.3
1,1,2-Trichloroethane	79-00-5	0.50	U	0.50	2.7	U	2.7
Tetrachloroethene	127-18-4	0.50	U	0.50	3.4	U	3.4
Chlorobenzene	108-90-7	0.50	U	0.50	2.3	U	2.3
Ethylbenzene	100-41-4	0.50	U	0.50	2.2	U	2.2
Xylene (m,p)	1330-20-7	0.50	U	0.50	2.2	U	2.2
Styrene	100-42-5	0.50	U	0.50	2.1	U	2.1
Xylene (o)	95-47-6	0.50	U	0.50	2.2	U	2.2
1,1,2,2-Tetrachloroethane	79-34-5	0.50	U	0.50	3.4	U	3.4
1,3-Dichlorobenzene	541-73-1	0.50	U	0.50	3.0	U	3.0
1,4-Dichlorobenzene	106-46-7	0.50	U	0.50	3.0	U	3.0
1,2-Dichlorobenzene	95-50-1	0.50	U	0.50	3.0	U	3.0
1,2,4-Trichlorobenzene	120-82-1	0.50	U	0.50	3.7	U	3.7

TO-14/15  
Result Summary

CLIENT SAMPLE NO.

TRIP BLANK

Lab Name: STL Burlington

SDG Number: 102473

Case Number:

Sample Matrix: Air

Lab Sample No.: 587073

Date Analyzed: 10/05/2004

Date Received: 09/21/2004

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Hexachlorobutadiene	87-68-3	0.50	U	0.50	5.3	U	5.3
1,3,5-Trimethylbenzene	108-67-8	0.50	U	0.50	2.5	U	2.5
1,2,4-Trimethylbenzene	95-63-6	0.50	U	0.50	2.5	U	2.5
1,2-Dichlorotetrafluoroethane	76-14-2	0.50	U	0.50	3.5	U	3.5
1,2-Dibromoethane	106-93-4	0.50	U	0.50	3.8	U	3.8
1,3-Butadiene	106-99-0	0.50	U	0.50	1.1	U	1.1
Carbon Disulfide	75-15-0	0.50	U	0.50	1.6	U	1.6
Acetone	67-64-1	5.0	U	5.0	12	U	12
Isopropyl Alcohol	67-63-0	5.0	U	5.0	12	U	12
Methyl tert-Butyl Ether	1634-04-4	0.50	U	0.50	1.8	U	1.8
Cyclohexane	110-82-7	0.50	U	0.50	1.7	U	1.7
Dibromochloromethane	124-48-1	0.50	U	0.50	4.3	U	4.3
Methyl Ethyl Ketone	78-93-3	0.50	U	0.50	1.5	U	1.5
1,4-Dioxane	123-91-1	5.0	U	5.0	18	U	18
Methyl Isobutyl Ketone	108-10-1	0.50	U	0.50	2.0	U	2.0
Methyl Butyl Ketone	591-78-6	0.50	U	0.50	2.0	U	2.0
Bromoform	75-25-2	0.50	U	0.50	5.2	U	5.2
Bromodichloromethane	75-27-4	0.50	U	0.50	3.4	U	3.4
trans-1,2-Dichloroethene	156-60-5	0.50	U	0.50	2.0	U	2.0
4-Ethyltoluene	622-96-8	0.50	U	0.50	2.5	U	2.5
3-Chloropropene	107-05-1	0.50	U	0.50	1.6	U	1.6
2,2,4-Trimethylpentane	540-84-1	0.50	U	0.50	2.3	U	2.3
Bromoethene	593-60-2	0.50	U	0.50	2.2	U	2.2
2-Chlorotoluene	95-49-8	0.50	U	0.50	2.6	U	2.6
n-Hexane	110-54-3	0.50	U	0.50	1.8	U	1.8
Tetrahydrofuran	109-99-9	5.0	U	5.0	15	U	15
n-Heptane	142-82-5	0.50	U	0.50	2.0	U	2.0
1,2-Dichloroethene (total)	540-59-0	0.50	U	0.50	2.0	U	2.0
Xylene (total)	1330-20-7	0.50	U	0.50	2.2	U	2.2
tert-Butyl Alcohol	75-65-0	5.0	U	5.0	15	U	15

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Architecture and Building Systems Engineering  
Civil Engineering  
Environmental Services  
Survey and Land Information Services



## LETTER OF TRANSMITTAL

TO: Mike McLean, PE NYS Department of Environmental Conservation Route 86, P.O. Box 296 Ray Brook, New York 12977-0296	DATE 5/19/2005 PROJECT NO: 01.7293 RE: Independent Leather Tannery ERP Site #B-00151-5 Gloversville, New York
---	--

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1			5/1/2005	Remedial Design Work Plan	

ACTION CODES:	FS- FURNISH AS SUBMITTED RR-REVISE AND RESUBMIT	FC-FURNISH AS CORRECTED S-SUBMIT SPECIFIED ITEM	R-REJECTED
---------------	--	--	------------

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☐ OTHER

COMMENTS:

Mike,  
Here is the Remedial Design Work Plan for your review and approval. Let me know if you have any questions.  
Thanks, Jeff

COPIES TO: Ronald Ellis, City of Gloversville

SIGNED:

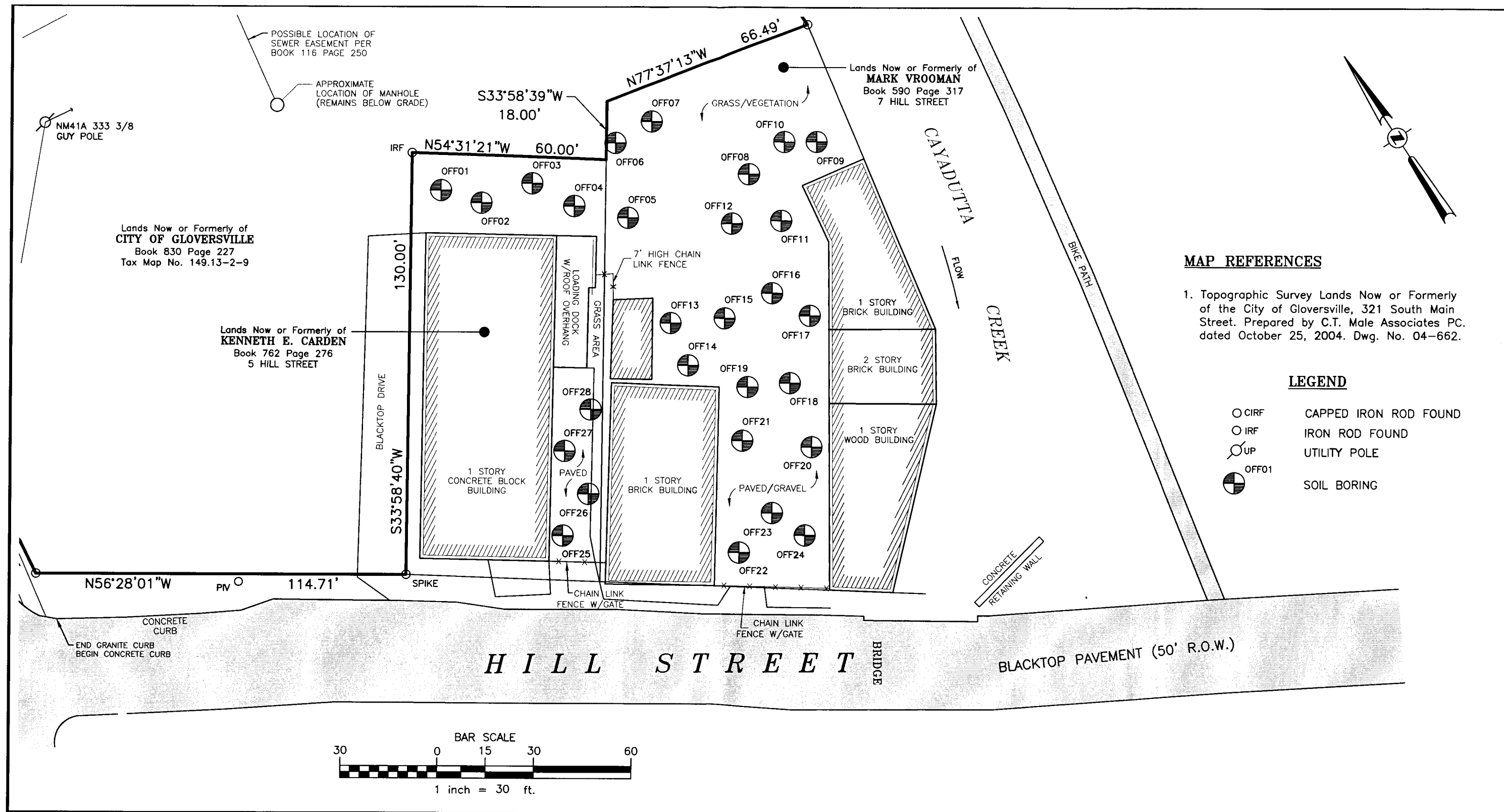
NAME: Jeffrey Marx, PE

TITLE: Project Engineer

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**FIGURE 4**  
**SAMPLING LOCATIONS FOR 5 AND  
7 HILL STREET PROPERTIES**

CAD DWG. FILE NAME: SAMPLING.DWG



DATE	REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.	UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW. © 2005 C.T. MALE ASSOCIATES, P.C.
	1				DESIGNED :
	2				DRAFTED : TCB
	3				CHECKED : JFC
	4				PROJ. NO: 01.7293
	5				SCALE : 1"=30'
	6				DATE : MARCH 7, 2005
	7				
	8				
	9				

## SAMPLING LOCATIONS MAP 5 & 7 HILL STREET PROPERTIES

FORMER INDEPENDENT LEATHER MFG. CORP.

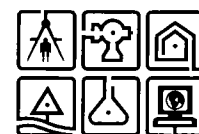
FULTON COUNTY, NY

CITY OF GLOVERSVILLE

**C.T. MALE ASSOCIATES, P.C.**

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