Soil and Groundwater Management Plan

151-191 Mount Hope Avenue

ROCHESTER, MONROE COUNTY, NEW YORK

NYSDEC Spill Number: 0070377

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1 INTRODUCTION

This Soil and Groundwater Management Plan (SGMP) is the final element of a remedial program undertaken to address petroleum contamination at the site located at 151-191 Mount Hope Avenue in the City of Rochester, Monroe County, New York (hereinafter referred to as the "Site"). According to the documents reviewed, former structures on the eastern portion of the Site included several gasoline stations, an auto sales building, a railroad tack house, and a concrete plant. The documents also indicated that the central and western portion of the Site was once part of a feeder canal to the Erie Canal and Lehigh railroad yard. The documents have identified petroleum-contaminated soil, fill, and groundwater present on the eastern portion of the Site.

The remedial program was completed in February 2009 under the New York State Spills Program administered by New York State Department of Environmental Conservation (NYSDEC). The petroleum contamination at the site was assigned NYSDEC Spill No. 0070377. Remedial program data, summaries of which are presented in this SGMP, indicate that the remedial activities completed in February 2009 had addressed the presence of petroleum contamination at the Site to the maximum extent practicable. This SGMP has been prepared in accordance with applicable NYSDEC Region 8 Spills Unit guidance in connection with the closure of the Spills Program's file for Spill No. 0070377.

This SGMP addresses the presence of residual subsurface contamination by petroleum compounds in soil and groundwater in a limited area along the south boundary of the Site, in the vicinity of electrical lines at the east side of the site, and in the vicinity of electrical lines between the two excavations. Residual soil contamination remains at locations where excavation could not be performed due to potentially unsafe working conditions. The main electric lines running along Mt. Hope Avenue did not allow for further excavation to the east due to safety concerns, and the electric lines running across the Site adjacent to the concrete monument and feeding the Genesee Gateway Park lighting system were also left in place for safety reasons. Some contamination remains under this line and below the monument, separating the north excavation from the south excavation. At the southern site boundary, excavation was performed up to the Conifer property, but contamination was left in place on the Conifer property. This area is the responsibility of Conifer Properties and a remedial program for

petroleum contaminants is ongoing on that property. Remedial program data indicated that contaminant concentrations in groundwater in this area of the Site were declining.

To address the presence of residual contamination in the subsurface in these areas, the SGMP specifies screening procedures to be used during future excavation or subsurface construction activities, and appropriate health and safety and materials-handling and disposal procedures to be used should contaminated groundwater or soil or evidence of potential contamination be encountered during those activities.

This SGMP includes the following:

- A description of the available historic information concerning the previous use features that were documented or found at the Site.
- A description of the nature and extent of petroleum impacts identified at the site.
- A brief description of geology and groundwater flow direction at the Site.
- Data summary tables which present historic and current contaminant levels in both soil and groundwater.
- A site plan which identifies soil boring/sample locations, monitoring well locations and the known limits of the current contaminant plume.
- A description of the remedial program that has been performed to address the petroleum impacts at the Site.
- A description of the type of monitoring that should be performed if future construction or excavation work that will disturb or expose subsurface soil or groundwater will be taking place in the vicinity of the residual contamination.
- A list of the officials to be notified should the residual contamination be encountered in the future.
- Information concerning the parties that are responsible for the residual contamination should impacted materials be disturbed or encountered.
- A description of the contaminated materials sampling that should be performed if contamination is encountered in the future.
- An outline of how the material should be handled and a description of the procedures that should be followed to assure proper handling and disposal or treatment of contaminated material if it is encountered in the future.

- A site health and safety plan (HASP) that provides guidelines for worker safety during excavation/dewatering activities conducted in the areas of suspected residual contamination. (The responsibility for preparation and implementation of an organization specific HASP rests with the organization(s) conducting the excavation/dewatering activities.)
- A list of the government officials and agencies and other parties to whom copies of this SGMP will be distributed.

2 SITE LOCATION AND DESCRIPTION

The Site is approximately 3.46± acres in size and consists of six parcels located at 151, 171, 173, 175, 177, and 191 Mt. Hope Avenue in the City of Rochester, Monroe County, New York. A map showing the Site location is provided in Figure 1.

The Site consists of zoned parkland with various park improvements (sidewalk pavers, concrete slab walkways, concrete retaining walls, benches, picnic tables, concrete columns, lights, trees, etc.) on the southern parcels. There are no buildings present on-Site. The Time Warner property and building located at 71 Mt. Hope Avenue borders the Site to the north, the Genesee River is situated to the west, Genesee Gateway Houses, Inc. (12-story apartment building) is located to the south, and Mt. Hope Avenue borders the Site to the east. The Site features and surrounding properties are shown on Figure 2.

At the time the SGMP was prepared in August 2009, the City of Rochester was the owner of the Site and the party responsible for the residual contamination at the Site. Contact information for the Site owner is as follows:

Mr. Joseph Biondolillo
City of Rochester
30 Church Street
Rochester, NY 14614
tel: (585) 428-6649

At the time the SGMP was prepared in August 2009, the SGMP and all documents related to the Site Spill file (Spill No. 0070377) were maintained at the NYSDEC office in Avon, New York. The NYSDEC's project manager for the Site at the time the SGMP was prepared is as follows:

Mr. Michael Zamiarski
NYSDEC Bur. of Spill Prevention and Response
6274 E. Avon-Lima Road
Avon, NY 14414
tel.: (585) 226-5438

3 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIVITIES

The following Site environmental background documents were obtained from the City and reviewed: a Phase I Environmental Site Assessment Report, prepared by Day Environmental Inc. (DAY) dated October 24, 2000 (October 2000 Phase I); a Phase II Environmental Study Data Package, 151-435 Mount Hope Avenue and 562 Ford Street, Rochester, New York prepared by DAY for the City in October 2000 (October 2000 Phase II); and a Data Evaluation Report, 151-435 Mount Hope Avenue and 562 Ford Street, Rochester, New York prepared by DAY for the City in February 2002 (February 2002 Phase II).

According to the documents reviewed, former structures included gasoline stations at 151, 175 and 191 Mt. Hope Avenue, an auto sales building, a railroad tack house, and a concrete plant. The documents also indicated that the central and western portion of the Site was once part of a feeder canal to the Erie Canal and Lehigh railroad yard. The documents have identified petroleum-contaminated soil, fill, and groundwater present on the eastern portion of the Site.

3.1 Previous Environmental Investigations

Summaries of the findings and conclusions of the October 2000 Phase I, the October 2000 Phase II, and the February 2002 Phase II are presented below. It is understood that an environmental and geotechnical subsurface investigation was performed on behalf of Time Warner for the 151 Mount Hope Avenue property; however, this report was not available at the time this SGMP was prepared.

3.1.1 October 2000 Phase I

According to the October 2000 Phase I, the Site appeared to have been used commercially and industrially from 1892 through 1971. Several former uses that were identified as historic recognized environmental conditions included former gasoline stations (151, 175, and 191 Mt. Hope Ave.), auto sales shop (151 Mt. Hope Ave.), a railroad tack house (177 Mt. Hope Ave.), and a concrete plant (151 Mt. Hope Ave.).

3.1.2 October 2000 Phase II

According to the October 2000 Phase II: analytical laboratory results and field observations suggest that suspected historical discharges of petroleum products have occurred in isolated areas on the Site associated with the properties occupied by the former gasoline

stations (151, 175, and 191 Mt. Hope Ave.); and petroleum contamination was detected in soil and groundwater on the Site in proximity to the former gasoline UST systems. No USTs were identified during the investigation; however, some interference may have obscured abandoned USTs. Based on the October 2000 Phase II study, DAY identified the following:

- Test borings: Suspect gasoline-related contamination involving BTEX and related compounds was encountered in the test borings advanced at the Site at depths ranging from three feet below ground surface (bgs) to 16 feet bgs. Significantly impacted soils were identified using olfactory, visual, and photoionization detector (PID) methods in several of the test borings (TB-4, TB-6, TB-8, TB-11). These test borings were advanced in the areas of the former gasoline stations and their associated USTs.
- Soil and Groundwater Contamination: Evidence of volatile organic compound (VOC) contamination was detected in both soil and groundwater samples collected from the Site, which exceeded NYSDEC Recommended Soil Cleanup Objectives and Groundwater Standards. The subsurface petroleum contamination appears to be associated with the former gasoline station UST systems.

3.1.3 February 2002 Phase II

According to the February 2002 Phase II, DAY conducted the following: a geophysical survey to identify subsurface magnetic anomalies; test pits; soil test borings; field investigative methods; and analytical laboratory testing of soil and groundwater samples.

- Geophysical Survey: According to the February 2002 Phase II, several anomalies were observed, but no USTs were encountered. However, a former pump island was encountered on or near 175 Mt. Hope Ave, which may have interfered with the detection of other subsurface structures.
- Qualitative Risk Assessment: According to the February 2002 Phase II, no evidence of impairment was noted in any of the potential receptors evaluated.
- Further Delineation of the Petroleum Contamination: DAY developed a series of drawings to demarcate the contamination “plumes”. These impacts may be attributable to an off-Site source or off-Site migration. According to the drawings, the petroleum contamination appears to be greatest at depths of eight feet or more below ground surface.

- Groundwater: According to the February 2002 Phase II, static water level measurements for the uppermost water table ranged from 15.45 to 17.54 feet bgs and were situated in the overburden. Groundwater samples were collected from monitoring wells located on the Site. Laboratory analysis of the samples indicated elevated concentrations of benzene ranging from 1.6-ppb to 250-ppb and total VOCs ranging from 210-ppb to 2,683-ppb.

The NYSDEC was notified by the City of the subsurface conditions encountered at the above-referenced locations during the Phase II Environmental Studies. The NYSDEC subsequently assigned Spill No. 0070377 to the Site and listed the spill as 'active'.

3.2 Remedial Construction Soil Removal

Excavation activities commenced on 10/2/2007 and work continued through 11/19/2007. Apparently clean soils (based on PID screening results <25 ppm) were stockpiled separately from apparently impacted soils, for later re-use as backfill without further sampling. Moderately impacted soils (screened with a PID between 25 and 300 ppm) were staged in separate piles on polyethylene sheeting from apparently clean soils for subsequent sampling and laboratory analysis. Grossly impacted soils (>300 ppm) were stockpiled in a staging area lined with polyethylene sheeting and loaded onto trucks for off-Site disposal. Staged impacted soil stockpiles were covered with polyethylene sheeting secured with weights. A total of 4,604 tons of petroleum impacted soil were properly excavated and disposed of off-site at a permitted landfill.

Confirmatory soil samples were collected from the sidewalls and bottom of the excavations and were submitted to the laboratory for analysis of USEPA Method 8260 STARS List VOCs + TICs (see Table 1). The locations of the confirmatory soil samples were determined using post-processed differential GPS and reported using the US State Plane NAD 1983 (New York Western Zone) Coordinate System (see Figures 3 and 4). The number of samples obtained was determined by the size of the excavation. Samples were collected, spaced on an approximate 25-foot grid pattern on the floors and approximately every 25 linear feet, and biased towards areas and depths of the highest expected contamination along the excavation sidewalls, as per DER-10.

3.2.1 Confirmatory Soil Sampling and Analysis Conclusions

Post-excavation confirmatory soil samples confirmed that the source removal program removed the majority of petroleum contaminated soil on Site. The conclusion is based on the field observations, field measurements (i.e. PID readings), and confirmatory soil sampling and laboratory analysis. Of the 86 total confirmatory soil samples analyzed, 74 soil confirmatory samples (approximately 87%) did not contain any VOCs or TICs which exceeded their respective NYSDEC TAGM #4046 RCSOs. The two confirmatory soil samples from the north wall, all nineteen (19) confirmatory soil samples collected from the west wall, and all of the thirty-eight (38) confirmatory soil samples from the bottom did not contain STARS Memo #1 VOCs at concentrations that exceeded their respective NYSDEC TAGM #4046 RCSOs. Based on the data collected, the source removal program successfully remediated petroleum contaminated soils in the northern and western directions and from the bottom of the excavation.

In the southern direction, due to the aggressive soil removal program which resulted in the source removal excavation extending up to the property line and slightly onto the adjacent parcel to the south, the two southern confirmatory soil samples that contained VOCs that exceeded NYSDEC TAGM #4046 RSCOs appear to represent residual contamination present on the adjacent, off-site property to the south owned by Conifer. The Conifer site is currently undergoing cleanup of petroleum under the NYSDEC Brownfield Cleanup Program. According to the June 2008 Site Management Plan for 185 Mount Hope Avenue prepared by Day Environmental, Inc., the cleanup includes source area soil removal, limited in-situ treatment immediately outside of the source-area soil removal excavation, and groundwater monitoring.

Stantec conducted two areas of excavation as shown on Figures 3 and 4. The maximum excavation depth was 21 ft. bgs, dependant on field conditions such as adjacent structures and observed impacts. The total excavation quantity was 6,480± in situ CY (with 2,880± in situ CY being petroleum impacted and requiring off-site disposal, and 3,600± in situ CY being non-impacted and reusable on-site).

The source removal program could not remove all petroleum contaminated soil due to safety concerns and potential damage to existing underground utility lines, including a Rochester Gas and Electric (RG&E) electrical service line and a Monroe County Pure Waters (MCPW) sewer that border the eastern portion of the Site and two underground electrical service lines that are located both immediately north and south of the masonry monument that bisect the site in an east-west direction. Nine confirmatory soil samples which contained one or

more VOCs that exceeded NYSDEC TAGM #4046 RCSOs were collected along the eastern boundary near the RG&E electrical service line and/or the MCPW sewer, and an additional confirmatory soil sample that contained VOCs was collected on the southern side of the monument electrical lines. Information collected as part of the source removal program and previous environmental investigations indicates that the extent of petroleum contaminated soils left in place on the eastern portion of the Site appears limited in the areal and vertical extent, and that additional soil remediation in this area of the Site does not appear warranted. This conclusion is supported by the following:

- A review of the data and test boring logs included in the Day Environmental , Inc. (DAY) February 2002 Data Evaluation Report indicates that six of the eight test borings advanced east of the eastern limit of the source removal excavation did not exhibit evidence of petroleum contaminated soils that would require remediation. A soil sample collected from one of the two DAY test borings that exhibited potential evidence of petroleum contamination in the field was analyzed for STARs Memo#1 VOCs and did not contain any VOCs which exceeded NYSDEC TAGM #4046 RCCOS.
- Post-source removal groundwater sampling results for the two wells located on the eastern portion of the site were either non-detect or contained very low part per billion concentrations of VOCs and they show a significant reduction in VOCs when compared with pre-remediation groundwater data.

As a result of these improvements, the site has met the goals of the CAP and NYSDEC cleanup objectives.

3.3 Groundwater Monitoring Program

Five monitoring well installations were completed at the Site following the source removal program to monitor residual VOC groundwater contamination. In addition, one previously installed well (MW-102) was identified to be included in the post-source removal monitoring well network. The locations of the five new monitoring well installations and the one pre-existing well are shown on Figure 2. Three of the new wells (MW-1R, MW-2R and MW-101R) were used to replace former DAY monitoring wells MW-1, MW-2 and MW-101, which were decommissioned during excavation work. An additional well (MW 201) was installed downgradient to the east of MW-2R along the eastern property line. A second additional well (MW 202) was installed at the center of the southerly excavation. The existing well MW-102 was located to the east of the southerly excavation.

Four rounds of post-source removal groundwater sampling were completed on April 10, 2008; July 24, 2008; September 25, 2008; and February 11, 2009. Groundwater samples were collected using a low flow sampling method and the samples were submitted to Chemtech for testing via chain-of-custody control. Chemtech analyzed the groundwater samples by Method OLM04.2 for STARS Memo #1 VOCs and TICs based on ASP protocols. VOCs and TICs results from the groundwater samples were compared to groundwater standards and guidance values listed in NYSDEC TOGS 1.1.1. The summary of detectable VOCs and a comparison to TOGS1.1.1 guidance values and standards are presented in Table 2. Figures 5-8 graphically depict the decreasing groundwater concentrations over time for monitoring wells MW-1R, MW-101R, MW-2R, and MW-2, respectively.

3.3.1 Groundwater Quality Conclusions and Recommendations

Based on four rounds of post-source removal groundwater sampling, the source removal program implemented at the Site has been highly effective in removing aromatic VOCs (e.g., BTEX) that were leaching to and impacting groundwater quality. The two downgradient monitoring wells located on the eastern portion of the Site contained non-detectable levels of total VOCs, indicating that impacted groundwater is not migrating off-site to the east. Concentrations of contaminants in groundwater samples from MW101R (located immediately adjacent to the Conifer Realty Brownfield Cleanup Program site) have declined from 1,441 ug/l total VOCs to 764 ug/l during the groundwater monitoring program. The presence of contaminants in this well is most likely due to off-site migration from the adjacent Conifer BCP site which is undergoing remediation for petroleum contamination.

Based on the data collected, the significant improvement in groundwater quality data indicates that additional soil remediation is not warranted to address groundwater quality, and that active remediation of groundwater is not required. It is anticipated that natural attenuation will continue to reduce the already low concentration of remaining VOCs in Site groundwater. Given the reduction in VOC concentrations, the groundwater monitoring well network was decommissioned on July 27, 2009.

4 SUMMARY OF CURRENT SITE CONDITIONS

The data collected during the activities summarized above indicates that remedial activities completed under the CAP program have addressed the presence of residual contamination to the maximum extent practicable at this time. As documented in Table 1, remedial actions have been implemented to address detections of soil contamination that exceeded the Department's current, applicable SCOs. The groundwater analytical data summary table presented in Table 2 demonstrates that groundwater conditions at the Site have improved considerably after remedial actions were initiated. As of February 2009, residual contamination levels were non-detect or below groundwater standards in five wells and remained above groundwater standards only at the MW-101R location. As previously discussed, the contamination in this location is believed to be attributable to migration from the adjacent Conifer property. While groundwater contamination levels at MW-101R remained above NYSDEC standards as of February 2009, contaminant concentrations were in decline and had been reduced from 1,441 µg/l total VOCs to 764 µg/l during the groundwater monitoring program.

The data on Site conditions as of February 2009 indicated that the residual soil contamination is limited to the area along the south boundary of the Site, in the vicinity of electrical lines at the east side of the site, and in the vicinity of electrical lines between the two excavations.

As of February 2009, the data collected indicate that, from a technical standpoint, the CAP program addressed the petroleum impacts covered by NYSDEC Spill No. 0070377 to the maximum extent practicable. The continued presence of residual contamination can best be addressed administratively by implementation of this SGMP.

5 CONSIDERATIONS FOR SUBSURFACE WORK AND CHANGES IN SITE USE

Petroleum-contaminated soil and groundwater is present along the south property boundary, along the eastern excavation limit, and adjacent to the electrical line near the concrete monuments (Figures 3 and 4). The previous investigations have indicated that elsewhere on site; soil and groundwater are not impacted by contamination in excess of applicable standards. However, it is possible that potential sources of environmental contamination that have not been previously investigated are present at the project site or adjacent sites.

All future excavation or subsurface work activities in the area of residual soil and groundwater contamination or the adjacent sections of the property along the eastern side, along the southern boundary, and adjacent to the electrical line area through the center of the Site must be conducted in accordance with this SGMP.

Use of groundwater underlying the property should be avoided without treatment rendering it safe for the intended use.

The property should not be used in a manner that is less restrictive than its current use as parkland without prior consideration of the need for additional investigation, and/or additional appropriate remedial action or additional engineering and/or institutional controls, which may be needed to determine and assure that then current site conditions will be protective of the intended less restrictive use. Less restrictive uses would include residential or unrestricted uses.

If contaminated soil or groundwater or potentially hazardous substances are encountered as part of an excavation program or other subsurface work, they cannot be replaced, discharged on the project site or discharged to Mount Hope Avenue storm sewer drains. They must be properly characterized, managed and disposed of off-site at a permitted facility.

These measures are designed to:

- prevent ingestion/direct contact with contaminants in soil;
- prevent ingestion of groundwater with contaminant levels that exceed drinking water standards;
- prevent the discharge of contaminants to surface water; and

- prevent migration of contaminants that would result in off-site groundwater or surface water contamination.

The scheduling, duration and cost of work that involves subsurface disturbance or excavation may be affected by soil or groundwater management and waste characterization issues. Scheduling of work will need to allow for management of potentially contaminated material that is encountered during the course of the work. Should unanticipated materials or conditions be observed during subsurface work, sampling may be required. Sampling will entail laboratory analysis, which typically takes from a few days to weeks to be completed. Therefore, construction schedules and design plans should allow for adequate flexibility for sampling, segregation, and temporary stockpiling of unanticipated materials on-site. Construction schedules should also provide both contingency time and measures to address variability in subsurface conditions and the presence of groundwater. For example, if contaminated material or hazardous substances are encountered, additional safety measures and use of personal protective equipment (PPE) may be required. Excavation dewatering and work stoppage could also affect construction schedules and costs. Measures designed to address these situations are described in further detail below.

As with all underground excavation work, the parties preparing to perform subsurface work are completely responsible for the safe performance of all invasive work, the structural integrity of excavations, and for structures that may be affected by excavations (such as underground utility lines, road surfaces and building foundations). Prior to any intrusive work that is being performed, the presence of utilities and easements on the site should be ascertained (e.g., Dig Safely NY stakeout, review of utility drawings, interviews with knowledgeable facility staff) to determine if they are likely to be encountered so that appropriate plans can be developed to deal with these utilities and easements.

6 MEASURES FOR MANAGEMENT OF SUBSURFACE WORK

6.1 NOTIFICATION

With the exception of emergency activities, anyone whose activities are reasonably anticipated to encounter residual contamination is required to notify the NYSDEC at least 10 days prior to the start of such activity. Currently, this notification will be made to:

Mr. Michael Zamiarski
NYSDEC, Bureau of Spill Prevention and Response
6274 E. Avon-Lima Road
Avon, NY 14414
585-226-2466
(Direct line: 585-226-5438)

This notification should include the following information:

- a description of the work to be performed, including the location and areal extent,
- a summary of environmental conditions anticipated in the work areas and plans for any pre-construction sampling,
- a schedule for the work, detailing the start and completion of all intrusive work,
- a statement that the work will be performed in compliance with this SGMP,
- a copy of the contractor's health and safety plan, in electronic format,
- identification of disposal facilities for potential waste streams, and
- identification of sources of any anticipated backfill.

In the event that ground intrusive activities are required to address an emergency or time sensitive matter such as the emergency repair of a utility required to allow continued on-site operations, notice shall be given as soon as practicable but no later than 24 hours after the emergency activity.

The City of Rochester has established a procedure for "flagging" the tax account numbers of properties that require special environmental reviews as a result of petroleum or hazardous substance contamination. The reviews are conducted as referrals to the City's Division of Environmental Quality (DEQ) for any permit applications for properties where soil

management plans or environmental contingency plans need to be followed during construction activities.

Once the Soil and Groundwater Management Plan is approved by the DEC, the City will "flag" the parcels that comprise the Site in the City of Rochester Building Information System (BIS) and they will be subject to a special environmental review prior to issuance of a permit. A special notation will be added to the City's mainframe computer database of property information.

The notation will appear as a "flag" to City staff that receive various building and site preparation permit applications. The flag will require a referral to the City's DEQ before the application can be processed for approval. DEQ staff will review the permit application for consistency with the Soil and Groundwater Management Plan, limited-use areas and land-use restrictions. A notification may be forwarded by DEQ to the NYSDEC at the time the permit is reviewed, if warranted, given the scope of the proposed work and other Site-specific factors.

6.2 SAMPLING

Sampling of excavated soil or subsurface materials or groundwater removed during subsurface work should be considered if unusual odors or visual observations such as stained soils, sheens or free-product are identified within soil or groundwater, or if tanks, containers, or piping are encountered.

In these situations, sampling frequency and analyses would depend on the types, conditions and quantities of material encountered and the anticipated re-use, re-cycling or disposal of the removed materials. Analysis must adequately characterize materials in light of current NYSDEC 6 NYCRR Part 375 Recommended Soil Cleanup Objectives, TAGM 4046, and/or permitted disposal or wastewater treatment facility requirements, depending on the intended destination of materials.

Waste disposal analyses for petroleum contaminated soil or water typically include some or all of the following:

- Total VOCs and total Semi-volatile organic compounds (SVOCs),
- Toxicity Characteristic Leaching Procedure (TCLP) VOCs,
- TCLP Lead,
- Ignitability,

- Modified Paint Filter Test (soil), and
- pH.

Depending on the nature of potential contaminants encountered and/or the intended disposal facility, the following additional waste disposal analyses may also be needed:

- TCLP Metals,
- TCLP SVOCs,
- TCLP Pesticides and Herbicides,
- PCBs, and
- Reactivity.

6.3 MONITORING DURING EXCAVATION

Monitoring of soil and fill materials that are excavated and groundwater that is pumped during construction should be performed for three reasons:

- to determine that the material encountered during construction is consistent with the material encountered during previous investigations;
- to allow characterization of the non-hazardous or hazardous nature of material encountered in the event that no previous investigation results are available for a specific area; and
- to protect the health and safety of project site workers during construction.

6.3.1 Health and Safety Monitoring

Past investigations have shown that contaminated soil and groundwater are present in the area. Based on the historical uses of the Site, other contaminated materials may be encountered.

General groups of potentially hazardous materials subject to health and safety planning include:

- Volatile organic compounds (VOCs) – can be related to former gasoline station operations or fuel-oil storage operations, also with paint or solvents used in facility or equipment maintenance.

- Semi-volatile organic compounds (SVOCs) – some are present in fuel-oil, also in motor oil or other lubricants or waste oil; polycyclic aromatic hydrocarbons (PAHs) commonly result from the incomplete combustion of organic matter including fossil fuels, such as coal or fuel oil, and are often found in ash, cinders and soot.
- Poly-chlorinated biphenyl compounds (PCBs) – can be associated with electrical equipment fluids or hydraulic oils.
- Metals - Review of the metals analysis revealed that arsenic, calcium, copper, iron, magnesium, nickel, selenium, and zinc were found in some samples prior to implementation of the Remedial Action at concentrations higher than RSCOs.

Health and safety planning should also give consideration to other construction-related issues, such as use of heavy equipment, weather conditions, confined space entry, excavation safety and other construction-related OSHA regulations. The use of OSHA-trained hazardous waste site workers during subsurface activities should be considered. Previous investigations show that while overall the potential for worker exposure exists, it is relatively low. However, all contractors involved in construction and excavation activities should consider the need for health and safety planning relative to their specific tasks and planned activities.

Health and safety planning should be performed prior to construction activities. This should include the preparation of a written Health and Safety Plan (HASP) for subsurface activities. For planning purposes, a copy of an example HASP is attached to this SGMP in Appendix A. However, the parties planning subsurface work should develop their own HASP that is based on the results of the previous chemical analyses, information specific to the proposed work, specific construction tasks to be completed and the potential for exposure of Site workers to the Site contaminants. The parties preparing to perform subsurface work are completely responsible for the safe performance of their work.

Presently available information indicates that site conditions do not warrant preparation and implementation of a Community Air Monitoring Plan (CAMP). However, should contamination be encountered that could present a risk of exposure to neighboring residents or others in the community from airborne vapors or particulates (dust) that may be generated during excavation activities, it may be necessary to prepare and implement a CAMP in the future.

6.3.2 Soil and Groundwater Monitoring

Soil and groundwater monitoring should generally consist of documentation of visible characteristics of the soil, fill and groundwater encountered, including obvious staining, sheens, odors, or other indicators of contamination such as oils, tars or containers. It is recommended that construction monitoring by a trained individual such as an environmental engineer, scientist, or geologist be performed during all excavation and groundwater work regardless of where the invasive work is done.

Several portable monitoring instruments are available to assist in field monitoring of materials. Such instruments are primarily used for detection of volatile organic compounds or dust and particulates. Since volatile organics have been detected in the past at the Site, this type of instrumentation is appropriate for construction excavation monitoring. Types of instruments available for this purpose include:

- Photoionization detector instruments (PID) - These instruments operate by pumping a sample of ambient air into a chamber where the air is ionized using a light source of specific energy (10.2, 10.6, or 11.7 eV). Choice of light source depends on the ionization energy of the contaminants expected to be present. Such instruments are manufactured by HNu and Microtip.
- Flame ionization detector instruments (FID) - These instruments operate on a similar principle as the PIDs; however, ionization is caused by a flame produced by combusting hydrogen. The OVA manufactured by Foxboro is such an instrument.
- Colorimetric tubes - These are small glass tubes which contain chemical salts formulated to react with specific volatile and some non-volatile compounds. A sample of air is drawn through a tube with the use of a hand pump. The presence of the target chemical causes a reaction and a color change to the chemical salts in the tube. The Draeger Tube system is such an instrument.
- Combustible gas meters/gas monitors – These instruments are capable of measuring combustible gases such as methane and hydrogen sulfide and would be used during construction activities if large amounts of organic materials such as railroad timbers or peat are encountered.

- Dust/Particulate Meters – These instruments are capable of measuring dust and particulates in ambient air. An example of an aerosol monitor is the MIE PDE-1000.

These types of instruments are readily available in the Rochester area and can be rented or purchased from several sources. However, these instruments should be operated by individuals trained and experienced in their use, limitations and capability for data generation. Readings generated from monitoring instruments should be recorded in the field along with visual observations. As long as excavation monitoring shows soil, fill, and groundwater material to be uncontaminated, then the material should be manageable as determined prior to construction. If conditions are different from those anticipated, then sampling and additional characterization may be necessary.

6.4 MANAGEMENT OF IMPACTED MATERIAL

At this time, there is no preferred method for the management of soil/fill excavated during construction activities. In general, it is recommended that non-hazardous soil or fill excavated during excavation, foundation work, utility trenching work and other earth-moving activities (including, if needed, remedial measures), either be reused on-site, if permitted, in accordance with regulations and covered with either clean soil or an impervious surface, or be hauled off-Site to a properly licensed and permitted facility. However, if hazardous wastes are encountered, they cannot be reused on-site and will need to be disposed properly at an approved, off-Site facility. The presence of staining and petroleum odors in soil is also a condition that exceeds the NYSDEC Spills Program's STARS Memo #1 guidance criteria for nuisance characteristics allowing reuse of excavated contaminated soil on-site.

If groundwater is pumped at the Site, approval would be required for wastewater disposal from Monroe County Pure Waters. If approval for discharge to the wastewater treatment plant sewer system is not obtained, disposal at an appropriately licensed off-site treatment facility would be required.

6.4.1 On-Site Re-Use Of Excavated Materials

Non-impacted (uncontaminated) materials that will be re-used on-Site will need to be segregated on the basis of field screening. If field screening indicates the potential presence of contamination, additional construction sampling and analyses is recommended. If construction sampling is performed, the analysis results will be compared to SCOs. If concentrations are

below applicable SCOs, the soil can be reused on-Site provided that petroleum-related nuisance characteristics are not evident.

If disposal of soil/fill from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC.

Staging and stockpiling management of materials should be conducted as described in the sections below.

6.4.2 Off-Site Disposal of Excavated Materials

Management of solid waste materials that will be disposed off-site will need to include characterization (sampling and laboratory analysis as required by the chosen disposal facility), management, and off-site transportation and disposal at an approved landfill.

Appropriate measures for management of excavated materials will need to include temporarily stockpiling excavated soils and solids, as well as measures to prevent them from contaminating other materials or migrating off-site. Measures that should be incorporated into such plans include:

- Stockpile locations away from storm sewers, downwind property boundaries, and drainage courses.
- Dust suppression techniques, as necessary.
- Placement of stockpiles of contaminated soils, fill or hazardous materials (e.g. drums, containers, odiferous fill) on 6-mil polyethylene (poly) with perimeter berms.
- Covering stockpiles of contaminated soils, fill, or hazardous materials (e.g. drums, containers, odiferous fill) with weighted down poly at the end of each day of placement to prevent migration by wind-blown dust or stormwater runoff until final placement and final cover is established.

If the contaminant concentrations are elevated above applicable SCOs or if nuisance characteristics are noted, the results shall be shared with the NYSDEC and the materials disposed of off-site at an appropriate disposal facility. All impacted material or solid waste excavated and removed from the site will be treated as contaminated and regulated solid waste and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Solid Waste pursuant to 6NYCRR Part 360-1.2. Material that does not meet the lower of the SCOs for residential use or groundwater protection will not be taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility) without a beneficial use determination issued by NYSDEC.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements). Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded. Material transported by trucks exiting the site will be secured with covers. If loads contain wet material capable of producing free liquid, truck liners will be used. Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials.

6.4.3 Off-Site Disposal of Impacted Water

Management of water will include characterization (sampling and laboratory analysis as required by Monroe County Pure Waters or off-site treatment or disposal facility), management, and disposal. In order to obtain approval from Monroe County Pure Waters for discharge of potentially impacted groundwater to the Monroe County Pure Waters wastewater sewer system and treatment plant, analyses may be required. If disposal to the Monroe County Pure Waters sewer system is not approved, transport to and disposal at other appropriate, permitted disposal facilities would be required. Discharge of petroleum-contaminated water to the stormwater sewer system would not be permitted without both pretreatment and application for and receipt of a NYSDEC-approved stormwater discharge permit.

Appropriate measures for management of water will need to include temporary containerization and measures to prevent water from contaminating other materials or migrating off-site. Measures that should be incorporated into such plans include:

- Containerize water prior to pumping or transport off-site.
- Stage containers away from downwind property boundaries and drainage sources.

- Pump water directly into containers.
- Perform necessary sampling prior to disposal.
- Coordinate with the Monroe County Pure Waters Wastewater Treatment Plant or alternate facility to receive permission for disposal.

7 CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and the proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history, previous sampling results, or other condition specific information provides sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline.

8 DISTRIBUTION OF THE SGMP

A copy of this SGMP will be sent to the NYSDEC Region 8 Office Spills Program Project Manager (currently Mr. Michael Zamiarski), the Monroe County Health Department, the City of Rochester, RG&E, MCPW, Frontier Telephone, and the owner of the adjacent property to the south.

A notice indicating that the SGMP is in effect for the Site will be filed as a matter of record with the City of Rochester Building Information System (BIS) records.

TABLES

TABLE 1A
COMFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
TAGM 4046/STARS MEMO #1 VOC AND TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MH-ES-001.2	MH-ES-002.1	MH-ES-003.1	MH-ES-004.1	MH-ES-005.1	MH-ES-006.1	MH-ES-007.1.B	MH-ES-008.1	MH-ES-009.1.A	MH-ES-010.1.A	MH-ES-011.1.A	MH-ES-012.1.A	MH-ES-013.1.A	MH-ES-014.1.A		MH-ES-015.1.A	MH-ES-016.1.A	MH-ES-017.1.A	MH-ES-018.1.A	MH-ES-019.1.A
Sample Date			3-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	5-Oct-07	8-Oct-07	5-Oct-07	8-Oct-07	8-Oct-07	10-Oct-07	10-Oct-07	11-Oct-07	11-Oct-07	15-Oct-07	15-Oct-07	15-Oct-07	17-Oct-07	17-Oct-07	17-Oct-07
Sample ID			MH-ES-001.2-S	MH-ES-002.1-S	MH-ES-003.1-S	MH-ES-004.1-S	MH-ES-005.1-S	MH-ES-006.1-S	MH-ES-007.1.B-S	MH-ES-008.1-S	MH-ES-009.1.A-S	MH-ES-010.1.A-S	MH-ES-011.1.A-S	MH-ES-012.1-A-S	MH-ES-013.1.A-S	MH-ES-014.1.A-S	MH-ES-014.1.A-S	MH-ES-015-.1.A-S	MH-ES-016.1.A-S	MH-ES-017.1.A-S	MH-ES-018.1.A-S	MH-ES-019.1.A-S
Sample Depth			8.5 - 11.5 ft	12.5 - 16 ft	12 - 13 ft	11 - 15 ft	10.5 - 11.5 ft	9 - 11 ft	11.5 - 13 ft	8.5 - 12.5 ft	11 - 13 ft	10 - 12.5 ft	11 - 13 ft	11.5 - 13.5 ft	10 - 12.5 ft	10 - 13 ft	10 - 13 ft	10 - 13 ft	12 - 14 ft	13 - 15 ft	15 - 18 ft	13.5 - 16 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y4767	Y4767	Y4767	Y4767	Y4767	Y4802	Y4815	Y4802	Y4815	Y4815	Y4846	Y4846	Y4853	Y4853	Y4923	Y4923	Y4923	Y4923	Y4923	Y4923
Laboratory Sample ID			Y4767-04	Y4767-06	Y4767-13	Y4767-11	Y4767-12	Y4802-02, Y4802-02DL	Y4815-01	Y4802-05, Y4802-05DL	Y4815-04	Y4815-05, Y4815-05DL	Y4846-03	Y4846-05	Y4853-03	Y4853-04	Y4923-02	Y4923-03	Y4923-04	Y4923-06	Y4923-07	Y4923-08
Sample Type	Units	TAGM/STARS																				
Volatile Organic Compounds																						
Benzene	µg/kg	60_{orMDLT} [A]	< 27	< 28	< 28	< 29	< 30	< 27	< 27	< 26	< 26	< 27	< 27	< 27	< 28	< 27	< 28	< 30	< 28	< 27	< 27	< 28
Butylbenzene, n-	µg/kg	10000_{stS} [A]	< 27	< 28	< 28	< 29	< 30	**4500 J**	< 27	**8100 J**	< 26	**1700 J**	< 27	< 27	< 28	< 27	< 28	< 30	< 28	< 27	**47**	< 28
Butylbenzene, tert-	µg/kg	10000_{stS} [A]	< 27	< 28	< 28	< 29	< 30	**38 NJ**	< 27	**54**	< 26	**60 J**	< 27	< 27	< 28	< 27	< 28	< 30	< 28	< 27	< 27	< 28
Cymene (p-Isopropyltoluene)	µg/kg	10000_{stS} [A]	< 27	< 28	< 28	< 29	< 30	**3000 J**	< 27	**2700 J**	< 26	**1100 J**	< 27	< 27	< 28	< 27	< 28	< 30	< 28	< 27	**16 J**	< 28
Ethylbenzene	µg/kg	5500_{T} [A]	< 27	< 28	< 28	< 29	< 30	**80**	< 27	**24 J**	< 26	**72 NJ**	< 27	< 27	< 28	< 27	< 28	< 30	< 28	< 27	< 27	< 28
Isopropylbenzene	µg/kg	2300_{S} [A]	< 27	< 28	< 28	< 29	< 30	**150**	< 27	**170**	< 26	**250 J**	< 27	< 27	< 28	< 27	< 28	< 30	< 28	< 27	< 27	< 28
Methyl tert-butyl ether (MTBE)	µg/kg	120_{s3S} [A]	< 27	< 28	< 28	< 29	< 30	< 27	< 27	< 26	< 26	< 27	< 27	< 27	< 28	< 27	< 28	< 30	< 28	< 27	< 27	< 28
Naphthalene	µg/kg	13000_{T} [A]	< 27	< 28	< 28	< 29	< 30	**3000 J**	< 27	**430**	< 26	< 27	**18 J**	< 27	**17 J**	**28 NJ**	< 28	< 30	< 28	< 27	**18 J**	< 28
Phenylbutane, 2- (sec-Butylbenzene)	µg/kg	10000_{stS} [A]	< 27	< 28	< 28	< 29	< 30	**340**	< 27	**490**	< 26	**520 J**	< 27	< 27	< 28	< 27	< 28	< 30	< 28	< 27	< 27	< 28
Propylbenzene, n-	µg/kg	3700_{S} [A]	< 27	< 28	< 28	< 29	< 30	**390**	< 27	**2400 J**	< 26	**1400 D**	< 27	< 27	< 28	< 27	< 28	< 30	< 28	< 27	**98**	< 28
Toluene	µg/kg	1500_{T} [A]	< 27	< 28	< 28	< 29	< 30	< 27	< 27	< 26	< 26	< 27	< 27	< 27	< 28	< 27	< 28	< 30	< 28	< 27	< 27	< 28
Trimethylbenzene, 1,2,4-	µg/kg	10000_{stS} [A]	< 27	< 28	< 28	< 29	< 30	**22000 J** [AB]	< 27	**16000 J** [AB]	< 26	**6700 J**	< 27	< 27	**22 J**	**18 J**	< 28	< 30	< 28	< 27	**530**	< 28
Trimethylbenzene, 1,3,5-	µg/kg	3300_{S} [A]	< 27	< 28	< 28	< 29	< 30	**4700 J** [AB]	< 27	**4300 J** [AB]	< 26	< 88	< 27	< 27	**11 J**	< 27	< 28	< 30	< 28	< 27	**180**	< 28
Xylene, m & p-	µg/kg	1200_{s2T} [A]	< 54	< 56	< 55	< 58	< 61	**120**	< 53	**28 J**	< 53	**61 J**	< 54	< 54	< 56	< 54	< 55	< 61	< 56	< 54	< 54	< 56
Xylene, o-	µg/kg	1200_{s2T} [A]	< 27	< 28	< 28	< 29	< 30	**34 NJ**	< 27	< 26	< 26	**12 NJ**	< 27	< 27	< 28	< 27	< 28	< 30	< 28	< 27	< 27	< 28
Volatile Tentatively Identified Compounds																						
.Alpha.,.Beta.,Beta.-Trimet	µg/kg	10000_{s2} [A]	-	-	-	-	-	**800 J**	-	-	-	**1000 J**	-	-	-	-	-	-	-	-	-	-
1,3-Cyclopentadiene, 1,2,3,4-tetra	µg/kg	10000_{s2} [A]	-	-	-	-	**120 J**	-	-	-	**76 J**	-	-	-	-	-	-	-	-	-	-	-
1-Hexene, 3,3,5-trimethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Inden-1-one, 2,3-dihydro-2-meth	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	**74 J**	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-1,1-dimethy	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	**92 J**	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-1,2-D	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	**1100 J**	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-1,6-D	µg/kg	10000_{s2} [A]	-	-	-	-	-	**720 J**	-	**950 J**	-	**720 J**	-	**130 J**	-	**56 J**	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-2-methyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	**140 J**	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-4,7-D	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	**720 J**	-	-	-	**100 J**	-	**58 J**	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-4-methyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	**180 J**	-	-	-	-	-	-	**230 J**	-
1H-Indene, 2,3-dihydro-5,6-dimethy	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	**110 J**	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-5-methyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	**130 J**	**990 J**	-	-	-	-	-	-	-	-	**120 J**	-
1H-indene, 2-ethyl-2,3-dihydro-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene,2,3-dihydro-2,2-dimethyl	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	**63 J**	-	-	**180 J**	-	-	-	-	-	-	-	-
1-Phenyl-1-Butene	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	**1300 J**	**62 J**	-	-	-	-	-	-	-	-	-	-	-
2-Naphthalenecarboxylic acid, 1,4-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Octene, 2,6-dimethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	**130 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,5-Dimethyl-3-heptene	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3a,6-Methano-3aH-indene, 2,3,6,7-t	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Phenylbut-1-Ene	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Fluorobenzyl alcohol	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azulene, 1,2,3,3a-tetrahydro-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1,1-dimethyl-2-propenyl)	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-ethyl-1-propenyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	**54 J**	-	-	-	**160 J**	-	-	-	-	-	-	-
Benzene, (1-methyl-1-butenyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	**200 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-Methyl-1-Propeny	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methyl-1-propenyl)-, (E)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	**1300 J**	-	**1400 J**	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methylethyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (2-Methyl-1-Butenyl	µg/kg	10000_{s2} [A]	-	-	-	-	-	**1000 J**	-	-	**110 J**	-	-	**200 J**	-	**73 J**	-	-	-	-	-	-
Benzene, (2-methylpropyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,1'-(1-ethenyl-1,3-propanediyl)bis-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,2,3,4-Tetramethyl	µg/kg	10000_{s2} [A]	-	-	-	-	-	**940 J**	-	-	-	-	-	-	-	-	-	-	-	-	**180 J**	-
Benzene, 1,2,3,5-Tetramethyl	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	**890 J**	-	**910 J**	-	-	-	-	-	-	-	-	-	-
Benzene, 1,2,3-Trimethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,2,4,5-Tetramethyl	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	**690 J**	**66 J**	-	-	**130 J**	-	**58 J**	-	-	-	-	**120 J**	-
Benzene, 1,2-Diethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	**640 J**	-	**720 J**	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3,5-Trimethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3,5-trimethyl-2-(1-methylethenyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3-Diethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-Diethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-Diethyl-2-Methy	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	**37 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-dimethyl-2-(2-methylpropyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethenyl-2-Methyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethenyl-3-Ethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethenyl-4-ethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	**900 J**	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethyl-2,3-Dimethy	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethyl-2,4,5-trimethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethyl-2,4-Dimethy	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	**760 J**	-	-	-	**52 J**	-	-	-	-	**180 J**	-
Benzene, 1-Ethyl-2-Methyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	**780 J**	-	-	-	-	-	-	**56 J**	-	-	-	-	-	**230 J**	-
Benzene, 1-Ethyl-3,5-Dimethy	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sample Location			MH-ES-001.2	MH-ES-002.1	MH-ES-003.1	MH-ES-004.1	MH-ES-005.1	MH-ES-006.1	MH-ES-007.1.B	MH-ES-008.1	MH-ES-009.1.A	MH-ES-010.1.A	MH-ES-011.1.A	MH-ES-012.1.A	MH-ES-013.1.A	MH-ES-014.1.A		MH-ES-015.1.A	MH-ES-016.1.A	MH-ES-017.1.A	MH-ES-018.1.A	MH-ES-019.1.A
Sample Date			3-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	5-Oct-07	8-Oct-07	5-Oct-07	8-Oct-07	8-Oct-07	10-Oct-07	10-Oct-07	11-Oct-07	11-Oct-07	15-Oct-07	15-Oct-07	15-Oct-07	17-Oct-07	17-Oct-07	17-Oct-07
Sample ID			MH-ES-001.2-S	MH-ES-002.1-S	MH-ES-003.1-S	MH-ES-004.1-S	MH-ES-005.1-S	MH-ES-006.1-S	MH-ES-007.1.B-S	MH-ES-008.1-S	MH-ES-009.1.A-S	MH-ES-010.1.A-S	MH-ES-011.1.A-S	MH-ES-012.1-A-S	MH-ES-013.1.A-S	MH-ES-014.1.A-S	MH-ES-014.1.A-S	MH-ES-015-.1.A-S	MH-ES-016.1.A-S	MH-ES-017.1.A-S	MH-ES-018.1.A-S	MH-ES-019.1.A-S
Sample Depth			8.5 - 11.5 ft	12.5 - 16 ft	12 - 13 ft	11 - 15 ft	10.5 - 11.5 ft	9 - 11 ft	11.5 - 13 ft	8.5 - 12.5 ft	11 - 13 ft	10 - 12.5 ft	11 - 13 ft	11.5 - 13.5 ft	10 - 12.5 ft	10 - 13 ft	10 - 13 ft	10 - 13 ft	12 - 14 ft	13 - 15 ft	15 - 18 ft	13.5 - 16 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y4767	Y4767	Y4767	Y4767	Y4767	Y4802	Y4815	Y4802	Y4815	Y4815	Y4846	Y4846	Y4853	Y4853	Y4923	Y4923	Y4923	Y4923	Y4923	Y4923
Laboratory Sample ID			Y4767-04	Y4767-06	Y4767-13	Y4767-11	Y4767-12	Y4802-02, Y4802-02DL	Y4815-01	Y4802-05, Y4802-05DL	Y4815-04	Y4815-05, Y4815-05DL	Y4846-03	Y4846-05	Y4853-03	Y4853-04	Y4923-02	Y4923-03	Y4923-04	Y4923-06	Y4923-07	Y4923-08
Sample Type	Units	TAGM/STARS																				
Volatile Tentatively Identified Compounds (cont'd)																						
Benzene, 1-Ethyl-3-Methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethyl-4-(1-methylethyl)	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**370 J**
Benzene, 1-ethyl-4-methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-2-(1-Methy	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	**28 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-2-(2-Prope	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-2-propyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-3-(1-Methy	µg/kg	10000$_{sz}$^A	-	-	-	-	-	**720 J**	-	**730 J**	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-3-propyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**180 J**	-
Benzene, 1-methyl-4-(1-methyl-2-propenyl)benzene	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	**98 J**	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methylethyl)-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	**63 J**	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methylpropyl)-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**200 J**
Benzene, 1-Methyl-4-Propyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-propenyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2,4-diethyl-1-methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-butenyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	**52 J**	-	-	-	-	**84 J**	-	-	-	-	-	-
Benzene, 2-ethenyl-1,3,5-trimethyl	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	**100 J**	-	-	-	-	-	-	-	-
Benzene, 2-ethenyl-1,4-dimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	**870 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-Ethyl-1,3-Dimethy	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	**680 J**	-	-	-	-	-	-	-	-	-	-
Benzene, 2-ethyl-1,4-dimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	**1000 J**	**43 J**	**1000 J**	-	-	-	-	-	-	-	-	-	-	**180 J**	-
Benzene, 4-ethyl-1,2-dimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, Cyclopropyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicyclo(3.3.1)nonane-2,6-dione	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butane, 2,2,3,3-tetramethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cis-.Beta.-Methylstyrene	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1-Ethyl-3-methyl-cyclohexane	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	**32 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-Decalin, 2-syn-methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,1,2,3-tetramethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,1,3-trimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	**110 J**	-	**36 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,2,4-trimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	**120 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,3-dimethyl-, cis-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	**680 J**	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,4-dimethyl-, cis-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-ethyl-2-methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	**140 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-methyl-2-propyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-methyl-3-propyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 2-propenyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	**39 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, butyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	**140 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, ethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, pentyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, trans-1,3-dimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	**33 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexanol, 5-methyl-2-(1-methylethyl)-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexanone, 2,3-dimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	**180 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopentene, 1,2,3-trimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	**620 J**	-	-	-	-	-	-	-	-	-	-
Decahydro-4,4,8,9,10-Pentame	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 2-methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 4-ethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 4-methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	**180 J**	-	-	-	-	-	-	-	**53 J**	-	-	-	-	-	-	-
Decane, 5-methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Deltacyclene	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethylstyrene, 2,4-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane, 2,6,10-trimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane, 6-Methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethanone, 1-(2-methylphenyl)-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 2,5-dimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**200 J**
Heptane, 2-methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	**31 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 3,3,5-trimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 3-methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexadecane, 2,6,10,14-tetramethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexahydrobenzocyclooctene, 5,6,7,8,9,10-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 2,2,5-trimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**210 J**
Hexane, 2,2-dimethyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**45 J**	-	**420 J**
Hexane, 3-methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indan, 1-Methyl-	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**61 J**	-
Indane	µg/kg	10000$_{sz}$^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1A
COMFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
TAGM 4046/STARS MEMO #1 VOC AND TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MH-ES-001.2	MH-ES-002.1	MH-ES-003.1	MH-ES-004.1	MH-ES-005.1	MH-ES-006.1	MH-ES-007.1.B	MH-ES-008.1	MH-ES-009.1.A	MH-ES-010.1.A	MH-ES-011.1.A	MH-ES-012.1.A	MH-ES-013.1.A	MH-ES-014.1.A		MH-ES-015.1.A	MH-ES-016.1.A	MH-ES-017.1.A	MH-ES-018.1.A	MH-ES-019.1.A
Sample Date			3-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	5-Oct-07	8-Oct-07	5-Oct-07	8-Oct-07	8-Oct-07	10-Oct-07	10-Oct-07	11-Oct-07	11-Oct-07	15-Oct-07	15-Oct-07	15-Oct-07	17-Oct-07	17-Oct-07	17-Oct-07
Sample ID			MH-ES-001.2-S	MH-ES-002.1-S	MH-ES-003.1-S	MH-ES-004.1-S	MH-ES-005.1-S	MH-ES-006.1-S	MH-ES-007.1.B-S	MH-ES-008.1-S	MH-ES-009.1.A-S	MH-ES-010.1.A-S	MH-ES-011.1.A-S	MH-ES-012.1-A-S	MH-ES-013.1.A-S	MH-ES-014.1.A-S	MH-ES-014.1.A-S	MH-ES-015-.1.A-S	MH-ES-016.1.A-S	MH-ES-017.1.A-S	MH-ES-018.1.A-S	MH-ES-019.1.A-S
Sample Depth			8.5 - 11.5 ft	12.5 - 16 ft	12 - 13 ft	11 - 15 ft	10.5 - 11.5 ft	9 - 11 ft	11.5 - 13 ft	8.5 - 12.5 ft	11 - 13 ft	10 - 12.5 ft	11 - 13 ft	11.5 - 13.5 ft	10 - 12.5 ft	10 - 13 ft	10 - 13 ft	10 - 13 ft	12 - 14 ft	13 - 15 ft	15 - 18 ft	13.5 - 16 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y4767	Y4767	Y4767	Y4767	Y4767	Y4802	Y4815	Y4802	Y4815	Y4815	Y4846	Y4846	Y4853	Y4853	Y4923	Y4923	Y4923	Y4923	Y4923	Y4923
Laboratory Sample ID			Y4767-04	Y4767-06	Y4767-13	Y4767-11	Y4767-12	Y4802-02, Y4802-02DL	Y4815-01	Y4802-05, Y4802-05DL	Y4815-04	Y4815-05, Y4815-05DL	Y4846-03	Y4846-05	Y4853-03	Y4853-04	Y4923-02	Y4923-03	Y4923-04	Y4923-06	Y4923-07	Y4923-08
Sample Type	Units	TAGM/STARS																				
Volatile Tentatively Identified Compounds (cont'd)																						
Mercaptoacetate, 2-Ethylhexyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, 1-Methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, Decahydro-2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonadiyne, 2,4-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane, 2-methyl-5-propyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane, 3-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3,3-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3,6-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3-ethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 4-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**290 J**
Pentadecane, 2,6,10,14-tetramethyl	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	**57 J**	-	-	-	-	-	-	-
Pentalene, octahydro-1-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 2,3,3-trimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**41 J**	-	-
Pentane, 2,3,4-trimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**280 J**
Pentane, 3-ethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**37 J**	-	**370 J**
Propanedinitrile, cyclohexyl(2-met	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-Decalin, 2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	**65 J**	-	-	-	-	-	-	-
Undecane, 3,6-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	**110 J**	-	-	-	-	-	-	-	-
Unknown TIC 1	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	**46 J**	-	-	-	-	-	-
Total VOC TICs	µg/kg	10000$_{s2}^{A}$	-	-	-	-	**450 J**	**8770 J**	**279 J**	**9500 J**	**613 J**	**7260 J**	-	**1240 J**	**668 J**	**617 J**	-	-	-	**123 J**	**1481 J**	**2340 J**

Notes:

TAGM/STARs	New York State Department of Environmental Conservation- Technical and Administrative Guidance Memorandum - Determination of Soil Cleanup Levels
^{A}	TAGM 4046 & STARS #1 consolidation memo(12/20/00) hybrid Soil Cleanup Objective
6.5^{A}	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
< 0.50	Laboratory estimated quantitation limit exceeded standard.
< 0.03	The analyte was not detected above the laboratory estimated quantation limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
$_{S}^{A}$	From STARS Memo #1 parameter list.
$_{T}^{A}$	From TAGM 4046 parameter list.
$_{orMDLT}^{A}$	Method Detection Limit. From TAGM 4046 parameter list.
$_{s1S}^{A}$	As per TAGM 4046 individual and the sum of VOCs not listed (Tentatively Identified Compounds (TICs)) <= 10 ppm. From STARS Memo #1 parameter list.
$_{s2T}^{A}$	The criterion is applicable to total xylenes (at 1.2 mg/kg), and the individual isomers should be added for comparison. From TAGM 4046 parameter list.
s3S	Methyl t-butyl ether (MTBE) is not a target compound of Methods 8021 and 8260, but MTBE may be determined using these methods with appropriate quality assurance and quality control measures. From STARS Memo #1 parameter list.
D	Compound analyzed at a secondary dilution factor.
J	Indicates an estimated value.
N	Indicates presumptive evidence of a compound. Identification of tentatively identified compoud is based on a mass spectral library search.
CCGE	Chemtech Consulting Group

TABLE 1B
COMFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
TAGM 4046/STARS MEMO #1 VOC AND TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MH-ES-020.1.A	MH-ES-021.1.A	MH-ES-022.1.A	MH-ES-023.1.A	MH-ES-024.1.A	MH-ES-025.1.A	MH-ES-026.1.A		MH-ES-027.1.A	MH-ES-028.1.A	MH-ES-029.1.A	MH-ES-030.1.A	MH-ES-031.1.A	MH-ES-032.1.A	MH-ES-033.1.A	
Sample Date			17-Oct-07	24-Oct-07	24-Oct-07	24-Oct-07	25-Oct-07	25-Oct-07	26-Oct-07	26-Oct-07	26-Oct-07	29-Oct-07	30-Oct-07	31-Oct-07	1-Nov-07	1-Nov-07	2-Nov-07	2-Nov-07
Sample ID			MH-ES-020.1.A-S RE	MH-ES-021.1.A-S	MH-ES-022.1.A-S	MH-ES-023.1.A-S	MH-ES-024.1.A-S	MH-ES-025.1.A-S	MH-ES-026.1.A-S	MH-002-S-DU	MH-ES-027.1.A-S	MH-ES-0.28.1.A-S	MH-ES-029.1.A-S	MH-ES-030.1.A-S	MH-ES-031.1.A-S	MH-ES-032.1.A-S	MH-ES-033.1.A-S	MH-003-S-DUP
Sample Depth			15 - 16 ft	10 - 13.5 ft	7.5 - 15 ft	13 - 15.5 ft	10.5 - 15 ft	11.5 - 16 ft	9 - 14 ft	9 - 14 ft	7 - 14.5 ft	8 - 15 ft	8 - 13.5 ft	9.5 - 13 ft	4 - 13 ft	8 - 12 ft	8 - 12 ft	8 - 12 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y4923	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5177	Y5177	Y5177	Y5177	Y5177	Y5177
Laboratory Sample ID			Y4923-10RE	Y5093-03, Y5093-03DL	Y5093-04, Y5093-04DL	Y5093-05	Y5093-07	Y5093-08	Y5093-10	Y5093-13	Y5093-14	Y5093-16, Y5093-16DL, Y5093-16DL2	Y5177-01, Y5177-01DL, Y5177-01DL2	Y5177-03	Y5177-05, Y5177-05DL	Y5177-06, Y5177-06DL	Y5177-08, Y5177-08DL, Y5177-08DL2, Y5177-08DL3	Y5177-14, Y5177-14DL, Y5177-14DL2
Sample Type										Field Duplicate								Field Duplicate
Volatile Organic Compounds																		
Benzene	µg/kg	60_{crMDLT} [A]	< 28 J	< 27	**17 J**	< 28	< 27	< 27	< 27	< 27	< 27	**440 J** [AB]	< 27	< 31	< 26	< 28	< 29	< 29
Butylbenzene, n-	µg/kg	10000_{s1S} [A]	< 28 J	**450 J**	**370 J**	< 28	< 27	< 27	< 27	< 27	< 27	**9300 J**	**6800 J**	< 31	**1500 J**	**560 NJ**	**21000 J** [AB]	**16000 J** [AB]
Butylbenzene, tert-	µg/kg	10000_{s1S} [A]	< 28 J	< 27	< 28	< 28	< 27	< 27	< 27	< 27	< 27	< 28	< 27	< 31	< 26	< 28	< 29	< 29 J
Cymene (p-Isopropyltoluene)	µg/kg	10000_{s1S} [A]	< 28 J	**470 J**	**2800 NJ**	< 28	**12 J**	< 27	**53 J**	< 27 J	**49**	**9400 J**	**3400 J**	< 31	**330 J**	**260 J**	**42000 J** [AB]	**29000 NJ** [AB]
Ethylbenzene	µg/kg	5500_{T} [A]	< 28 J	**45 J**	**3100 J**	< 28	< 27	< 27	< 27	< 27	< 27	**18000 D** [AB]	**9100 J** [AB]	< 31	< 26	**340 J**	**1800 J**	**1300 NJ**
Isopropylbenzene	µg/kg	2300_{S} [A]	< 28 J	**140 J**	**300 J**	< 28	< 27	< 27	< 27	< 27	< 27	**4400 J** [AB]	**2300 J**	< 31	**130 J**	**340 J**	**6500 J** [AB]	**4900 J** [AB]
Methyl tert-butyl ether (MTBE)	µg/kg	120_{s3S} [A]	< 28 J	< 27	< 28	< 28	< 27	< 27	< 27	< 27	< 27	< 28	< 27	< 31	< 26	< 28	< 29	< 29
Naphthalene	µg/kg	13000_{T} [A]	< 28 J	**870 J**	**550 J**	< 28	< 27	< 27	**110**	**51 J**	**340**	**12000 J**	**11000 J**	< 31	**3100 J**	**480 J**	**2800 J**	**2200 J**
Phenylbutane, 2- (sec-Butylbenzene)	µg/kg	10000_{s1S} [A]	< 28 J	< 27	**170 J**	< 28	**11 J**	< 27	**16 J**	< 27	< 27	**2500 J**	**440**	< 31	**450 J**	**170 J**	**15000 NJ** [AB]	**11000 J** [AB]
Propylbenzene, n-	µg/kg	3700_{S} [A]	< 28 J	**440 J**	**540 J**	< 28	**6.6 NJ**	< 27	**24 J**	< 27	< 27	**10000 J** [AB]	**7500 J** [AB]	< 31	**730 J**	**470 J**	**25000 NJ** [AB]	**12000 NJ** [AB]
Toluene	µg/kg	1500_{T} [A]	< 28 J	< 27	**10 NJ**	< 28	< 27	< 27	< 27	< 27	< 27	**260 J**	**45 NJ**	< 31	< 26	< 28	< 29	< 29
Trimethylbenzene, 1,2,4-	µg/kg	10000_{s1S} [A]	**14 J**	**5300 J**	**9000 J**	< 28	< 27	< 27	**180 J**	**33 J**	**160**	**65000 J** [AB]	**60000 J** [AB]	< 31	**2100 J**	**1600 J**	**250000 J** [AB]	**230000 J** [AB]
Trimethylbenzene, 1,3,5-	µg/kg	3300_{S} [A]	< 28 J	**1500 J**	**4000 J** [AB]	< 28	< 27	< 27	**58 J**	< 27 J	**58**	**26000 J** [AB]	**19000 J** [AB]	< 31	**530 J**	**610 J**	**42000 J** [AB]	**24000 J** [AB]
Xylene, m & p-	µg/kg	1200_{s2T} [A]	< 57 J	**76 J**	**10000 J** [AB]	< 55	< 53	< 54	< 55	< 53	< 55	**45000 J** [AB]	**46000 J** [AB]	< 61	**57 J**	**1100 J**	**3200 J** [AB]	**2200 J** [AB]
Xylene, o-	µg/kg	1200_{s2T} [A]	< 28 J	< 27	< 63	< 28	< 27	< 27	< 27	< 27	< 27	**2400 J** [AB]	**2400 D** [AB]	< 31	< 26	**280 J**	< 29	< 29
Volatile Tentatively Identified Compounds																		
.Alpha.,.Beta.,Beta.-Trimet	µg/kg	10000_{s2} [A]	-	-	-	-	**370 J**	-	-	-	**470 J**	-	-	-	-	-	-	-
1,3-Cyclopentadiene, 1,2,3,4-tetra	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Hexene, 3,3,5-trimethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	**2100 J**	-	-
1H-Inden-1-one, 2,3-dihydro-2-meth	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-1,1-dimethy	µg/kg	10000_{s2} [A]	-	-	-	-	**250 J**	-	**360 J**	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-1,2-D	µg/kg	10000_{s2} [A]	-	-	-	-	**180 J**	-	-	**110 J**	-	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-1,6-D	µg/kg	10000_{s2} [A]	-	-	-	-	**300 J**	-	**370 J**	**160 J**	**370 J**	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-2-methyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-4,7-D	µg/kg	10000_{s2} [A]	-	-	-	-	**170 J**	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-4-methyl-	µg/kg	10000_{s2} [A]	-	**1900 J**	**2300 J**	-	**230 J**	-	-	**210 J**	**610 J**	**2500 J**	-	-	-	**2000 J**	-	-
1H-Indene, 2,3-dihydro-5,6-dimethy	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-5-methyl-	µg/kg	10000_{s2} [A]	-	**1400 J**	-	-	-	-	-	-	-	-	-	-	**720 J**	-	-	-
1H-indene, 2-ethyl-2,3-dihydro-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	**480 J**	-	-	-	-	-	-	-	-	-
1H-Indene,2,3-dihydro-2,2-dimethyl	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	**150 J**	-	-	-	-	-	-	-	-
1-Phenyl-1-Butene	µg/kg	10000_{s2} [A]	-	-	-	-	**500 J**	-	-	-	-	-	-	-	-	-	**200 J**	-
2-Naphthalenecarboxylic acid, 1,4-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Octene, 2,6-dimethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,5-Dimethyl-3-heptene	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**180 J**	-
3a,6-Methano-3aH-indene, 2,3,6,7-t	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Phenylbut-1-Ene	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	**340 J**	-	-	-	-	-	-	-	-
4-Fluorobenzyl alcohol	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**220 J**
Azulene, 1,2,3,3a-tetrahydro-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	**1700 J**	-	-	-	-	-	-
Benzene, (1,1-dimethyl-2-propenyl)	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	**570 J**	-	-	-
Benzene, (1-ethyl-1-propenyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methyl-1-butenyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-Methyl-1-Propeny	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methyl-1-propenyl)-, (E)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	**990 J**	-	-	-	-	-	-	-	-	-
Benzene, (1-methylethyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (2-Methyl-1-Butenyl	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	**510 J**	-	**600 J**	-	-	-	**660 J**	-	-	-
Benzene, (2-methylpropyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,1'-(1-ethenyl-1,3-propanediyl)bis-	µg/kg	10000_{s2} [A]	-	**700 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,2,3,4-Tetramethyl	µg/kg	10000_{s2} [A]	-	**1200 J**	-	-	**280 J**	-	-	-	**740 J**	-	-	-	-	-	**250 J**	**120 J**
Benzene, 1,2,3,5-Tetramethyl	µg/kg	10000_{s2} [A]	-	-	**2800 J**	-	-	-	-	**190 J**	-	**1700 J**	-	-	-	**1900 J**	**260 J**	-
Benzene, 1,2,3-Trimethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	**1800 J**	-	-	-	-	-	**160 J**
Benzene, 1,2,4,5-Tetramethyl	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	**570 J**	-	-	-	-	-	**710 J**	**1700 J**	-	-
Benzene, 1,2-Diethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	**690 J**	-	-	-
Benzene, 1,3,5-Trimethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3,5-trimethyl-2-(1-methylethenyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3-Diethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-Diethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	**2800 J**	-	-
Benzene, 1,4-Diethyl-2-Methy	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-dimethyl-2-(2-methylpropyl)-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethenyl-2-Methyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethenyl-3-Ethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethenyl-4-ethyl-	µg/kg	10000_{s2} [A]	-	**670 J**	**2100 J**	-	-	-	-	-	-	-	-	-	-	**1600 J**	-	-
Benzene, 1-Ethyl-2,3-Dimethy	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethyl-2,4,5-trimethyl-	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethyl-2,4-Dimethy	µg/kg	10000_{s2} [A]	-	**900 J**	**3000 J**	-	**200 J**	-	**360 J**	**100 J**	**520 J**	**2100 J**	-	-	**850 J**	**3400 J**	**380 J**	**180 J**
Benzene, 1-Ethyl-2-Methyl-	µg/kg	10000_{s2} [A]	-	**1100 J**	**3100 J**	-	-	-	-	-	-	**2900 J**	-	-	-	**2700 J**	-	-
Benzene, 1-Ethyl-3,5-Dimethy	µg/kg	10000_{s2} [A]	-	-	-	-	-	-	-	-	**470 J**	-	-	-	-	-	-	-

TABLE 1B
COMFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
TAGM 4046/STARS MEMO #1 VOC AND TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MH-ES-020.1.A	MH-ES-021.1.A	MH-ES-022.1.A	MH-ES-023.1.A	MH-ES-024.1.A	MH-ES-025.1.A	MH-ES-026.1.A		MH-ES-027.1.A	MH-ES-028.1.A	MH-ES-029.1.A	MH-ES-030.1.A	MH-ES-031.1.A	MH-ES-032.1.A	MH-ES-033.1.A	
Sample Date			17-Oct-07	24-Oct-07	24-Oct-07	24-Oct-07	25-Oct-07	25-Oct-07	26-Oct-07	26-Oct-07	26-Oct-07	29-Oct-07	30-Oct-07	31-Oct-07	1-Nov-07	1-Nov-07	2-Nov-07	2-Nov-07
Sample ID			MH-ES-020.1.A-S RE	MH-ES-021.1.A-S	MH-ES-022.1.A-S	MH-ES-023.1.A-S	MH-ES-024.1.A-S	MH-ES-025.1.A-S	MH-ES-026.1.A-S	MH-002-S-DU	MH-ES-027.1.A-S	MH-ES-0.28.1.A-S	MH-ES-029.1.A-S	MH-ES-030.1.A-S	MH-ES-031.1.A-S	MH-ES-032.1.A-S	MH-ES-033.1.A-S	MH-003-S-DUP
Sample Depth			15 - 16 ft	10 - 13.5 ft	7.5 - 15 ft	13 - 15.5 ft	10.5 - 15 ft	11.5 - 16 ft	9 - 14 ft	9 - 14 ft	7 - 14.5 ft	8 - 15 ft	8 - 13.5 ft	9.5 - 13 ft	4 - 13 ft	8 - 12 ft	8 - 12 ft	8 - 12 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y4923	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5177	Y5177	Y5177	Y5177	Y5177	Y5177
Laboratory Sample ID			Y4923-10RE	Y5093-03, Y5093-03DL	Y5093-04, Y5093-04DL	Y5093-05	Y5093-07	Y5093-08	Y5093-10	Y5093-13	Y5093-14	Y5093-16, Y5093-16DL, Y5093-16DL2	Y5177-01, Y5177-01DL, Y5177-01DL2	Y5177-03	Y5177-05, Y5177-05DL	Y5177-06, Y5177-06DL	Y5177-08, Y5177-08DL, Y5177-08DL2, Y5177-08DL3	Y5177-14, Y5177-14DL, Y5177-14DL2
Sample Type	Units	TAGM/STARS								Field Duplicate								Field Duplicate
Volatile Tentatively Identified Compounds (cont'd)																		
Benzene, 1-Ethyl-3-Methyl-	µg/kg	10000$_{sz}$[A]	-	-	**3300 J**	-	-	-	-	-	-	**2600 J**	-	-	-	-	-	-
Benzene, 1-ethyl-4-(1-methylethyl)	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethyl-4-methyl-	µg/kg	10000$_{sz}$[A]	-	**920 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-2-(1-Methy	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-2-(2-Prope	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	**1200 J**	-	-	-	-	-	-	-
Benzene, 1-methyl-2-propyl-	µg/kg	10000$_{sz}$[A]	-	-	**1800 J**	-	-	-	-	-	-	-	-	-	-	-	**230 J**	**110 J**
Benzene, 1-Methyl-3-(1-Methy	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	**350 J**	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-3-propyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methyl-2-propenyl)benzene	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methylethyl)-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methylpropyl)-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-4-Propyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	**1300 J**	-	-	-	-	-	-
Benzene, 1-propenyl-	µg/kg	10000$_{sz}$[A]	-	-	**2500 J**	-	-	-	-	-	-	**1800 J**	-	-	-	-	-	-
Benzene, 2,4-diethyl-1-methyl-	µg/kg	10000$_{sz}$[A]	-	**690 J**	-	-	-	-	-	**230 J**	-	-	-	-	-	-	-	-
Benzene, 2-butenyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-ethenyl-1,3,5-trimethyl	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-ethenyl-1,4-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-Ethyl-1,3-Dimethy	µg/kg	10000$_{sz}$[A]	-	-	**2800 J**	-	-	-	-	-	-	**1500 J**	-	-	-	-	**260 J**	**110 J**
Benzene, 2-ethyl-1,4-dimethyl-	µg/kg	10000$_{sz}$[A]	-	**1300 J**	-	-	-	-	**390 J**	**100 J**	-	-	-	-	-	-	-	-
Benzene, 4-ethyl-1,2-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, Cyclopropyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicyclo(3.3.1)nonane-2,6-dione	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butane, 2,2,3,3-tetramethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	**800 J**	-	-	-
Cis-.Beta.-Methylstyrene	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**180 J**	-
cis-1-Ethyl-3-methyl-cyclohexane	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-Decalin, 2-syn-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,1,2,3-tetramethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**160 J**
Cyclohexane, 1,1,3-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,2,4-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,3-dimethyl-, cis-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	**280 J**	-	-	-	**290 J**	-
Cyclohexane, 1,4-dimethyl-, cis-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**290 J**
Cyclohexane, 1-ethyl-2-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-methyl-2-propyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-methyl-3-propyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 2-propenyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, butyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, ethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, pentyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**130 J**	-
Cyclohexane, trans-1,3-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexanol, 5-methyl-2-(1-methylethyl)-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexanone, 2,3-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopentene, 1,2,3-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decahydro-4,4,8,9,10-Pentame	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 2-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 4-ethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 4-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 5-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Deltacyclene	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethylstyrene, 2,4-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	**250 J**	-	-	-	-	-
Dodecane	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane, 2,6,10-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane, 6-Methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethanone, 1-(2-methylphenyl)-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	**280 J**	-	-	-	-	-
Heptane	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	**270 J**	-	-	-	-	-
Heptane, 2,5-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 2-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	**480 J**	-	**750 J**	-	-	-
Heptane, 3,3,5-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 3-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	**400 J**	-	-	-	-	-
Hexadecane, 2,6,10,14-tetramethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexahydrobenzocyclooctene, 5,6,7,8,9,10-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 2,2,5-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 2,2-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 3-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	**1800 J**	-	-
Indan, 1-Methyl-	µg/kg	10000$_{sz}$[A]	-	-	**3800 J**	-	-	-	-	-	-	-	-	-	**1300 J**	**3400 J**	-	-
Indane	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sample Location			MH-ES-020.1.A	MH-ES-021.1.A	MH-ES-022.1.A	MH-ES-023.1.A	MH-ES-024.1.A	MH-ES-025.1.A	MH-ES-026.1.A		MH-ES-027.1.A	MH-ES-028.1.A	MH-ES-029.1.A	MH-ES-030.1.A	MH-ES-031.1.A	MH-ES-032.1.A	MH-ES-033.1.A	
Sample Date			17-Oct-07	24-Oct-07	24-Oct-07	24-Oct-07	25-Oct-07	25-Oct-07	26-Oct-07	26-Oct-07	26-Oct-07	29-Oct-07	30-Oct-07	31-Oct-07	1-Nov-07	1-Nov-07	2-Nov-07	2-Nov-07
Sample ID			MH-ES-020.1.A-S RE	MH-ES-021.1.A-S	MH-ES-022.1.A-S	MH-ES-023.1.A-S	MH-ES-024.1.A-S	MH-ES-025.1.A-S	MH-ES-026.1.A-S	MH-002-S-DU	MH-ES-027.1.A-S	MH-ES-0.28.1.A-S	MH-ES-029.1.A-S	MH-ES-030.1.A-S	MH-ES-031.1.A-S	MH-ES-032.1.A-S	MH-ES-033.1.A-S	MH-003-S-DUP
Sample Depth			15 - 16 ft	10 - 13.5 ft	7.5 - 15 ft	13 - 15.5 ft	10.5 - 15 ft	11.5 - 16 ft	9 - 14 ft	9 - 14 ft	7 - 14.5 ft	8 - 15 ft	8 - 13.5 ft	9.5 - 13 ft	4 - 13 ft	8 - 12 ft	8 - 12 ft	8 - 12 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y4923	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5093	Y5177	Y5177	Y5177	Y5177	Y5177	Y5177
Laboratory Sample ID			Y4923-10RE	Y5093-03, Y5093-03DL	Y5093-04, Y5093-04DL	Y5093-05	Y5093-07	Y5093-08	Y5093-10	Y5093-13	Y5093-14	Y5093-16, Y5093-16DL, Y5093-16DL2	Y5177-01, Y5177-01DL, Y5177-01DL2	Y5177-03	Y5177-05, Y5177-05DL	Y5177-06, Y5177-06DL	Y5177-08, Y5177-08DL, Y5177-08DL2, Y5177-08DL3	Y5177-14, Y5177-14DL, Y5177-14DL2
Sample Type										Field Duplicate								Field Duplicate
Volatile Tentatively Identified Compounds (cont'd)																		
Mercaptoacetate, 2-Ethylhexyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, 1-Methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	730 J	-	-	-
Naphthalene, Decahydro-2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonadiyne, 2,4-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	310 J	-	-	-	-	-
Nonane	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	310 J	-	-	-	-	-
Nonane, 2-methyl-5-propyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane, 3-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	440 J	-	-	-	-	-
Octane, 2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	290 J	-	-	-	-	-
Octane, 3,3-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250 J
Octane, 3,6-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3-ethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 4-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentadecane, 2,6,10,14-tetramethyl	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentalene, octahydro-1-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110 J
Pentane, 2,3,3-trimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 2,3,4-trimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 3-ethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propanedinitrile, cyclohexyl(2-met	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-Decalin, 2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Undecane, 3,6-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown TIC 1	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total VOC TICs	µg/kg	10000$_{s2}^{A}$	-	10780 J^{AB}	27500 J^{AB}	-	2480 J	-	4380 J	1590 J	4980 J	19900 J^{AB}	3310 J	-	7780 J	23400 J^{AB}	2360 J	1710 J

Notes:

TAGM/STARs	New York State Department of Environmental Conservation- Technical and Administrative Guidance Memorandum - Determination of Soil Cleanup Levels
^{A}	TAGM 4046 & STARS #1 consolidation memo(12/20/00) hybrid Soil Cleanup Objective
6.5^{A}	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
< 0.50	Laboratory estimated quantitation limit exceeded standard.
< 0.03	The analyte was not detected above the laboratory estimated quantation limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
$_{S}^{A}$	From STARS Memo #1 parameter list.
$_{T}^{A}$	From TAGM 4046 parameter list.
$_{orMDLT}^{A}$	Method Detection Limit. From TAGM 4046 parameter list.
$_{s1S}^{A}$	As per TAGM 4046 individual and the sum of VOCs not listed (Tentatively Identified Compounds (TICs)) <= 10 ppm. From STARS Memo #1 parameter list.
$_{s2T}^{A}$	The criterion is applicable to total xylenes (at 1.2 mg/kg), and the individual isomers should be added for comparison. From TAGM 4046 parameter list.
s3S	Methyl t-butyl ether (MTBE) is not a target compound of Methods 8021 and 8260, but MTBE may be determined using these methods with appropriate quality assurance and quality control measures. From STARS Memo #1 parameter list.
D	Indicates an estimated value.
J	Indicates presumptive evidence of a compound. Identification of tentatively identified compoud is based on a mass spectral library search.
N	Chemtech Consulting Group
CCGE	

TABLE 1C
COMFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
TAGM 4046/STARS MEMO #1 VOC AND TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MH-ES-034.1.A	MH-ES-035.1.A	MH-ES-036.1.A	MH-ES-037.1.A	MH-ES-038.1.A	MH-ES-039.1.A	MH-ES-040.1.A	MH-ES-041.1.A	MH-ES-042.1.A	MH-ES-043.1.A	MH-ES-044.1.A	MH-ES-045.1.A	MH-ES-046.1.A		MH-ES-047.1.A	MH-ES-048.1.A
Sample Date			2-Nov-07	5-Nov-07	5-Nov-07	5-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	7-Nov-07	7-Nov-07	13-Nov-07	13-Nov-07	13-Nov-07	14-Nov-07	14-Nov-07
Sample ID			MH-ES-034.1.A-S	MH-ES-035.1.A-S	MH-ES-036.1.A-S	MH-ES-037.1.A-S	MH-ES-038.1.A-S	MH-ES-039.1.A-S	MH-ES-040.1.A-S	MH-ES-041.1.A-S	MH-ES-042.1.A-S	MH-ES-043.1.A-S	MH-ES-044.1-A-S	MH-ES-045.1.A-S	MH-ES-046.1.A-S	MH-004-S-DU	MH-ES-047.1.A-S	MH-ES-048.1.A-S
Sample Depth			8.5 - 11 ft	8.5 - 12 ft	8.5 - 12 ft	9 - 11.5 ft	9 - 11.5 ft	6 - 10.5 ft	10 - 12.5 ft	8.5 - 11 ft	8 - 11.5 ft	8 - 12.5 ft	8 - 12.5 ft	11 - 15.5 ft	13 - 16.5 ft	13 - 16.5 ft	9 - 13 ft	8 - 10.5 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y5177	Y5177	Y5177	Y5177	Y5241	Y5241	Y5241	Y5241	Y5241	Y5241	Y5241	Y5336	Y5336	Y5336	Y5336	Y5336
Laboratory Sample ID			Y5177-10	Y5177-16	Y5177-17	Y5177-18, Y5177-18DL	Y5241-02, Y5241-02DL	Y5241-04, Y5241-04DL	Y5241-06, Y5241-06DL	Y5241-08	Y5241-09	Y5241-11	Y5241-13	Y5336-02	Y5336-03, Y5336-03DL, Y5336-03DL2	Y5336-06, Y5336-06DL	Y5336-08	Y5336-09, Y5336-09DL
Sample Type																Field Duplicate		
Volatile Organic Compounds																		
Benzene	µg/kg	60_{crMDLT}[A]	< 27	< 28	< 27	< 27	**45 J**	**43**	< 26	< 28	< 27	< 30	< 28	< 27	< 28	***< 690***	< 28	***< 680***
Butylbenzene, n-	µg/kg	10000_{stS}[A]	**65 NJ**	< 28	< 27	**3100 NJ**	**540 NJ**	**330**	**1100 J**	< 28	< 27	< 30	< 28	< 27	**4800 J**	**5500 NJ**	< 28	**7500 J**
Butylbenzene, tert-	µg/kg	10000_{stS}[A]	< 27	< 28	< 27	**53 J**	< 28	< 29	< 26	< 28	< 27	< 30	< 28	< 27	< 28	< 690	< 28	< 680
Cymene (p-Isopropyltoluene)	µg/kg	10000_{stS}[A]	**86**	< 28	< 27	**2500 NJ**	**1700 J**	**220**	**330**	< 28	< 27	< 30	< 28	< 27	**2900 J**	**3200**	< 28	**4300 J**
Ethylbenzene	µg/kg	5500_{ft}[A]	< 27	< 28	< 27	**200 J**	**260 J**	**150**	< 26	< 28	< 27	< 30	< 28	< 27	**3900 J**	**4000**	< 28	**2400 J**
Isopropylbenzene	µg/kg	2300_{S}[A]	**15 J**	< 28	< 27	**360 J**	**180 J**	**160**	< 26	< 28	< 27	< 30	< 28	< 27	**1700 J**	**1800**	< 28	**2600 J**[AB]
Methyl tert-butyl ether (MTBE)	µg/kg	120_{s3S}[A]	< 27	< 28	< 27	< 27	< 28	< 29	< 26	< 28	< 27	< 30	< 28	< 27	< 28	***< 690***	< 28	***< 680***
Naphthalene	µg/kg	13000_{Ft}[A]	**120**	< 28	< 27	**2000 J**	**1500 J**	**440**	**1300 J**	< 28	< 27	< 30	< 28	**27 J**	**10000 J**	**10000**	< 28	**11000 NJ**
Phenylbutane, 2- (sec-Butylbenzene)	µg/kg	10000_{stS}[A]	**32**	< 28	< 27	**1400 J**	**130 J**	**100**	< 26	< 28	< 27	< 30	< 28	< 27	< 28	**1100**	< 28	**1500 J**
Propylbenzene, n-	µg/kg	3700_{S}[A]	**46**	< 28	< 27	**2100 NJ**	**280 J**	**420**	**120**	< 28	< 27	< 30	< 28	< 27	**5500 J**[AB]	**5900**[AB]	< 28	**8800 J**[AB]
Toluene	µg/kg	1500_{A}[A]	< 27	< 28	< 27	< 27	**37 J**	**12 J**	< 26	< 28	< 27	< 30	< 28	< 27	< 28	< 690	< 28	< 680
Trimethylbenzene, 1,2,4-	µg/kg	10000_{stS}[A]	**260**	**50**	< 27	**11000 J**[AB]	**5500 J**	**1300 J**	**4800 J**	**15 J**	< 27	< 30	**20 J**	< 27	**43000 J**[AB]	**52000 J**[AB]	< 28	**77000 J**[AB]
Trimethylbenzene, 1,3,5-	µg/kg	3300_{S}[A]	**150**	< 28	< 27	**1400 J**	**3900 J**[AB]	**430**	**1200 J**	< 28	< 27	< 30	< 28	< 27	**14000 J**[AB]	**17000 J**[AB]	< 28	**25000 J**[AB]
Xylene, m & p-	µg/kg	1200_{s2T}[A]	**35 J**	< 55	< 54	**450 J**	**820 J**	**930**	**15 J**	< 55	< 54	< 60	< 57	< 55	**18000 J**[AB]	**21000**[AB]	< 56	**12000 J**[AB]
Xylene, o-	µg/kg	1200_{s2T}[A]	< 27	< 28	< 27	< 27	**510 J**	**87**	< 26	< 28	< 27	< 30	< 28	< 27	**140 J**	< 690	< 28	**290 J**
Volatile Tentatively Identified Compounds																		
.Alpha.,.Beta.,.Beta.-Trimet	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Cyclopentadiene, 1,2,3,4-tetra	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Hexene, 3,3,5-trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	**1700 J**	-	**660 J**	-	-	-	**890 J**	-	-	-	-	-	-
1H-Inden-1-one, 2,3-dihydro-2-meth	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-1,1-dimethy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-1,2-D	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-1,6-D	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	**800 J**	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-2-methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-4,7-D	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-4-methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	**920 J**	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-5,6-dimethy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-5-methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	**1200 J**	-	-	-	-	-	-	-	-	-
1H-indene, 2-ethyl-2,3-dihydro-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene,2,3-dihydro-2,2-dimethyl	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Phenyl-1-Butene	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	**1900 J**	-	-	-	-	-	**2200 J**	**14000 J**[AB]	-	-
2-Naphthalenecarboxylic acid, 1,4-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	**620 J**	-	-	-	-	-
2-Octene, 2,6-dimethyl-	µg/kg	10000_{s2}[A]	**300 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,5-Dimethyl-3-heptene	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3a,6-Methano-3aH-indene, 2,3,6,7-t	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Phenylbut-1-Ene	µg/kg	10000_{s2}[A]	-	-	-	**1900 J**	-	-	-	-	-	-	-	-	-	**11000 J**[AB]	-	-
4-Fluorobenzyl alcohol	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azulene, 1,2,3,3a-tetrahydro-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1,1-dimethyl-2-propenyl)	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-ethyl-1-propenyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methyl-1-butenyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	**910 J**	-	-	-
Benzene, (1-Methyl-1-Propeny	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methyl-1-propenyl)-, (E)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methylethyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (2-Methyl-1-Butenyl	µg/kg	10000_{s2}[A]	-	**50 J**	-	-	**650 J**	**800 J**	**1300 J**	-	-	-	**770 J**	-	**880 J**	-	-	-
Benzene, (2-methylpropyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,1'-(1-ethenyl-1,3-propanediyl)bis-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,2,3,4-Tetramethyl	µg/kg	10000_{s2}[A]	**310 J**	-	-	-	-	**820 J**	**690 J**	-	-	-	-	-	-	-	-	-
Benzene, 1,2,3,5-Tetramethyl	µg/kg	10000_{s2}[A]	-	-	-	**1300 J**	-	-	**1300 J**	-	-	-	-	-	**3500 J**	-	-	-
Benzene, 1,2,3-Trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	**12000 J**[AB]	-	-
Benzene, 1,2,4,5-Tetramethyl	µg/kg	10000_{s2}[A]	-	-	-	-	**860 J**	-	-	-	-	-	-	-	**1100 J**	-	-	-
Benzene, 1,2-Diethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3,5-Trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3,5-trimethyl-2-(1-methylethenyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	**720 J**	-	-	-	-	-
Benzene, 1,3-Diethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-Diethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-Diethyl-2-Methy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-dimethyl-2-(2-methylpropyl)-	µg/kg	10000_{s2}[A]	-	-	**320 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethenyl-2-Methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethenyl-3-Ethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethenyl-4-ethyl-	µg/kg	10000_{s2}[A]	-	-	-	**1300 J**	-	-	**890 J**	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethyl-2,3-Dimethy	µg/kg	10000_{s2}[A]	-	**39 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethyl-2,4,5-trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethyl-2,4-Dimethy	µg/kg	10000_{s2}[A]	**380 J**	-	-	**1700 J**	-	-	**1400 J**	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethyl-2-Methyl-	µg/kg	10000_{s2}[A]	**420 J**	-	-	**1500 J**	**1000 J**	**610 J**	-	-	-	-	-	-	-	-	-	**24000 J**[AB]
Benzene, 1-Ethyl-3,5-Dimethy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1C
COMFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
TAGM 4046/STARS MEMO #1 VOC AND TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MH-ES-034.1.A	MH-ES-035.1.A	MH-ES-036.1.A	MH-ES-037.1.A	MH-ES-038.1.A	MH-ES-039.1.A	MH-ES-040.1.A	MH-ES-041.1.A	MH-ES-042.1.A	MH-ES-043.1.A	MH-ES-044.1.A	MH-ES-045.1.A	MH-ES-046.1.A		MH-ES-047.1.A	MH-ES-048.1.A
Sample Date			2-Nov-07	5-Nov-07	5-Nov-07	5-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	7-Nov-07	7-Nov-07	13-Nov-07	13-Nov-07	13-Nov-07	14-Nov-07	14-Nov-07
Sample ID			MH-ES-034.1.A-S	MH-ES-035.1.A-S	MH-ES-036.1.A-S	MH-ES-037.1.A-S	MH-ES-038.1.A-S	MH-ES-039.1.A-S	MH-ES-040.1.A-S	MH-ES-041.1.A-S	MH-ES-042.1.A-S	MH-ES-043.1.A-S	MH-ES-044.1.A-S	MH-ES-045.1.A-S	MH-ES-046.1.A-S	MH-004-S-DU	MH-ES-047.1.A-S	MH-ES-048.1.A-S
Sample Depth			8.5 - 11 ft	8.5 - 12 ft	8.5 - 12 ft	9 - 11.5 ft	9 - 11.5 ft	6 - 10.5 ft	10 - 12.5 ft	8.5 - 11 ft	8 - 11.5 ft	8 - 12.5 ft	8 - 12.5 ft	11 - 15.5 ft	13 - 16.5 ft	13 - 16.5 ft	9 - 13 ft	8 - 10.5 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y5177	Y5177	Y5177	Y5177	Y5241	Y5241	Y5241	Y5241	Y5241	Y5241	Y5241	Y5336	Y5336	Y5336	Y5336	Y5336
Laboratory Sample ID			Y5177-10	Y5177-16	Y5177-17	Y5177-18, Y5177-18DL	Y5241-02, Y5241-02DL	Y5241-04, Y5241-04DL	Y5241-06, Y5241-06DL	Y5241-08	Y5241-09	Y5241-11	Y5241-13	Y5336-02	Y5336-03, Y5336-03DL, Y5336-03DL2	Y5336-06, Y5336-06DL	Y5336-08	Y5336-09, Y5336-09DL
Sample Type																Field Duplicate		
Volatile Tentatively Identified Compounds (cont'd)																		
Benzene, 1-Ethyl-3-Methyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	21000 J^{AB}	-	14000 J^{AB}
Benzene, 1-ethyl-4-(1-methylethyl)	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethyl-4-methyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	1600 J	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-2-(1-Methy	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	7800 J	-	-
Benzene, 1-Methyl-2-(2-Prope	µg/kg	10000$_{sz}^{A}$	-	85 J	-	-	-	1600 J	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-2-propyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-3-(1-Methy	µg/kg	10000$_{sz}^{A}$	290 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-3-propyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	1500 J	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methyl-2-propenyl)benzene	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methylethyl)-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	710 J	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methylpropyl)-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-4-Propyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	680 J	-	-	-
Benzene, 1-propenyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2,4-diethyl-1-methyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-butenyl-	µg/kg	10000$_{sz}^{A}$	470 J	-	-	-	1600 J	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-ethenyl-1,3,5-trimethyl	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-ethenyl-1,4-dimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-Ethyl-1,3-Dimethy	µg/kg	10000$_{sz}^{A}$	-	-	-	-	980 J	1100 J	1100 J	-	-	-	-	-	-	-	-	-
Benzene, 2-ethyl-1,4-dimethyl-	µg/kg	10000$_{sz}^{A}$	-	120 J	-	-	720 J	-	-	-	-	-	-	-	3300 J	-	-	-
Benzene, 4-ethyl-1,2-dimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	11000 J^{AB}	-	11000 J^{AB}
Benzene, Cyclopropyl-	µg/kg	10000$_{sz}^{A}$	270 J	-	-	1200 J	550 J	1000 J	-	-	-	-	-	-	-	-	-	-
Bicyclo(3.3.1)nonane-2,6-dione	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	710 J	-	-	-	-	-
Butane, 2,2,3,3-tetramethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cis-.Beta.-Methylstyrene	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1-Ethyl-3-methyl-cyclohexane	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-Decalin, 2-syn-methyl-	µg/kg	10000$_{sz}^{A}$	-	-	310 J	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,1,2,3-tetramethyl-	µg/kg	10000$_{sz}^{A}$	-	42 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,1,3-trimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,2,4-trimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,3-dimethyl-, cis-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,4-dimethyl-, cis-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-ethyl-2-methyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-methyl-2-propyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	570 J	-	-	-	-	-	-
Cyclohexane, 1-methyl-3-propyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	490 J	-	-	-	-	-	-
Cyclohexane, 2-propenyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, butyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	780 J	-	-	-	-	-	-
Cyclohexane, ethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	770 J	-	-	-
Cyclohexane, pentyl-	µg/kg	10000$_{sz}^{A}$	-	-	380 J	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, trans-1,3-dimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexanol, 5-methyl-2-(1-methylethyl)-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	770 J	-	-	-	-	-	-
Cyclohexanone, 2,3-dimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopentene, 1,2,3-trimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decahydro-4,4,8,9,10-Pentame	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	950 J	-	-	-	-	-
Decane	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12000 J^{AB}
Decane, 2-methyl-	µg/kg	10000$_{sz}^{A}$	-	-	420 J	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 4-ethyl-	µg/kg	10000$_{sz}^{A}$	-	-	170 J	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 4-methyl-	µg/kg	10000$_{sz}^{A}$	480 J	110 J	200 J	2200 J	-	1100 J	-	-	-	1400 J	-	-	-	-	-	-
Decane, 5-methyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	620 J	-	-	-	-	-	-
Deltacyclene	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethylstyrene, 2,4-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane	µg/kg	10000$_{sz}^{A}$	-	-	-	-	1100 J	-	-	-	-	-	-	-	-	-	-	-
Dodecane, 2,6,10-trimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	800 J	-	-	-	-	-
Dodecane, 6-Methyl-	µg/kg	10000$_{sz}^{A}$	-	-	430 J	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethanone, 1-(2-methylphenyl)-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 2,5-dimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11000 J^{AB}
Heptane, 2-methyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12000 J^{AB}
Heptane, 3,3,5-trimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 3-methyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11000 J^{AB}
Hexadecane, 2,6,10,14-tetramethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	910 J	-	-	-	-	-
Hexahydrobenzocyclooctene, 5,6,7,8,9,10-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	770 J	-	-	-	-	-
Hexane, 2,2,5-trimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 2,2-dimethyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 3-methyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indan, 1-Methyl-	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indane	µg/kg	10000$_{sz}^{A}$	-	-	-	-	-	-	-	-	-	-	-	42 J	-	-	-	-

TABLE 1C
COMFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
TAGM 4046/STARS MEMO #1 VOC AND TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MH-ES-034.1.A	MH-ES-035.1.A	MH-ES-036.1.A	MH-ES-037.1.A	MH-ES-038.1.A	MH-ES-039.1.A	MH-ES-040.1.A	MH-ES-041.1.A	MH-ES-042.1.A	MH-ES-043.1.A	MH-ES-044.1.A	MH-ES-045.1.A	MH-ES-046.1.A		MH-ES-047.1.A	MH-ES-048.1.A
Sample Date			2-Nov-07	5-Nov-07	5-Nov-07	5-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	7-Nov-07	7-Nov-07	13-Nov-07	13-Nov-07	13-Nov-07	14-Nov-07	14-Nov-07
Sample ID			MH-ES-034.1.A-S	MH-ES-035.1.A-S	MH-ES-036.1.A-S	MH-ES-037.1.A-S	MH-ES-038.1.A-S	MH-ES-039.1.A-S	MH-ES-040.1.A-S	MH-ES-041.1.A-S	MH-ES-042.1.A-S	MH-ES-043.1.A-S	MH-ES-044.1-A-S	MH-ES-045.1.A-S	MH-ES-046.1.A-S	MH-004-S-DU	MH-ES-047.1.A-S	MH-ES-048.1.A-S
Sample Depth			8.5 - 11 ft	8.5 - 12 ft	8.5 - 12 ft	9 - 11.5 ft	9 - 11.5 ft	6 - 10.5 ft	10 - 12.5 ft	8.5 - 11 ft	8 - 11.5 ft	8 - 12.5 ft	8 - 12.5 ft	11 - 15.5 ft	13 - 16.5 ft	13 - 16.5 ft	9 - 13 ft	8 - 10.5 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y5177	Y5177	Y5177	Y5177	Y5241	Y5241	Y5241	Y5241	Y5241	Y5241	Y5241	Y5336	Y5336	Y5336	Y5336	Y5336
Laboratory Sample ID			Y5177-10	Y5177-16	Y5177-17	Y5177-18, Y5177-18DL	Y5241-02, Y5241-02DL	Y5241-04, Y5241-04DL	Y5241-06, Y5241-06DL	Y5241-08	Y5241-09	Y5241-11	Y5241-13	Y5336-02	Y5336-03, Y5336-03DL, Y5336-03DL2	Y5336-06, Y5336-06DL	Y5336-08	Y5336-09, Y5336-09DL
Sample Type																Field Duplicate		
Volatile Tentatively Identified Compounds (cont'd)																		
Mercaptoacetate, 2-Ethylhexyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	**790 J**	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, 1-Methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, Decahydro-2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	**170 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonadiyne, 2,4-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane, 2-methyl-5-propyl-	µg/kg	10000$_{s2}^{A}$	-	**54 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane, 3-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	**8800 J**	-	-
Octane	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	**760 J**	**9100 J**	-	**18000 J^{AB}**
Octane, 2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	**810 J**	**12000 J^{AB}**	-	-
Octane, 3,3-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3,6-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	**54 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3-ethyl-	µg/kg	10000$_{s2}^{A}$	-	-	**270 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	**8800 J**	-	**14000 J^{AB}**
Octane, 4-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**19000 J^{AB}**
Pentadecane, 2,6,10,14-tetramethyl	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentalene, octahydro-1-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 2,3,3-trimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 2,3,4-trimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 3-ethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propanedinitrile, cyclohexyl(2-met	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	**810 J**	-	-	-	-	-	-
Tetrachloroethylene	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	**33 J**	-	-	-	-
trans-Decalin, 2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Undecane, 3,6-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown TIC 1	µg/kg	10000$_{s2}^{A}$	-	-	-	**1800 J**	-	-	-	-	-	-	-	-	-	-	-	-
Total VOC TICs	µg/kg	10000$_{s2}^{A}$	**2920 J**	**554 J**	**2670 J**	**16100 J^{AB}**	**9850 J**	**9320 J**	**10580 J^{AB}**	-	-	**6330 J**	**6250 J**	**75 J**	**14150 J^{AB}**	**106400 J^{AB}**	-	**128000 J^{AB}**

Notes:

TAGM/STARs	New York State Department of Environmental Conservation- Technical and Administrative Guidance Memorandum - Determination of Soil Cleanup Levels
^{A}	TAGM 4046 & STARS #1 consolidation memo(12/20/00) hybrid Soil Cleanup Objective
6.5^{A}	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
< 0.50	Laboratory estimated quantitation limit exceeded standard.
< 0.03	The analyte was not detected above the laboratory estimated quantation limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
$_{S}^{A}$	From STARS Memo #1 parameter list.
$_{T}^{A}$	From TAGM 4046 parameter list.
or$_{MDLT}^{A}$	Method Detection Limit. From TAGM 4046 parameter list.
$_{s1S}^{A}$	As per TAGM 4046 individual and the sum of VOCs not listed (Tentatively Identified Compounds (TICs)) <= 10 ppm. From STARS Memo #1 parameter list.
$_{s2T}^{A}$	The criterion is applicable to total xylenes (at 1.2 mg/kg), and the individual isomers should be added for comparison. From TAGM 4046 parameter list.
s3S	Methyl t-butyl ether (MTBE) is not a target compound of Methods 8021 and 8260, but MTBE may be determined using these methods with appropriate quality assurance and quality control measures. From STARS Memo #1 parameter list.
D	Indicates an estimated value.
J	Indicates presumptive evidence of a compound. Identification of tentatively identified compoud is based on a mass spectral library search.
N	Chemtech Consulting Group
CCGE	

TABLE 1D
COMFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
TAGM 4046/STARS MEMO #1 VOC AND TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MH-EB-001.A	MH-EB-002.A	MH-EB-003.A	MH-EB-004.A	MH-EB-005.A	MH-EB-006.A	MH-EB-007.A	MH-EB-008.A		MH-EB-009.A	MH-EB-010.A	MH-EB-011.A	MH-EB-012.A	MH-EB-013.A	MH-EB-014.A	MH-EB-015.A	MH-EB-016.A	MH-EB-017.A	MH-EB-018.A	MH-EB-019.A	MH-EB-020.A	MH-EB-021.A
Sample Date			4-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	5-Oct-07	5-Oct-07	8-Oct-07	8-Oct-07	8-Oct-07	9-Oct-07	10-Oct-07	10-Oct-07	11-Oct-07	11-Oct-07	12-Oct-07	15-Oct-07	16-Oct-07	17-Oct-07	24-Oct-07	24-Oct-07	25-Oct-07
Sample ID			MH-EB-001.A-S	MH-EB-002.A-S	MH-EB-003.A-S	MH-EB-004.A-S	MH-EB-005.A-S	MH-EB-006.A-S	MH-EB-007.A-S	MH-EB-008.A-S	MH-001-S-DU	MH-EB-009.A-S	MH-EB-010.A-S	MH-EB-011.A-S	MH-EB-012.A-S	MH-EB-013.A	MH-EB-014.-A	MH-EB-015.A-S	MH-EB-016.A-S	MH-EB-017.A-S	MH-EB-018.A-S	MH-EB-019.A-S	MH-EB-020.A-S	MH-EB-021.A-S
Sample Depth			18 ft	14.5 ft	16.5 ft	16.5 ft	15 ft	9 ft	14 ft	15.5 ft	15.5 ft	15 ft	14.5 ft	15 ft	13.5 ft	15.5 ft	15.5 ft	16.5 ft	14 ft	17 ft	18.5 ft	14.5 ft	17 ft	18 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y4767	Y4767	Y4767	Y4767	Y4767	Y4802	Y4802	Y4815	Y4815	Y4815	Y4846	Y4846	Y4846	Y4853	Y4853	Y4877	Y4923	Y4923	Y4923	Y5093	Y5093	Y5093
Laboratory Sample ID			Y4767-07	Y4767-08	Y4767-09	Y4767-10	Y4767-14	Y4802-01	Y4802-03	Y4815-02	Y4815-06	Y4815-03	Y4846-01	Y4846-02, Y4846-02DL	Y4846-04	Y4853-01	Y4853-02	Y4877-01	Y4923-01	Y4923-05	Y4923-09	Y5093-01	Y5093-02	Y5093-06
Sample Type	Units	TAGM/STARS									Field Duplicate													
Volatile Organic Compounds																								
Benzene	µg/kg	60_{orMDL}[A]	< 27	< 27	< 28	< 27	< 27	< 28	< 27	< 27	< 27	< 28	< 27	< 27	< 27	< 28	< 27	< 27	< 28	< 27	< 28	< 28	< 27	< 27
Butylbenzene, n-	µg/kg	10000_{s1S}[A]	< 27	< 27	< 28	< 27	< 27	< 28	< 27	< 27	**37**	< 28	< 51	**45**	**77**	< 28	**49**	< 32	< 28	< 27	< 28	< 28	< 27	< 27
Butylbenzene, tert-	µg/kg	10000_{s1S}[A]	< 27	< 27	< 28	< 27	< 27	< 28	< 27	< 27	< 27	< 28	< 27	< 27	< 27	< 28	< 27	< 27	< 28	< 27	< 28	< 28	< 27	< 27
Cymene (p-Isopropyltoluene)	µg/kg	10000_{s1S}[A]	< 27	< 27	< 28	< 27	**20 J**	< 28	< 27	< 27	< 27	< 28	**20 J**	**27 J**	< 27	< 28	**22 J**	< 27	< 28	< 27	< 28	< 28	< 27	< 27
Ethylbenzene	µg/kg	5500_{T}[A]	< 27	< 27	< 28	< 27	< 27	< 28	< 27	**12 J**	< 27	< 28	**14 J**	**75**	< 27	< 28	< 27	< 27	< 28	**22 J**	< 28	< 28	< 27	< 27
Isopropylbenzene	µg/kg	2300_{S}[A]	< 27	< 27	< 28	< 27	< 27	< 28	< 27	**15 J**	< 27	< 28	**14 J**	**27 J**	< 27	< 28	**22 J**	< 27	< 28	< 27	< 28	< 28	< 27	< 27
Methyl tert-butyl ether (MTBE)	µg/kg	120_{s3S}[A]	< 27	< 27	< 28	< 27	< 27	< 28	< 27	< 27	< 27	< 28	< 27	< 27	< 27	< 28	< 27	< 27	< 28	< 27	< 28	< 28	< 27	< 27
Naphthalene	µg/kg	13000_{T}[A]	< 27	< 27	< 28	< 27	< 27	**26 NJ**	< 27	< 27	**27 J**	< 28	**24 J**	**230**	< 27	< 28	< 27	**17 J**	< 28	**67**	< 28	**16 J**	< 27	< 27
Phenylbutane, 2- (sec-Butylbenzene)	µg/kg	10000_{s1S}[A]	< 27	< 27	< 28	< 27	**26 J**	< 28	< 27	**13 NJ**	< 27	< 28	**13 J**	< 27	< 27	< 28	**22 NJ**	< 27	< 28	< 27	< 28	< 28	< 27	< 27
Propylbenzene, n-	µg/kg	3700_{S}[A]	< 27	< 27	< 28	< 27	**38**	< 28	< 27	**62 J**	**54**	< 28	**62**	**150**	**57**	< 28	**170**	**100**	< 28	**35**	< 28	< 28	< 27	< 27
Toluene	µg/kg	1500_{T}[A]	< 27	< 27	< 28	< 27	< 27	< 28	< 27	< 27	< 27	< 28	< 27	< 27	< 27	< 28	< 27	< 27	< 28	< 27	< 28	< 28	< 27	< 27
Trimethylbenzene, 1,2,4-	µg/kg	10000_{s1S}[A]	< 27	< 27	< 28	< 27	< 27	**34 J**	< 27	**39 J**	**89 J**	< 28	**170**	**1400 J**	**26 J**	< 28	**37**	**52**	< 28	**300**	< 28	**17 J**	< 27	< 27
Trimethylbenzene, 1,3,5-	µg/kg	3300_{S}[A]	< 27	< 27	< 28	< 27	< 27	**35 J**	< 27	**47 J**	**73**	< 28	**150**	**320**	**63**	< 28	**12 J**	**66**	< 28	**82**	< 28	< 28	< 27	< 27
Xylene, m & p-	µg/kg	1200_{s2T}[A]	< 55	< 54	< 56	< 54	< 54	< 56	< 54	< 55	< 54	< 56	< 55	**170**	< 55	< 55	< 55	< 54	< 56	**90**	< 56	< 56	< 54	< 55
Xylene, o-	µg/kg	1200_{s2T}[A]	< 27	< 27	< 28	< 27	< 27	< 28	< 27	< 27	< 27	< 28	< 27	**160**	< 27	< 28	< 27	< 27	< 28	< 27	< 28	< 28	< 27	< 27
Volatile Tentatively Identified Compounds																								
.Alpha.,.Beta.,Beta.-Trimet	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Cyclopentadiene, 1,2,3,4-tetra	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Hexene, 3,3,5-trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Inden-1-one, 2,3-dihydro-2-meth	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-1,1-dimethy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**130 J**	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-1,2-D	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**140 J**	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-1,6-D	µg/kg	10000_{s2}[A]	-	-	-	-	-	**91 J**	**33 J**	-	-	-	-	-	**100 J**	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-2-methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	**290 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-4,7-D	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	**120 J**	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-4-methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	**260 J**	-	-	**170 J**	**250 J**	-	-	**320 J**	**250 J**	-	-	-	-	**40 J**	-
1H-Indene, 2,3-dihydro-5,6-dimethy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-5-methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	**130 J**	-	-	-	-	-	-	**140 J**	-	**50 J**	-	-	-	-
1H-indene, 2-ethyl-2,3-dihydro-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene,2,3-dihydro-2,2-dimethyl	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Phenyl-1-Butene	µg/kg	10000_{s2}[A]	-	-	-	-	**480 J**	-	-	-	-	**29 J**	-	-	-	-	-	-	-	-	-	-	-	-
2-Naphthalenecarboxylic acid, 1,4-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Octene, 2,6-dimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,5-Dimethyl-3-heptene	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3a,6-Methano-3aH-indene, 2,3,6,7-t	µg/kg	10000_{s2}[A]	-	-	-	-	**380 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Phenylbut-1-Ene	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	**190 J**	-	-	-	-	-	-	-	-	-
4-Fluorobenzyl alcohol	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azulene, 1,2,3,3a-tetrahydro-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1,1-dimethyl-2-propenyl)	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-ethyl-1-propenyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methyl-1-butenyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-Methyl-1-Propeny	µg/kg	10000_{s2}[A]	-	-	-	-	-	**130 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methyl-1-propenyl)-, (E)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methylethyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (2-Methyl-1-Butenyl	µg/kg	10000_{s2}[A]	-	-	-	-	**430 J**	**190 J**	**40 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (2-methylpropyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,1'-(1-ethenyl-1,3-propanediyl)bis-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,2,3,4-Tetramethyl	µg/kg	10000_{s2}[A]	-	-	-	-	-	**94 J**	-	**94 J**	**93 J**	-	**170 J**	**170 J**	**190 J**	-	**260 J**	-	-	**71 J**	-	-	-	-
Benzene, 1,2,3,5-Tetramethyl	µg/kg	10000_{s2}[A]	-	-	-	-	-	**140 J**	-	**170 J**	-	-	-	-	-	-	**390 J**	**170 J**	-	-	-	-	-	-
Benzene, 1,2,3-Trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	**190 J**	-	-	-	-	-	-	-	-	-	-
Benzene, 1,2,4,5-Tetramethyl	µg/kg	10000_{s2}[A]	-	-	-	-	**460 J**	-	-	-	**190 J**	-	**120 J**	-	**340 J**	-	-	**110 J**	-	-	-	-	**49 J**	-
Benzene, 1,2-Diethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	**120 J**	-	-	-	-	-	-	**200 J**	**80 J**	-	-	-	-	-	-
Benzene, 1,3,5-Trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	**330 J**	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3,5-trimethyl-2-(1-methylethenyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3-Diethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	**130 J**	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-Diethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-Diethyl-2-Methy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-dimethyl-2-(2-methylpropyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethenyl-2-Methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	**120 J**	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethenyl-3-Ethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	**160 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethenyl-4-ethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	**120 J**	-	-	-	-	-	-	**320 J**	**160 J**	-	-	-	-	**44 J**	-
Benzene, 1-Ethyl-2,3-Dimethy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethyl-2,4,5-trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	**34 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethyl-2,4-Dimethy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	**250 J**	-	-	**560 J**	**220 J**	-	-	-	-	-	-
Benzene, 1-Ethyl-2-Methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	**64 J**	-	**120 J**	**710 J**	-	-	-	**41 J**	-	**220 J**	-	-	-	-
Benzene, 1-Ethyl-3,5-Dimethy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1D
COMFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
TAGM 4046/STARS MEMO #1 VOC AND TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MH-EB-001.A	MH-EB-002.A	MH-EB-003.A	MH-EB-004.A	MH-EB-005.A	MH-EB-006.A	MH-EB-007.A	MH-EB-008.A		MH-EB-009.A	MH-EB-010.A	MH-EB-011.A	MH-EB-012.A	MH-EB-013.A	MH-EB-014.A	MH-EB-015.A	MH-EB-016.A	MH-EB-017.A	MH-EB-018.A	MH-EB-019.A	MH-EB-020.A	MH-EB-021.A
Sample Date			4-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	5-Oct-07	5-Oct-07	8-Oct-07	8-Oct-07	8-Oct-07	9-Oct-07	10-Oct-07	10-Oct-07	11-Oct-07	11-Oct-07	12-Oct-07	15-Oct-07	16-Oct-07	17-Oct-07	24-Oct-07	24-Oct-07	25-Oct-07
Sample ID			MH-EB-001.A-S	MH-EB-002.A-S	MH-EB-003.A-S	MH-EB-004.A-S	MH-EB-005.A-S	MH-EB-006.A-S	MH-EB-007.A-S	MH-EB-008.A-S	MH-001-S-DU	MH-EB-009.A-S	MH-EB-010.A-S	MH-EB-011.A-S	MH-EB-012.A-S	MH-EB-013.A	MH-EB-014-.A	MH-EB-015.A-S	MH-EB-016.A-S	MH-EB-017.A-S	MH-EB-018.A-S	MH-EB-019.A-S	MH-EB-020.A-S	MH-EB-021.A-S
Sample Depth			18 ft	14.5 ft	16.5 ft	16.5 ft	15 ft	9 ft	14 ft	15.5 ft	15.5 ft	15 ft	14.5 ft	15 ft	13.5 ft	15.5 ft	15.5 ft	16.5 ft	14 ft	17 ft	18.5 ft	14.5 ft	17 ft	18 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y4767	Y4767	Y4767	Y4767	Y4767	Y4802	Y4802	Y4815	Y4815	Y4815	Y4846	Y4846	Y4846	Y4853	Y4853	Y4877	Y4923	Y4923	Y4923	Y5093	Y5093	Y5093
Laboratory Sample ID			Y4767-07	Y4767-08	Y4767-09	Y4767-10	Y4767-14	Y4802-01	Y4802-03	Y4815-02	Y4815-06	Y4815-03	Y4846-01	Y4846-02, Y4846-02DL	Y4846-04	Y4853-01	Y4853-02	Y4877-01	Y4923-01	Y4923-05	Y4923-09	Y5093-01	Y5093-02	Y5093-06
Sample Type	Units	TAGM/STARS									Field Duplicate													
Volatile Tentatively Identified Compounds (cont'd)																								
Benzene, 1-Ethyl-3-Methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**73 J**	-	-	-	-
Benzene, 1-ethyl-4-(1-methylethyl)	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethyl-4-methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-2-(1-Methy	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	**190 J**	-	-	-	**300 J**	-	-	-	-	-	-	-	**53 J**	-
Benzene, 1-Methyl-2-(2-Prope	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**100 J**	-
Benzene, 1-methyl-2-propyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-3-(1-Methy	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	**190 J**	-	-	-	-	-	-	-	-	-	**83 J**	-	-	-	-
Benzene, 1-methyl-3-propyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	**100 J**	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methyl-2-propenyl)benzene	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methylethyl)-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**72 J**	-	-	-	-
Benzene, 1-methyl-4-(1-methylpropyl)-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-4-Propyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-propenyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2,4-diethyl-1-methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	**61 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-butenyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	**280 J**	-	-	-	-	-	-	-	-	-
Benzene, 2-ethenyl-1,3,5-trimethyl	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-ethenyl-1,4-dimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	**210 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-Ethyl-1,3-Dimethy	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	**370 J**	-	-	-	-	-	**220 J**	**240 J**	-	-	-	**39 J**	-	**66 J**	-	-	-	-
Benzene, 2-ethyl-1,4-dimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	**60 J**	**85 J**	-	**150 J**	-	**110 J**	-	-	-	-	-	-	-	-	-
Benzene, 4-ethyl-1,2-dimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, Cyclopropyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicyclo(3.3.1)nonane-2,6-dione	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butane, 2,2,3,3-tetramethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cis-.Beta.-Methylstyrene	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1-Ethyl-3-methyl-cyclohexane	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-Decalin, 2-syn-methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,1,2,3-tetramethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	**290 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,1,3-trimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,2,4-trimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,3-dimethyl-, cis-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,4-dimethyl-, cis-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-ethyl-2-methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-methyl-2-propyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-methyl-3-propyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 2-propenyl-	µg/kg	10000 $_{sz}$ [A]	-	-	**36 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, butyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	**340 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, ethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, pentyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, trans-1,3-dimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexanol, 5-methyl-2-(1-methylethyl)-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexanone, 2,3-dimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopentene, 1,2,3-trimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decahydro-4,4,8,9,10-Pentame	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 2-methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 4-ethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 4-methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	**450 J**	**120 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 5-methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Deltacyclene	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethylstyrene, 2,4-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane, 2,6,10-trimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane, 6-Methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethanone, 1-(2-methylphenyl)-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 2,5-dimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 2-methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 3,3,5-trimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	**28 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 3-methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexadecane, 2,6,10,14-tetramethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexahydrobenzocyclooctene, 5,6,7,8,9,10-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 2,2,5-trimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 2,2-dimethyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 3-methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indan, 1-Methyl-	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	**45 J**	-	**110 J**	-	**170 J**	-	-	-	**550 J**	-	-	**93 J**	-	-	-	-
Indane	µg/kg	10000 $_{sz}$ [A]	-	-	-	-	-	-	-	-	-	-	-	**320 J**	-	-	-	-	-	**87 J**	-	-	**110 J**	-

Sample Location			MH-EB-001.A	MH-EB-002.A	MH-EB-003.A	MH-EB-004.A	MH-EB-005.A	MH-EB-006.A	MH-EB-007.A	MH-EB-008.A		MH-EB-009.A	MH-EB-010.A	MH-EB-011.A	MH-EB-012.A	MH-EB-013.A	MH-EB-014.A	MH-EB-015.A	MH-EB-016.A	MH-EB-017.A	MH-EB-018.A	MH-EB-019.A	MH-EB-020.A	MH-EB-021.A
Sample Date			4-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	4-Oct-07	5-Oct-07	5-Oct-07	8-Oct-07	8-Oct-07	8-Oct-07	9-Oct-07	10-Oct-07	10-Oct-07	11-Oct-07	11-Oct-07	12-Oct-07	15-Oct-07	16-Oct-07	17-Oct-07	24-Oct-07	24-Oct-07	25-Oct-07
Sample ID			MH-EB-001.A-S	MH-EB-002.A-S	MH-EB-003.A-S	MH-EB-004.A-S	MH-EB-005.A-S	MH-EB-006.A-S	MH-EB-007.A-S	MH-EB-008.A-S	MH-001-S-DU	MH-EB-009.A-S	MH-EB-010.A-S	MH-EB-011.A-S	MH-EB-012.A-S	MH-EB-013.A	MH-EB-014-.A	MH-EB-015.A-S	MH-EB-016.A-S	MH-EB-017.A-S	MH-EB-018.A-S	MH-EB-019.A-S	MH-EB-020.A-S	MH-EB-021.A-S
Sample Depth			18 ft	14.5 ft	16.5 ft	16.5 ft	15 ft	9 ft	14 ft	15.5 ft	15.5 ft	15 ft	14.5 ft	15 ft	13.5 ft	15.5 ft	15.5 ft	16.5 ft	14 ft	17 ft	18.5 ft	14.5 ft	17 ft	18 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y4767	Y4767	Y4767	Y4767	Y4767	Y4802	Y4802	Y4815	Y4815	Y4815	Y4846	Y4846	Y4846	Y4853	Y4853	Y4877	Y4923	Y4923	Y4923	Y5093	Y5093	Y5093
Laboratory Sample ID			Y4767-07	Y4767-08	Y4767-09	Y4767-10	Y4767-14	Y4802-01	Y4802-03	Y4815-02	Y4815-06	Y4815-03	Y4846-01	Y4846-02, Y4846-02DL	Y4846-04	Y4853-01	Y4853-02	Y4877-01	Y4923-01	Y4923-05	Y4923-09	Y5093-01	Y5093-02	Y5093-06
Sample Type	Units	TAGM/STARS									Field Duplicate													
Volatile Tentatively Identified Compounds (cont'd)																								
Mercaptoacetate, 2-Ethylhexyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	**100 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, 1-Methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, Decahydro-2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonadiyne, 2,4-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane, 2-methyl-5-propyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane, 3-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3,3-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3,6-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3-ethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 4-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentadecane, 2,6,10,14-tetramethyl	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentalene, octahydro-1-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 2,3,3-trimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 2,3,4-trimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 3-ethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propanedinitrile, cyclohexyl(2-met	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-Decalin, 2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Undecane, 3,6-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown TIC 1	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	**80 J**	-	-	-	-	**350 J**	-	-	-	-	-	-	-	-	-	-	-
Total VOC TICs	µg/kg	10000$_{s2}^{A}$	-	-	**64 J**	-	**340 J**	**1155 J**	**152 J**	**1235 J**	**1272 J**	**29 J**	**1600 J**	**2460 J**	**1730 J**	-	**2870 J**	**1210 J**	-	**815 J**	-	-	**396 J**	-

Notes:

TAGM/STARs	New York State Department of Environmental Conservation- Technical and Administrative Guidance Memorandum - Determination of Soil Cleanup Levels
^{A}	TAGM 4046 & STARS #1 consolidation memo(12/20/00) hybrid Soil Cleanup Objective
6.5^{A}	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
< 0.50	Laboratory estimated quantitation limit exceeded standard.
< 0.03	The analyte was not detected above the laboratory estimated quantation limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
$_{S}^{A}$	From STARS Memo #1 parameter list.
$_{T}^{A}$	From TAGM 4046 parameter list.
orMDLT^{A}	Method Detection Limit. From TAGM 4046 parameter list.
$_{s1S}^{A}$	As per TAGM 4046 individual and the sum of VOCs not listed (Tentatively Identified Compounds (TICs)) <= 10 ppm. From STARS Memo #1 parameter list.
$_{s2T}^{A}$	The criterion is applicable to total xylenes (at 1.2 mg/kg), and the individual isomers should be added for comparison. From TAGM 4046 parameter list.
s3S	Methyl t-butyl ether (MTBE) is not a target compound of Methods 8021 and 8260, but MTBE may be determined using these methods with appropriate quality assurance and quality control measures. From STARS Memo #1 parameter list.
D	Indicates an estimated value.
J	Indicates presumptive evidence of a compound. Identification of tentatively identified compoud is based on a mass spectral library search.
N	Chemtech Consulting Group
CCGE	

TABLE 1E
COMFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
TAGM 4046/STARS MEMO #1 VOC AND TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MH-EB-022.A	MH-EB-023.A	MH-EB-024.A	MH-EB-025.A	MH-EB-026.A	MH-EB-027.A		MH-EB-028.A	MH-EB-029.A	MH-EB-030.A	MH-EB-031.A	MH-EB-032.A	MH-EB-033.A	MH-EB-034.A	MH-EB-035.A	MH-EB-036.A	MH-EB-037.A	MH-EB-038.A	MH-TP-001.1	MH-TP-001.2	MH-TP-002.1	MH-TP-003.2
Sample Date			26-Oct-07	26-Oct-07	29-Oct-07	30-Oct-07	1-Nov-07	2-Nov-07	2-Nov-07	2-Nov-07	5-Nov-07	5-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	7-Nov-07	7-Nov-07	13-Nov-07	14-Nov-07	3-Oct-07	3-Oct-07	3-Oct-07	4-Oct-07
Sample ID			MH-EB-022.A-S	MH-EB-023.A-S	MH-EB-024.A-S	MH-EB-025.A-S	MH-EB-026.A-S	MH-EB-027.A-S	MH-004-S	MH-EB-028.A-S	MH-EB-029.A-S	MH-EB-030.A-S	MH-EB-031.A-S	MH-EB-032.A-S	MH-EB-033.A-S	MH-EB-034.A-S	MH-EB-035.A-S	MH-EB-036.A-S	MH-EB-037.A-S	MH-EB-038.A-S	MH-TP-001.1-S	MH-TP-001.2-S	MH-TP-002.1-S	MH-TP-003.2-S
Sample Depth			19 ft	17.5 ft	21 ft	15 ft	16 ft	15.5 ft	15.5 ft	14.5 ft	12.5 ft	13 ft	12 ft	13 ft	13 ft	15.5 ft	16.5 ft	16 ft	16 ft	13.5 ft				17 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y5093	Y5093	Y5093	Y5177	Y5177	Y5177	Y5177	Y5177	Y5177	Y5177	Y5241	Y5241	Y5241	Y5241	Y5241	Y5241	Y5336	Y5336	Y4767	Y4767	Y4767	Y4767
Laboratory Sample ID			Y5093-09	Y5093-15	Y5093-17	Y5177-02	Y5177-04	Y5177-07	Y5177-11	Y5177-09	Y5177-15	Y5177-19	Y5241-01	Y5241-03	Y5241-05	Y5241-07	Y5241-10	Y5241-12	Y5336-01	Y5336-07	Y4767-01	Y4767-02	Y4767-03	Y4767-05
Sample Type	Units	TAGM/STARS							Field Duplicate															
Volatile Organic Compounds																								
Benzene	µg/kg	60_{orMDL}[A]	< 28	< 27	< 27	< 27	< 27	< 28	< 28	< 27	< 27	< 27	< 27	< 26	< 27	< 27	< 27	< 27	< 27	< 27	< 30	< 33	< 28	< 27
Butylbenzene, n-	µg/kg	10000_{s1S}[A]	< 28	< 27	< 27	< 27	**32 NJ**	**18 J**	< 28	**44 NJ**	< 27	< 27	< 27	< 26	< 27	< 27	< 27	**17 J**	< 27	**27 NJ**	< 30	< 33	< 28	< 27
Butylbenzene, tert-	µg/kg	10000_{s1S}[A]	< 28	< 27	< 27	< 27	< 27	< 28	< 28	< 27	< 27	< 27	< 27	< 26	< 27	< 27	< 27	< 27	< 27	**27 NJ**	< 30	< 33	< 28	< 27
Cymene (p-Isopropyltoluene)	µg/kg	10000_{s1S}[A]	< 28	< 27	**24 J**	< 27	< 27	**18 J**	< 28	**73**	< 27	< 27	< 27	< 26	< 27	< 27	< 27	**14 J**	< 27	< 27	< 30	< 33	< 28	< 27
Ethylbenzene	µg/kg	5500_{T}[A]	< 28	< 27	**54**	**38**	**34**	< 28	< 28	< 27	< 27	< 27	< 27	< 26	< 27	< 27	< 27	**25 J**	**14 J**	< 27	< 30	< 33	< 28	< 27
Isopropylbenzene	µg/kg	2300_{S}[A]	< 28	< 27	**20 J**	< 27	**15 J**	< 28	< 28	**21 J**	< 27	< 27	< 27	< 26	< 27	< 27	< 27	< 27	< 27	< 27	< 30	< 33	< 28	< 27
Methyl tert-butyl ether (MTBE)	µg/kg	120_{s3S}[A]	< 28	< 27	< 27	< 27	< 27	< 28	< 28	< 27	< 27	< 27	< 27	< 26	< 27	< 27	< 27	< 27	< 27	< 27	< 30	< 33	< 28	< 27
Naphthalene	µg/kg	13000_{T}[A]	< 28	< 27	**88**	**82**	**180 J**	**120**	**63**	**77**	< 27	**30**	**33**	**17 J**	**23 J**	< 27	**22 J**	**62**	**27 J**	**25 NJ**	< 30	< 33	< 28	< 27
Phenylbutane, 2- (sec-Butylbenzene)	µg/kg	10000_{s1S}[A]	< 28	< 27	< 27	< 27	< 27	**17 J**	< 28	**52**	< 27	< 27	< 27	< 26	< 27	< 27	< 27	< 27	< 27	< 27	< 30	< 33	< 28	< 27
Propylbenzene, n-	µg/kg	3700_{S}[A]	< 28	< 27	**41**	**16 J**	**75**	**49**	**32**	**69**	< 27	< 27	< 27	< 26	< 27	< 27	< 27	**21 J**	< 27	**44**	< 30	< 33	< 28	< 27
Toluene	µg/kg	1500_{T}[A]	< 28	< 27	< 27	< 27	< 27	< 28	< 28	< 27	< 27	< 27	< 27	< 26	< 27	< 27	< 27	< 27	< 27	< 27	< 30	< 33	< 28	< 27
Trimethylbenzene, 1,2,4-	µg/kg	10000_{s1S}[A]	< 28	< 27	**250**	**91**	**520**	**220**	**120**	**520**	< 27	**31**	**33**	**32**	**77**	< 27	< 27	**100**	**22 J**	**28**	< 30	< 33	< 28	< 27
Trimethylbenzene, 1,3,5-	µg/kg	3300_{S}[A]	< 28	< 27	**98**	**28**	**73**	**24 J**	< 28	**60**	< 27	< 27	< 27	< 26	**16 J**	< 27	< 27	**34**	< 27	**110**	< 30	< 33	< 28	< 27
Xylene, m & p-	µg/kg	1200_{s2T}[A]	< 55	< 55	**76**	**79**	**120**	**19 J**	< 56	< 54	< 54	< 55	< 54	< 53	< 54	< 53	< 55	**27 J**	**17 J**	< 54	< 60	< 65	< 57	< 53
Xylene, o-	µg/kg	1200_{s2T}[A]	< 28	< 27	< 27	< 27	< 27	< 28	< 28	< 27	< 27	< 27	< 27	< 26	< 27	< 27	< 27	< 27	< 27	< 27	< 30	< 33	< 28	< 27
Volatile Tentatively Identified Compounds																								
.Alpha.,.Beta.,.Beta.-Trimet	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Cyclopentadiene, 1,2,3,4-tetra	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Hexene, 3,3,5-trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Inden-1-one, 2,3-dihydro-2-meth	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-1,1-dimethy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-1,2-D	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-1,6-D	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-2-methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	**33 J**	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-Dihydro-4,7-D	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-4-methyl-	µg/kg	10000_{s2}[A]	-	-	**160 J**	**42 J**	**30 J**	**110 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-5,6-dimethy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene, 2,3-dihydro-5-methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	**99 J**	-	-	-	-	**110 J**	-	-	-	-
1H-indene, 2-ethyl-2,3-dihydro-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1H-Indene,2,3-dihydro-2,2-dimethyl	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Phenyl-1-Butene	µg/kg	10000_{s2}[A]	-	-	-	-	**71 J**	-	-	-	-	-	-	-	**210 J**	-	-	-	-	-	-	-	-	-
2-Naphthalenecarboxylic acid, 1,4-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Octene, 2,6-dimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	**260 J**	-	-	-	-	-	-	-	**69 J**	-	-	-	-	-	-
3,5-Dimethyl-3-heptene	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3a,6-Methano-3aH-indene, 2,3,6,7-t	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Phenylbut-1-Ene	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Fluorobenzyl alcohol	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azulene, 1,2,3,3a-tetrahydro-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1,1-dimethyl-2-propenyl)	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-ethyl-1-propenyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methyl-1-butenyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-Methyl-1-Propeny	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methyl-1-propenyl)-, (E)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (1-methylethyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	**47 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, (2-Methyl-1-Butenyl	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**61 J**	-	-	-	-	-	-
Benzene, (2-methylpropyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	**37 J**	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,1'-(1-ethenyl-1,3-propanediyl)bis-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,2,3,4-Tetramethyl	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	**34 J**	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,2,3,5-Tetramethyl	µg/kg	10000_{s2}[A]	-	-	-	-	**35 J**	-	**31 J**	**180 J**	-	-	-	-	**130 J**	-	-	**66 J**	-	-	-	-	-	-
Benzene, 1,2,3-Trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	**44 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,2,4,5-Tetramethyl	µg/kg	10000_{s2}[A]	-	-	**76 J**	-	**45 J**	**37 J**	**62 J**	-	-	**30 J**	-	-	**90 J**	-	-	-	-	**74 J**	-	-	-	-
Benzene, 1,2-Diethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3,5-Trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3,5-trimethyl-2-(1-methylethenyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,3-Diethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	**56 J**	-	-	-	-	-	-	-	**82 J**	-	-	-	-	-	-	-	-	-
Benzene, 1,4-Diethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-Diethyl-2-Methy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1,4-dimethyl-2-(2-methylpropyl)-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethenyl-2-Methyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	**100 J**	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethenyl-3-Ethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	**32 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethenyl-4-ethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	**36 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethyl-2,3-Dimethy	µg/kg	10000_{s2}[A]	-	-	**93 J**	-	**51 J**	-	-	-	-	-	-	-	-	-	-	-	-	**120 J**	-	-	-	-
Benzene, 1-ethyl-2,4,5-trimethyl-	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethyl-2,4-Dimethy	µg/kg	10000_{s2}[A]	-	-	**92 J**	**34 J**	-	**85 J**	-	**130 J**	-	-	-	-	**160 J**	-	-	**85 J**	-	**150 J**	-	-	-	-
Benzene, 1-Ethyl-2-Methyl-	µg/kg	10000_{s2}[A]	-	-	**110 J**	**28 J**	**84 J**	**75 J**	**36 J**	**240 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Ethyl-3,5-Dimethy	µg/kg	10000_{s2}[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1E
COMFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
TAGM 4046/STARS MEMO #1 VOC AND TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MH-EB-022.A	MH-EB-023.A	MH-EB-024.A	MH-EB-025.A	MH-EB-026.A	MH-EB-027.A		MH-EB-028.A	MH-EB-029.A	MH-EB-030.A	MH-EB-031.A	MH-EB-032.A	MH-EB-033.A	MH-EB-034.A	MH-EB-035.A	MH-EB-036.A	MH-EB-037.A	MH-EB-038.A	MH-TP-001.1	MH-TP-001.2	MH-TP-002.1	MH-TP-003.2
Sample Date			26-Oct-07	26-Oct-07	29-Oct-07	30-Oct-07	1-Nov-07	2-Nov-07	2-Nov-07	2-Nov-07	5-Nov-07	5-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	7-Nov-07	7-Nov-07	13-Nov-07	14-Nov-07	3-Oct-07	3-Oct-07	3-Oct-07	4-Oct-07
Sample ID			MH-EB-022.A-S	MH-EB-023.A-S	MH-EB-024.A-S	MH-EB-025.A-S	MH-EB-026.A-S	MH-EB-027.A-S	MH-004-S	MH-EB-028.A-S	MH-EB-029.A-S	MH-EB-030.A-S	MH-EB-031.A-S	MH-EB-032.A-S	MH-EB-033.A-S	MH-EB-034.A-S	MH-EB-035.A-S	MH-EB-036.A-S	MH-EB-037.A-S	MH-EB-038.A-S	MH-TP-001.1-S	MH-TP-001.2-S	MH-TP-002.1-S	MH-TP-003.2-S
Sample Depth			19 ft	17.5 ft	21 ft	15 ft	16 ft	15.5 ft	15.5 ft	14.5 ft	12.5 ft	13 ft	12 ft	13 ft	13 ft	15.5 ft	16.5 ft	16 ft	16 ft	13.5 ft				17 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y5093	Y5093	Y5093	Y5177	Y5177	Y5177	Y5177	Y5177	Y5177	Y5177	Y5241	Y5241	Y5241	Y5241	Y5241	Y5241	Y5336	Y5336	Y4767	Y4767	Y4767	Y4767
Laboratory Sample ID			Y5093-09	Y5093-15	Y5093-17	Y5177-02	Y5177-04	Y5177-07	Y5177-11	Y5177-09	Y5177-15	Y5177-19	Y5241-01	Y5241-03	Y5241-05	Y5241-07	Y5241-10	Y5241-12	Y5336-01	Y5336-07	Y4767-01	Y4767-02	Y4767-03	Y4767-05
Sample Type	Units	TAGM/STARS							Field Duplicate															
Volatile Tentatively Identified Compounds (cont'd)																								
Benzene, 1-Ethyl-3-Methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethyl-4-(1-methylethyl)	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-ethyl-4-methyl-	µg/kg	10000$_{sz}$[A]	-	-	**100 J**	**55 J**	-	**65 J**	-	-	-	-	-	-	-	-	-	**93 J**	-	-	-	-	-	-
Benzene, 1-Methyl-2-(1-Methy	µg/kg	10000$_{sz}$[A]	-	-	**98 J**	**32 J**	-	**53 J**	**56 J**	-	-	**61 J**	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-2-(2-Prope	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-2-propyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-3-(1-Methy	µg/kg	10000$_{sz}$[A]	-	-	-	-	**84 J**	-	-	**160 J**	-	-	-	-	-	-	-	**58 J**	-	-	-	-	-	-
Benzene, 1-methyl-3-propyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methyl-2-propenyl)benzene	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methylethyl)-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-methyl-4-(1-methylpropyl)-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-Methyl-4-Propyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 1-propenyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	**200 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2,4-diethyl-1-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	**31 J**	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-butenyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-ethenyl-1,3,5-trimethyl	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-ethenyl-1,4-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	**37 J**	-	-	-	-	-	**120 J**	-	-	-	-	-	-
Benzene, 2-Ethyl-1,3-Dimethy	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, 2-ethyl-1,4-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	**30 J**	-	-	-	-	-	-	-	-	**71 J**	-	-	-	-	**120 J**	-	-	-	-
Benzene, 4-ethyl-1,2-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, Cyclopropyl-	µg/kg	10000$_{sz}$[A]	-	-	**140 J**	-	-	-	-	-	-	-	-	-	-	-	-	**69 J**	-	-	-	-	-	-
Bicyclo(3.3.1)nonane-2,6-dione	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butane, 2,2,3,3-tetramethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cis-.Beta.-Methylstyrene	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1-Ethyl-3-methyl-cyclohexane	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-Decalin, 2-syn-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,1,2,3-tetramethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,1,3-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,2,4-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,3-dimethyl-, cis-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1,4-dimethyl-, cis-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-ethyl-2-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-methyl-2-propyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 1-methyl-3-propyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, 2-propenyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, butyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, ethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, pentyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane, trans-1,3-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexanol, 5-methyl-2-(1-methylethyl)-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexanone, 2,3-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	**180 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopentene, 1,2,3-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decahydro-4,4,8,9,10-Pentame	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 2-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 4-ethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decane, 4-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	**370 J**	-	**46 J**	-	-	-	-	-	**120 J**	-	-	-	-	-	-
Decane, 5-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Deltacyclene	µg/kg	10000$_{sz}$[A]	-	-	-	**30 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethylstyrene, 2,4-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane, 2,6,10-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dodecane, 6-Methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethanone, 1-(2-methylphenyl)-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 2,5-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 2-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 3,3,5-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 3-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexadecane, 2,6,10,14-tetramethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexahydrobenzocyclooctene, 5,6,7,8,9,10-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 2,2,5-trimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 2,2-dimethyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane, 3-methyl-	µg/kg	10000$_{sz}$[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indan, 1-Methyl-	µg/kg	10000$_{sz}$[A]	-	-	**86 J**	-	-	-	-	-	-	-	**43 J**	-	**84 J**	-	-	-	-	**100 J**	-	-	-	-
Indane	µg/kg	10000$_{sz}$[A]	-	**45 J**	-	-	-	**130 J**	**89 J**	-	-	-	-	-	-	-	-	-	**37 J**	**150 J**	-	-	-	-

Sample Location			MH-EB-022.A	MH-EB-023.A	MH-EB-024.A	MH-EB-025.A	MH-EB-026.A	MH-EB-027.A		MH-EB-028.A	MH-EB-029.A	MH-EB-030.A	MH-EB-031.A	MH-EB-032.A	MH-EB-033.A	MH-EB-034.A	MH-EB-035.A	MH-EB-036.A	MH-EB-037.A	MH-EB-038.A	MH-TP-001.1	MH-TP-001.2	MH-TP-002.1	MH-TP-003.2
Sample Date			26-Oct-07	26-Oct-07	29-Oct-07	30-Oct-07	1-Nov-07	2-Nov-07	2-Nov-07	2-Nov-07	5-Nov-07	5-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	6-Nov-07	7-Nov-07	7-Nov-07	13-Nov-07	14-Nov-07	3-Oct-07	3-Oct-07	3-Oct-07	4-Oct-07
Sample ID			MH-EB-022.A-S	MH-EB-023.A-S	MH-EB-024.A-S	MH-EB-025.A-S	MH-EB-026.A-S	MH-EB-027.A-S	MH-004-S	MH-EB-028.A-S	MH-EB-029.A-S	MH-EB-030.A-S	MH-EB-031.A-S	MH-EB-032.A-S	MH-EB-033.A-S	MH-EB-034.A-S	MH-EB-035.A-S	MH-EB-036.A-S	MH-EB-037.A-S	MH-EB-038.A-S	MH-TP-001.1-S	MH-TP-001.2-S	MH-TP-002.1-S	MH-TP-003.2-S
Sample Depth			19 ft	17.5 ft	21 ft	15 ft	16 ft	15.5 ft	15.5 ft	14.5 ft	12.5 ft	13 ft	12 ft	13 ft	13 ft	15.5 ft	16.5 ft	16 ft	16 ft	13.5 ft				17 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Y5093	Y5093	Y5093	Y5177	Y5177	Y5177	Y5177	Y5177	Y5177	Y5177	Y5241	Y5241	Y5241	Y5241	Y5241	Y5241	Y5336	Y5336	Y4767	Y4767	Y4767	Y4767
Laboratory Sample ID			Y5093-09	Y5093-15	Y5093-17	Y5177-02	Y5177-04	Y5177-07	Y5177-11	Y5177-09	Y5177-15	Y5177-19	Y5241-01	Y5241-03	Y5241-05	Y5241-07	Y5241-10	Y5241-12	Y5336-01	Y5336-07	Y4767-01	Y4767-02	Y4767-03	Y4767-05
Sample Type	Units	TAGM/STARS							Field Duplicate															
Volatile Tentatively Identified Compounds (cont'd)																								
Mercaptoacetate, 2-Ethylhexyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, 1-Methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, Decahydro-2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonadiyne, 2,4-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane, 2-methyl-5-propyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonane, 3-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3,3-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3,6-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3-ethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 3-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Octane, 4-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentadecane, 2,6,10,14-tetramethyl	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentalene, octahydro-1-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 2,3,3-trimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 2,3,4-trimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane, 3-ethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propanedinitrile, cyclohexyl(2-met	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-Decalin, 2-methyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Undecane, 3,6-dimethyl-	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown TIC 1	µg/kg	10000$_{s2}^{A}$	-	-	-	-	-	-	-	-	-	84 J	-	-	-	-	-	-	-	230 J	-	-	-	-
Total VOC TICs	µg/kg	10000$_{s2}^{A}$	-	45 J	955 J	251 J	535 J	591 J	318 J	1720 J	-	360 J	43 J	33 J	1026 J	-	-	741 J	37 J	1054 J	-	-	-	-

Notes:

TAGM/STARs	New York State Department of Environmental Conservation- Technical and Administrative Guidance Memorandum - Determination of Soil Cleanup Levels
^{A}	TAGM 4046 & STARS #1 consolidation memo(12/20/00) hybrid Soil Cleanup Objective
6.5^{A}	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
< 0.50	Laboratory estimated quantitation limit exceeded standard.
< 0.03	The analyte was not detected above the laboratory estimated quantation limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
$_{S}^{A}$	From STARS Memo #1 parameter list.
$_{T}^{A}$	From TAGM 4046 parameter list.
orMDLT^{A}	Method Detection Limit. From TAGM 4046 parameter list.
$_{s1S}^{A}$	As per TAGM 4046 individual and the sum of VOCs not listed (Tentatively Identified Compounds (TICs)) <= 10 ppm. From STARS Memo #1 parameter list.
$_{s2T}^{A}$	The criterion is applicable to total xylenes (at 1.2 mg/kg), and the individual isomers should be added for comparison. From TAGM 4046 parameter list.
s3S	Methyl t-butyl ether (MTBE) is not a target compound of Methods 8021 and 8260, but MTBE may be determined using these methods with appropriate quality assurance and quality control measures. From STARS Memo #1 parameter list.
D	Indicates an estimated value.
J	Indicates presumptive evidence of a compound. Identification of tentatively identified compoud is based on a mass spectral library search.
N	Chemtech Consulting Group
CCGE	

TABLE 2
GROUNDWATER ANALYTICAL RESULTS SUMMARY
GENERAL CHEMISTRY, VOCS AND VOC TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MW-1R				MW-2R				MW-101R							MW-102					
Sample Date			10-Apr-08	24-Jul-08	25-Sep-08	11-Feb-09	10-Apr-08	24-Jul-08	25-Sep-08	11-Feb-09	10-Apr-08	10-Apr-08	24-Jul-08	25-Sep-08	25-Sep-08	11-Feb-09	11-Feb-09	10-Apr-08	24-Jul-08	25-Sep-08	25-Sep-08	11-Feb-09	11-Feb-09
Sample ID			MH-MW1R-GW	MH-MW1R-GW	MH-MW1R-GW	MH-MW-1R-GW	MH-MW2R-GW	MH-MW2R-GW	MH-MW2R-GW	MH-MW-2R-GW	MH-MW101R-GW	MH-MW101R-GW DL	MH-MW101R-GW	MH-MW101R-GW	MH-MW101R-GWDL	MH-MW-101R-GW	MH-MW-101R-GWDL	MH-MW102-GW	MH-MW102-GW	MH-MW102-GW	MH-MW102-GWD	MH-MW-102-GW	MH-MW-102-GWD
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Z2373	Z3878	Z4703	A1479	Z2373	Z3878	Z4703	A1479	Z2373	Z2373	Z3878	Z4703	Z4703	A1479	A1479	Z2373	Z3878	Z4703	Z4703	A1479	A1479
Laboratory Sample ID			Z2373-03	Z3878-03	Z4703-03	A1479-02	Z2373-05	Z3878-05	Z4703-05	A1479-08	Z2373-02	Z2373-02DL	Z3878-02	Z4703-02	Z4703-02DL	A1479-04	A1479-04DL	Z2373-07	Z3878-07	Z4703-07	Z4703-07D	A1479-05	A1479-05D
Sample Type	Units	TOGS																			Lab Replicate		Lab Replicate
General Chemistry																							
Biochemical Oxygen Demand - 5 Day	mg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3.90**	2.00 U	-	**4.20**	**4.20**
Biological Oxygen Demand	mg/L	n/v	2.00 U J	-	-	-	**2.200**	-	-	-	**9.600**	-	-	-	-	-	-	2.00 U J	-	-	-	-	-
Chemical Oxygen Demand	mg/L	n/v	**99**	**79.00**	**400**	-	**220**	-	-	-	**190**	-	**1410.50**	**230**	-	**68.00**	-	**30**	**32.00**	**49**	-	**32.00**	-
Ferrous Iron	mg/L	n/v	0.10 U	**7.175**	**1.86**	**0.25**	0.10 U	-	-	-	0.10 U	-	**2.875**	**0.86**	-	**4.25**	-	0.10 U	**5.75**	**0.10 B**	0.10 U	**1.15**	**1.15**
Volatile Organic Compounds																							
Acetone	µg/L	50[A]	50 U	50 U J	50 U	50 U	**3.0 J**	**65 J[A]**	50 U	**10 J**	**3.7 J**	-	50 U	50 U	-	**15 J**	-	50 U	50 U J	50 U	-	50 U	-
Benzene	µg/L	1[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	**76 J[B]**	**79[B]**	***10 U***	**120[B]**	-	**180[B]**	-	**340 D[B]**	**190[B]**	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Bromodichloromethane	µg/L	50[A]	10 U	10 U J	10 U	10 U	10 U	10 U J	10 U	10 U	10 U	-	10 U	10 U	-	10 U	-	10 U	10 U J	10 U	-	10 U	-
Bromoform	µg/L	50[A]	10 U	10 U J	10 U	10 U	10 U	10 U J	10 U	10 U	10 U	-	10 U	10 U	-	10 U	-	10 U	10 U J	10 U	-	10 U	-
Bromomethane	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Butylbenzene, n-	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butylbenzene, tert-	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Disulfide	µg/L	60[A]	10 U	10 U J	10 U	10 U	10 U	10 U J	10 U	10 U	10 U	-	10 U	10 U	-	10 U	-	10 U	10 U J	10 U	-	10 U	-
Carbon Tetrachloride (Tetrachloromethane)	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Chlorinated Fluorocarbon (Freon 113)	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Chlorobenzene (Monochlorobenzene)	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Chloroethane	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Chloroform	µg/L	7[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Chloromethane	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Cyclohexane	µg/L	n/v	10 U	10 U J	10 U	10 U	**6.8 J**	**17 J**	**18**	**3.6 J**	**63**	-	**110**	**71**	-	**37**	-	**0.78 J**	10 U J	10 U	-	10 U	-
Cymene (p-Isopropyltoluene)	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromo-3-Chloropropane (DBCP), 1,2-	µg/L	0.04[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dibromochloromethane	µg/L	50[A]	10 U	10 U J	10 U	10 U	10 U	10 U J	10 U	10 U	10 U	-	10 U	10 U	-	10 U	-	10 U	10 U J	10 U	-	10 U	-
Dichlorobenzene, 1,2-	µg/L	3[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichlorobenzene, 1,3-	µg/L	3[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichlorobenzene, 1,4-	µg/L	3[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichlorodifluoromethane	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichloroethane, 1,1-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichloroethane, 1,2-	µg/L	0.6[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichloroethylene, 1,1-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichloroethylene, cis-1,2-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	**1.0 J**	**1.5 J**	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichloroethylene, trans-1,2-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichloropropane, 1,2-	µg/L	1[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichloropropene, 1,3- (sum of isomers cis + trans)	µg/L	0.4[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichloropropene, cis-1,3-	µg/L	0.4[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Dichloropropene, trans-1,3-	µg/L	0.4[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Ethylbenzene	µg/L	5[B]	***10 U***	**3.6 J**	**0.55 NJ**	***10 U***	**14[B]**	**21 J[B]**	**44[B]**	***10 U***	-	**410 D[B]**	**36[B]**	-	**680 D[B]**	-	**330 D[B]**	**42[B]**	***10 U J***	***10 U***	-	***10 U***	-
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/L	0.0006[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Hexanone, 2-	µg/L	50[A]	50 U	50 U J	50 U	50 U	50 U	**7.2 J**	50 U	50 U	50 U	-	50 U	50 U	-	50 U	-	50 U	50 U J	50 U	-	50 U	-
Isopropylbenzene	µg/L	5[B]	**0.56 J**	**12 J[B]**	**1.6 J**	***10 U***	**24[B]**	**34 J[B]**	**67[B]**	***10 U***	**14[B]**	-	***10 U***	**21[B]**	-	**27[B]**	-	**13[B]**	**4.9 J**	***10 U***	-	***10 U***	-
Methyl Acetate	µg/L	n/v	10 U J	10 U J	10 U	10 U	10 U J	10 U J	10 U	10 U	10 U J	-	10 U	10 U	-	10 U	-	10 U J	10 U J	10 U	-	10 U	-
Methyl Ethyl Ketone (MEK)	µg/L	50[A]	50 U	50 U J	50 U	50 U	**0.59 NJ**	**12 J**	50 U	50 U	**1.8 J**	-	50 U	50 U	-	**1.8 J**	-	50 U	50 U J	50 U	-	50 U	-
Methyl Isobutyl Ketone (MIBK)	µg/L	n/v	50 U	50 U J	50 U	50 U	50 U	**19 J**	50 U	50 U	50 U	-	50 U	50 U	-	50 U	-	50 U	50 U J	50 U	-	50 U	-
Methyl tert-butyl ether (MTBE)	µg/L	10[A]	10 U	10 U J	10 U	10 U	10 U	10 U J	10 U	10 U	10 U	-	10 U	10 U	-	10 U	-	10 U	10 U J	10 U	-	10 U	-
Methylcyclohexane	µg/L	n/v	10 U	10 U J	10 U	10 U	**12**	**23 J**	**24**	**7.5 J**	-	**190 D**	**180**	**120**	-	**58**	-	10 U	10 U J	10 U	-	10 U	-
Methylene Chloride (Dichloromethane)	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Naphthalene	µg/L	10[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenylbutane, 2- (sec-Butylbenzene)	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propylbenzene, n-	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	**0.65 NJ**	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Tetrachloroethane, 1,1,2,2-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Tetrachloroethylene	µg/L	5[B]	***10 U***	**0.53 J**	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Toluene	µg/L	5[B]	***10 U***	**1.0 NJ**	***10 U***	***10 U***	***10 U***	**0.54 NJ**	***10 U***	**2.1 NJ**	**1.8 J**	-	**3.2 J**	**20[B]**	-	**33[B]**	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Trichlorobenzene, 1,2,4-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Trichloroethane, 1,1,1-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Trichloroethane, 1,1,2-	µg/L	1[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Trichloroethylene	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	**2.8 J**	**3.4 J**	**3.2 J**	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Trichlorofluoromethane (Freon 11)	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Trimethylbenzene, 1,2,4-	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trimethylbenzene, 1,3,5-	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	2[B]	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	***10 U J***	***10 U***	***10 U***	***10 U***	-	***10 U***	***10 U***	-	***10 U***	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Xylene, m & p-	µg/L	5[B]	***20 U***	***20 U***	***20 U***	***20 U***	**9.0 J[B]**	**29 J[B]**	**42[B]**	***20 U***	**130[B]**	-	**69[B]**	**120[B]**	-	**85[B]**	-	**3.1 J**	***20 U J***	***20 U***	-	***20 U***	-
Xylene, o-	µg/L	5[B]	***10 U***	**1.6 NJ**	***10 U***	***10 U***	***10 U***	**0.57 J**	***10 U***	***10 U***	***10 U***	-	**2.0 J**	**3.6 J**	-	**12[B]**	-	***10 U***	***10 U J***	***10 U***	-	***10 U***	-
Total VOC	µg/L	n/v	**0.56**	**22.83**	**2.8**	**0**	**72.19**	**308.71**	**278.7**	**23.2**	**818.1**	-	**580.2**	**786.9**	-	**778.8**	-	**58.88**	**5.53**	**0.64**	-	**0**	-
Volatile Tentatively Identified Compounds																							
Total VOC TICs	µg/L	n/v	**1341 JN**	**350 J**	**70 JN**	-	**1799 JN**	**1618 J**	**1750 JN**	**62 JN**	**1441 JN**	-	**1001 J**	**913 JN**	-	**764 JN**	-	**45 JN**	-	-	-	-	-

TABLE 2
GROUNDWATER ANALYTICAL RESULTS SUMMARY
GENERAL CHEMISTRY, VOCS AND VOC TICS
151-191 MT HOPE AVENUE
CITY OF ROCHESTER

Sample Location			MW-201					MW-202				Trip Blank				
Sample Date			10-Apr-08	24-Jul-08	25-Sep-08	25-Sep-08	11-Feb-09	10-Apr-08	24-Jul-08	25-Sep-08	11-Feb-09	10-Apr-08	24-Jul-08	24-Jul-08	25-Sep-08	11-Feb-09
Sample ID			MH-MW201-GW	MH-MW201-GW	MH-MW201-GW	MH-MW201-GWD	MH-MW-201-GW	MH-MW202-GW	MH-MW202-GW	MH-MW202-GW	MH-MW-202-GW	TRIPBLANK	TRIPBLANK	TRIPBLANKRE	TRIPBLANK	TRIPBLANK
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE	CCGE
Laboratory Work Order			Z2373	Z3878	Z4703	Z4703	A1479	Z2373	Z3878	Z4703	A1479	Z2373	Z3878	Z3878	Z4703	A1479
Laboratory Sample ID			Z2373-04	Z3878-04	Z4703-04	Z4703-04D	A1479-09	Z2373-06	Z3878-06	Z4703-06	A1479-03	Z2373-01	Z3878-01	Z3878-01RE	Z4703-01	A1479-01
Sample Type	Units	TOGS				Lab Replicate						Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
General Chemistry																
Biochemical Oxygen Demand - 5 Day	mg/L	n/v	-	**5.30**	2.00 U	-	-	-	**5.20**	-	-	-	-	-	-	-
Biological Oxygen Demand	mg/L	n/v	2.00 U J	-	-	-	-	2.00 U J	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	n/v	**16**	5.00 U	**52**	**51.6**	-	**110**	**86.00**	**180**	**27.00**	-	-	-	-	-
Ferrous Iron	mg/L	n/v	0.10 U	2.5 U	**0.74**	-	**5.75**	0.10 U	2.5 U	**0.16**	0.50 U	-	-	-	-	-
Volatile Organic Compounds																
Acetone	µg/L	50[A]	50 U	50 U J	50 U	-	50 U	**3.1 J**	**11 J**	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	µg/L	1[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Bromodichloromethane	µg/L	50[A]	10 U	10 U J	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	µg/L	50[A]	10 U	10 U J	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Butylbenzene, n-	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butylbenzene, tert-	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Disulfide	µg/L	60[A]	10 U	10 U J	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride (Tetrachloromethane)	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Chlorinated Fluorocarbon (Freon 113)	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Chlorobenzene (Monochlorobenzene)	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Chloroethane	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Chloroform	µg/L	7[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Chloromethane	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Cyclohexane	µg/L	n/v	10 U	10 U J	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cymene (p-Isopropyltoluene)	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromo-3-Chloropropane (DBCP), 1,2-	µg/L	0.04[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dibromochloromethane	µg/L	50[A]	10 U	10 U J	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	µg/L	3[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichlorobenzene, 1,3-	µg/L	3[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichlorobenzene, 1,4-	µg/L	3[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichlorodifluoromethane	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichloroethane, 1,1-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichloroethane, 1,2-	µg/L	0.6[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichloroethylene, 1,1-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichloroethylene, cis-1,2-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichloroethylene, trans-1,2-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichloropropane, 1,2-	µg/L	1[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichloropropene, 1,3- (sum of isomers cis + trans)	µg/L	0.4[p,B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichloropropene, cis-1,3-	µg/L	0.4[p,B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Dichloropropene, trans-1,3-	µg/L	0.4[p,B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Ethylbenzene	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	**0.73 J**	***10 U***	**0.56 J**	***10 U***	***10 U***	***10 U***	***10 U***
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/L	0.0006[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Hexanone, 2-	µg/L	50[A]	50 U	50 U J	50 U	-	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Isopropylbenzene	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	**1.1 J**	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Methyl Acetate	µg/L	n/v	10 U J	10 U J	10 U	-	10 U	10 U J	10 U	10 U	10 U	10 U J	10 U	10 U	10 U	10 U
Methyl Ethyl Ketone (MEK)	µg/L	50[A]	50 U	50 U J	50 U	-	50 U	50 U	**1.1 J**	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methyl Isobutyl Ketone (MIBK)	µg/L	n/v	50 U	50 U J	50 U	-	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Methyl tert-butyl ether (MTBE)	µg/L	10[A]	10 U	10 U J	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylcyclohexane	µg/L	n/v	10 U	10 U J	10 U	-	10 U	10 U	10 U	**0.57 J**	10 U	10 U	**0.72 J**	10 U	10 U	10 U
Methylene Chloride (Dichloromethane)	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Naphthalene	µg/L	10[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenylbutane, 2- (sec-Butylbenzene)	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propylbenzene, n-	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Tetrachloroethane, 1,1,2,2-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Tetrachloroethylene	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Toluene	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Trichlorobenzene, 1,2,4-	µg/L	5[B]	**0.68 J**	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Trichloroethane, 1,1,1-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	**0.64 J**	***10 U***
Trichloroethane, 1,1,2-	µg/L	1[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Trichloroethylene	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	**0.97 J**	**0.6 J**	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Trichlorofluoromethane (Freon 11)	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Trimethylbenzene, 1,2,4-	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trimethylbenzene, 1,3,5-	µg/L	5[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	2[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Xylene, m & p-	µg/L	5[B]	***20 U***	***20 U J***	***20 U***	-	***20 U***	***20 U***	***20 U***	***20 U***	***20 U***	***20 U***	**0.52 J**	***20 U***	***20 U***	***20 U***
Xylene, o-	µg/L	5[B]	***10 U***	***10 U J***	***10 U***	-	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***	***10 U***
Total VOC	µg/L	n/v	**0.68**	**0.63**	-	-	**0**	**3.1**	**16.37**	**3.89**	**0**	**0.56**	**1.24**	-	**0.64**	**0**
Volatile Tentatively Identified Compounds																
Total VOC TICs	µg/L	n/v	-	-	-	-	-	-	-	**10 JN**	-	**8.3 JN**	-	-	-	-

Notes:

TOGS	NYSDEC TOGS 1.1.1
[A]	NYSDEC. October 22, 1993. Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Reissued June 1998. April 2000 Addendum. Guidance
[B]	NYSDEC. October 22, 1993. Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Reissued June 1998. April 2000 Addendum. - Standards
6.5[A]	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
0.50 U	Laboratory estimated quantitation limit exceeded standard.
0.03 U	The analyte was not detected above the laboratory estimated quantation limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
--	The principal organic contaminant standard for groundwater of 5 ug/L (described elsewhere in the TOGS table) applies to this substance.
[p]	Applies to the sum of cis- and trans-1,3-dichloropropene.
B	Indicates analyte was found in associated blank, as well as in the sample.
D	Indicates reanalysis of sample with additional dilution to address exceedance of instrument calibration range.
J	Indicates estimated value.
N	Indicates presumptive evidence of a compound. Identification of tentatively identified compoud is based on a mass spectral library search.

FIGURES

Geographic Information Systems Cartographic Design By: Marc Bouchard

Friday, August 28, 2009 4:02:31 PM
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Figure 1 - Site Location

Remedial Construction Report
Soil and Groundwater Managment Plan
151-191 Mount Hope Avenue
Rochester, New York

Legend

Monitoring Well Locations

Condition

- Dismantled Monitoring Well
- Functional Existing Monitoring Well
- Functional Existing Monitoring Well, Installed by Others
- Borings and Monitoring Wells from Day Drawings
- hydrants
- light_poles
- Electrical (stakeout)
- MCPW Sewer (stakeout)
- Telecomm (stakeout)
- Former Aggregate Overhead Bin Foundations

Excavation Depth

Depth

- 0.0
- 8.0 - 10.0
- 12.0 - 12.5
- 13.0 - 13.5
- 14.0 - 14.5
- 15.0 - 15.5
- 16.0 - 16.5
- 17.0 - 17.5
- 18.0 - 19.0
- 21.0
- Site Boundary
- RG&E 5-foot Buffer

TB-2
TP-NORTH
TB-123
MW-302
TB-122
TB-117
TB-118
TB-119
TB-120
MW-101
TB-116
TP-10(C)
TB-113
TB-109
TP-13
TP-12
MW-202
TB-103
TB-102
MW-101R
MW-101
TB-108
TB-11
TB-4
MW-1R
TB-124
MW-301
MW-1
TB-6
MW-2
MW-2R
TB-105
TB-100
TP-11
TB-8
MW-2
TB-5
TB-112
TB-115
TB-10
TB-106 (106C)
TB-104
TB-111
TB-101
TB-125
TB-110 (110B)
TB-107
MW-201
TB-114
MW-102
MW-102
Mount Hope Ave
Alexander St

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0 5 10 20 30 40 Feet

1 inch = 30 feet

Figure 2 - Soil Removal Plan

Soil and Groundwater Managment Plan
Brownfield Site Cleanup
151-191 Mount Hope Avenue
Rochester, New York

Legend

Excavation Sidewall Confirmatory Samples

Status

- <TAGM
- >TAGM

Excavation Bottom Confirmatory Samples

Status

- <TAGM
- >TAGM

MH-ES-019.1.A-S
PID = 1639 ppm
13.5 to 16 ft

MH-ES-017.1.A-S
PID = 6.5 ppm
13 to 15 ft

MH-ES-016.1.A-S
PID = 1.9 ppm
12 to 14 ft

MH-ES-014.1.A-S
PID = 11.7 ppm
10 to 13 ft

MH-ES-015.1.A-S
PID = 0.2 ppm
10 to 13 ft

MH-ES-013.1.A-S
PID = 44.9 ppm
10 to 12.5 ft

MH-ES-001.2-S
PID = 0 ppm
8.5 to 11.5 ft

MH-ES-002.1-S
PID = 0 ppm
12.5 to 16 ft

MH-ES-003.1-S
PID = 0 ppm
12 to 13 ft

MH-ES-004.1-S
PID = 0 ppm
11 to 15 ft

MH-ES-005.1-S
PID = 21.5 ppm
10.5 to 11.5 ft

MH-ES-009.1.A-S
PID = 2.2 ppm
11 to 13 ft

MH-ES-007.1.B-S
PID = 6.8 ppm
11.5 to 13 ft

MH-ES-018.1.A-S
PID = 116 ppm
15 to 18 ft

MH-ES-020.1.A-S
PID = 48 ppm
15 to 16 ft

MH-ES-012.1.A-S
PID = 47.2 ppm
11.5 to 13.5 ft

MH-ES-011.1.A-S
PID = 3.9 ppm
11 to 13 ft

MH-ES-006.1-S
PID = 406 ppm
9 to 11 ft

MH-ES-008.1-S
PID = 643 ppm
8.5 to 12.5 ft

MH-ES-010.1.A-S
PID = 251 ppm
10 to 12.5 ft

MH-EB-016.A-S
PID = 249 ppm
13.5 ft

MH-EB-015.A-S
PID = 9 ppm
16.5 ft

MH-EB-016.A-S
PID = 0.5 ppm
14 ft

MH-EB-014.A-S
PID = 64.9 ppm
13.5 ft

MH-EB-013.A-S
PID = 2.5 ppm
13.5 ft

MH-EB-001.A-S
PID = 0 ppm
15 ft

MH-EB-002.A-S
PID = 64 ppm
14.5 ft

MH-EB-003.A-S
PID = 0 ppm
16.5 ft

MH-EB-004.A-S
PID = 11.7 ppm
16.5 ft

MH-EB-008.A-S
PID = 7 ppm
14.5 ft

MH-EB-005.A-S
PID = 44.8 ppm
15 ft

MH-EB-017.A-S
PID = 67.5 ppm
17 ft

MH-EB-012.A-S
PID = 66.2 ppm
13.5 ft

MH-EB-011.A-S
PID = 37.7 ppm
13 ft

MH-EB-010.A-S
PID = 908 ppm
14 ft

MH-EB-006.A-S
PID = 9 ppm
9 ft

MH-EB-007.A-S
PID = 25 ppm
14 ft

MH-EB-009.A-S
PID = 6.8 ppm
15 ft

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0 3 6 12 18 24 Feet

1 inch = 15 feet

Note: Refer to Figure 2 for complete legend

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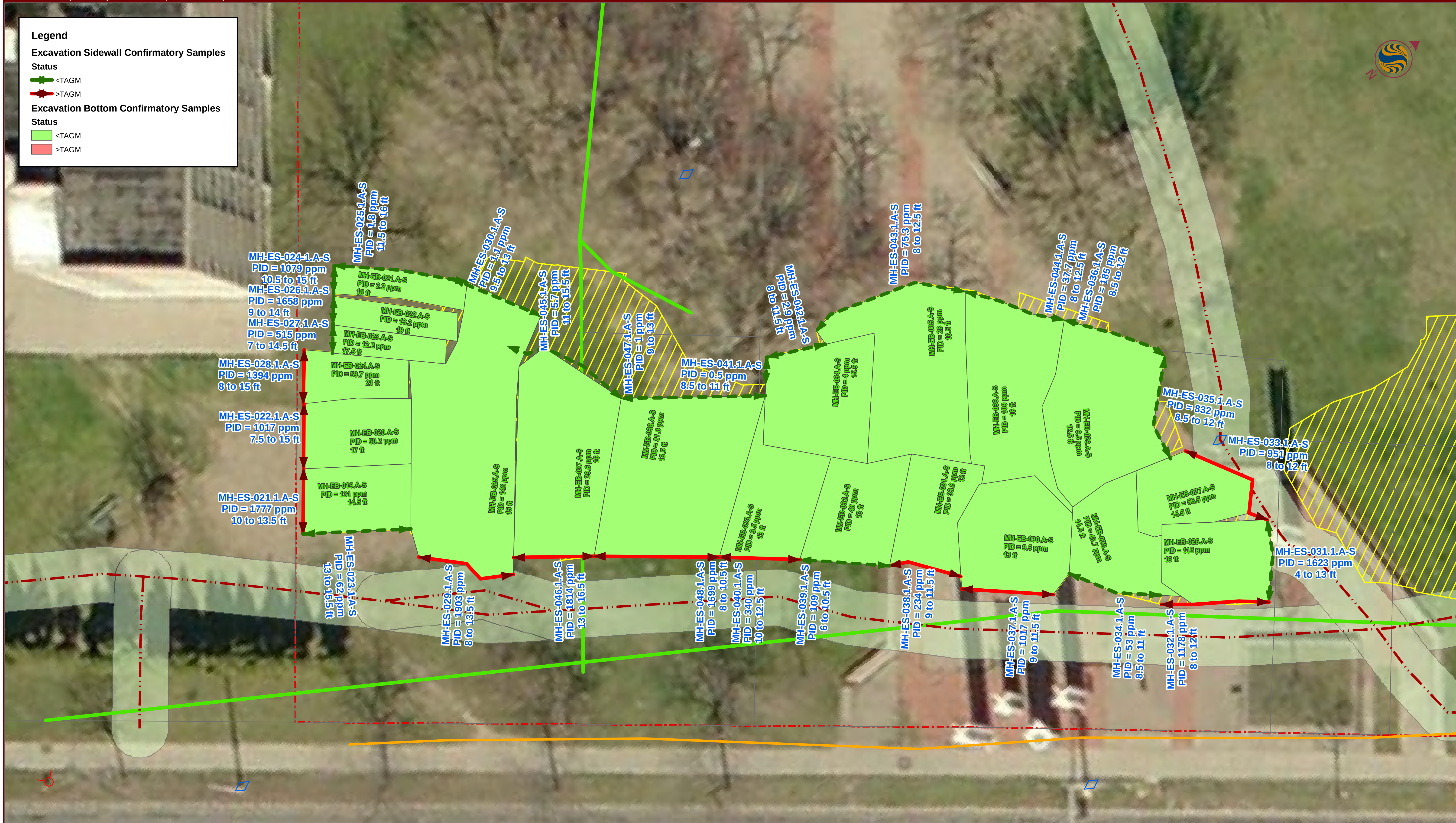
Figure 3 - Confirmatory Sampling North

Soil and Groundwater Management Plan
Brownfield Site Cleanup
151-191 Mount Hope Avenue
Rochester, New York


Legend
Excavation Sidewall Confirmatory Samples
Status
<TAGM
>TAGM
Excavation Bottom Confirmatory Samples
Status
<TAGM
>TAGM
MH-ES-024.1.A-S PID = 1079 ppm 10.5 to 15 ft
MH-ES-026.1.A-S PID = 1658 ppm 9 to 14 ft
MH-ES-027.1.A-S PID = 515 ppm 7 to 14.5 ft
MH-ES-028.1.A-S PID = 1394 ppm 8 to 15 ft
MH-ES-022.1.A-S PID = 1017 ppm 7.5 to 15 ft
MH-ES-021.1.A-S PID = 1777 ppm 10 to 13.5 ft
MH-ES-025.1.A-S PID = 1.8 ppm 11.5 to 16 ft
MH-ES-030.1.A-S PID = 1.1 ppm 9.5 to 13 ft
MH-ES-045.1.A-S PID = 5.7 ppm 11 to 15.5 ft
MH-ES-047.1.A-S PID = 1 ppm 9 to 13 ft
MH-ES-041.1.A-S PID = 0.5 ppm 8.5 to 11 ft
MH-ES-042.1.A-S PID = 2.9 ppm 8 to 11.5 ft
MH-ES-043.1.A-S PID = 75.3 ppm 8 to 12.5 ft
MH-ES-044.1.A-S PID = 37.7 ppm 8 to 12.5 ft
MH-ES-036.1.A-S PID = 185 ppm 8.5 to 12 ft
MH-ES-035.1.A-S PID = 832 ppm 8.5 to 12 ft
MH-ES-033.1.A-S PID = 951 ppm 8 to 12 ft
MH-ES-031.1.A-S PID = 1623 ppm 4 to 13 ft
MH-ES-023.1.A-S PID = 62 ppm 13 to 15.5 ft
MH-ES-029.1.A-S PID = 1903 ppm 8 to 13.5 ft
MH-ES-046.1.A-S PID = 1814 ppm 13 to 16.5 ft
MH-ES-048.1.A-S PID = 1699 ppm 8 to 10.5 ft
MH-ES-040.1.A-S PID = 340 ppm 10 to 12.5 ft
MH-ES-039.1.A-S PID = 109 ppm 6 to 10.5 ft
MH-ES-038.1.A-S PID = 234 ppm 9 to 11.5 ft
MH-ES-037.1.A-S PID = 1017 ppm 9 to 11.5 ft
MH-ES-034.1.A-S PID = 53 ppm 8.5 to 11 ft
MH-ES-032.1.A-S PID = 1178 ppm 8 to 12ft

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0 3 6 12 18 24 Feet
1 inch = 16 feet

Note: Refer to Figure 2 for complete legend

Figure 4 - Confirmatory Sampling South

Soil and Groundwater Management Plan
Brownfield Site Cleanup
151-191 Mount Hope Avenue
Rochester, New York

Figure 5 Total VOCs in Monitoring Well MW-1R (ug/L)

NYSDEC Spill No. 0070377

151-191 MOUNT HOPE AVENUE, ROCHESTER, NEW YORK

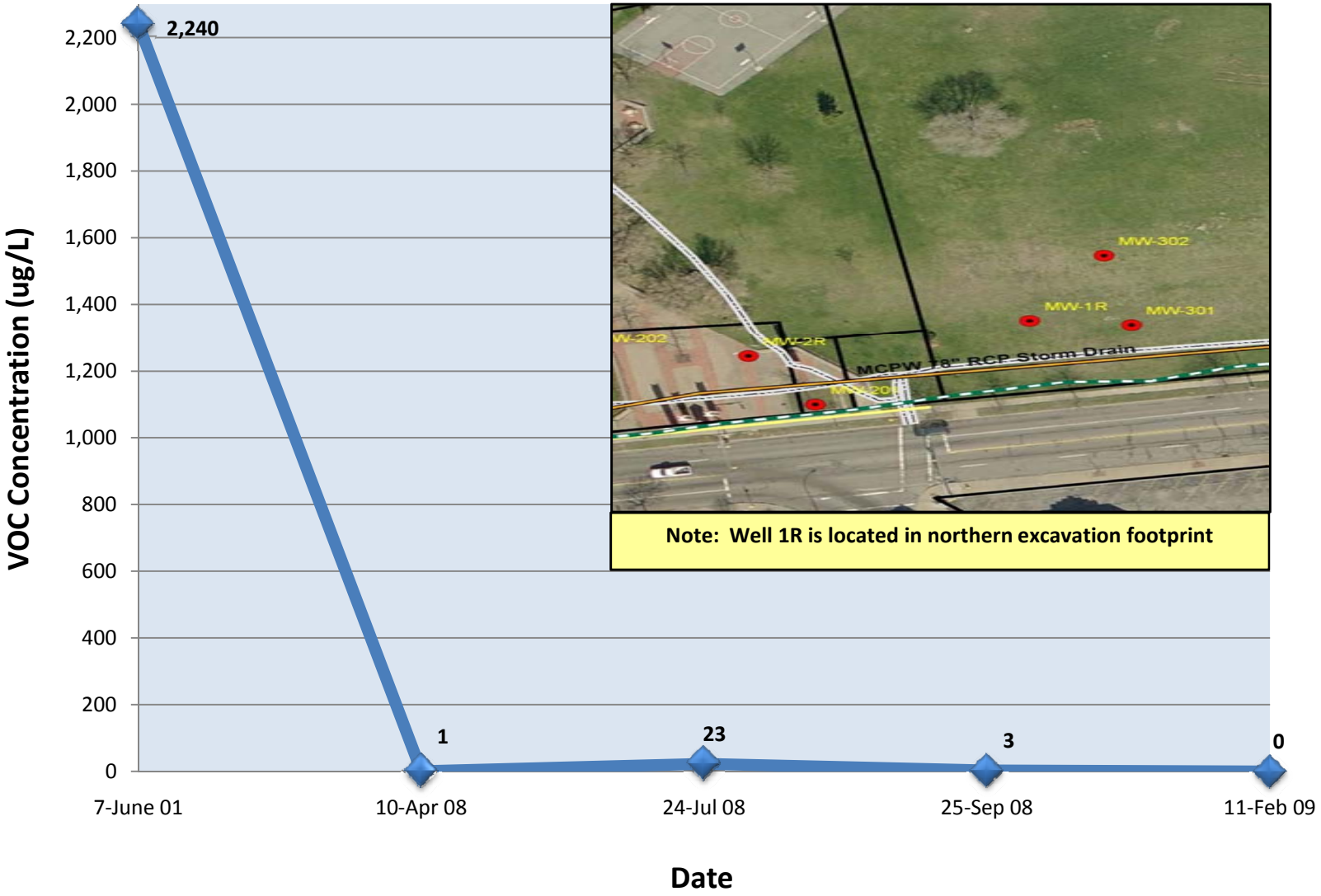


Figure 6 Total VOCs in Monitoring Well MW-101R

NYSDEC Spill No. 0070377
151-191 MOUNT HOPE AVENUE, ROCHESTER, NEW YORK

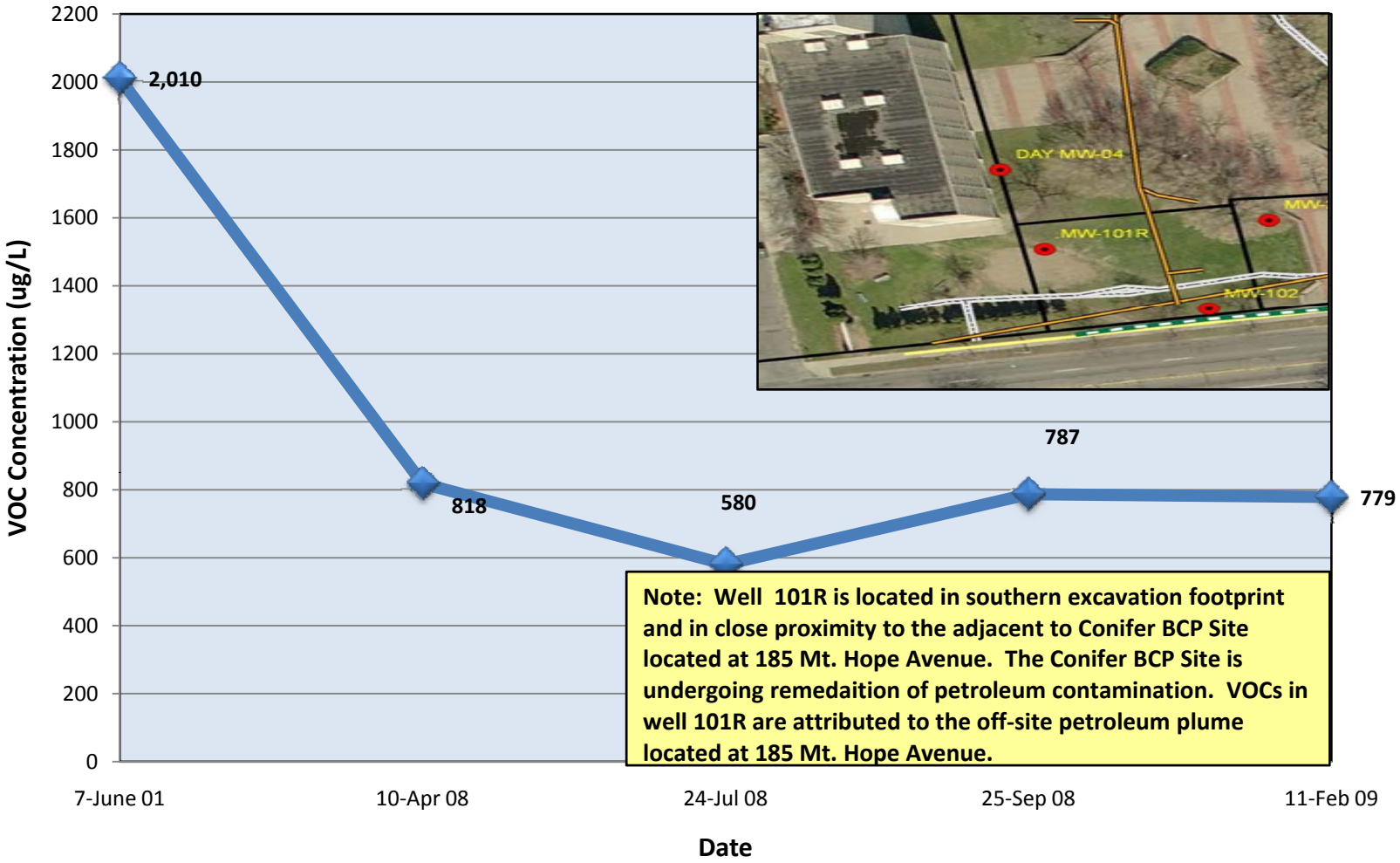


Figure 7 Total VOCs in Monitoring Well MW-2R (ug/L)

NYSDEC Spill No. 0070377
151-191 MOUNT HOPE AVENUE, ROCHESTER, NEW YORK

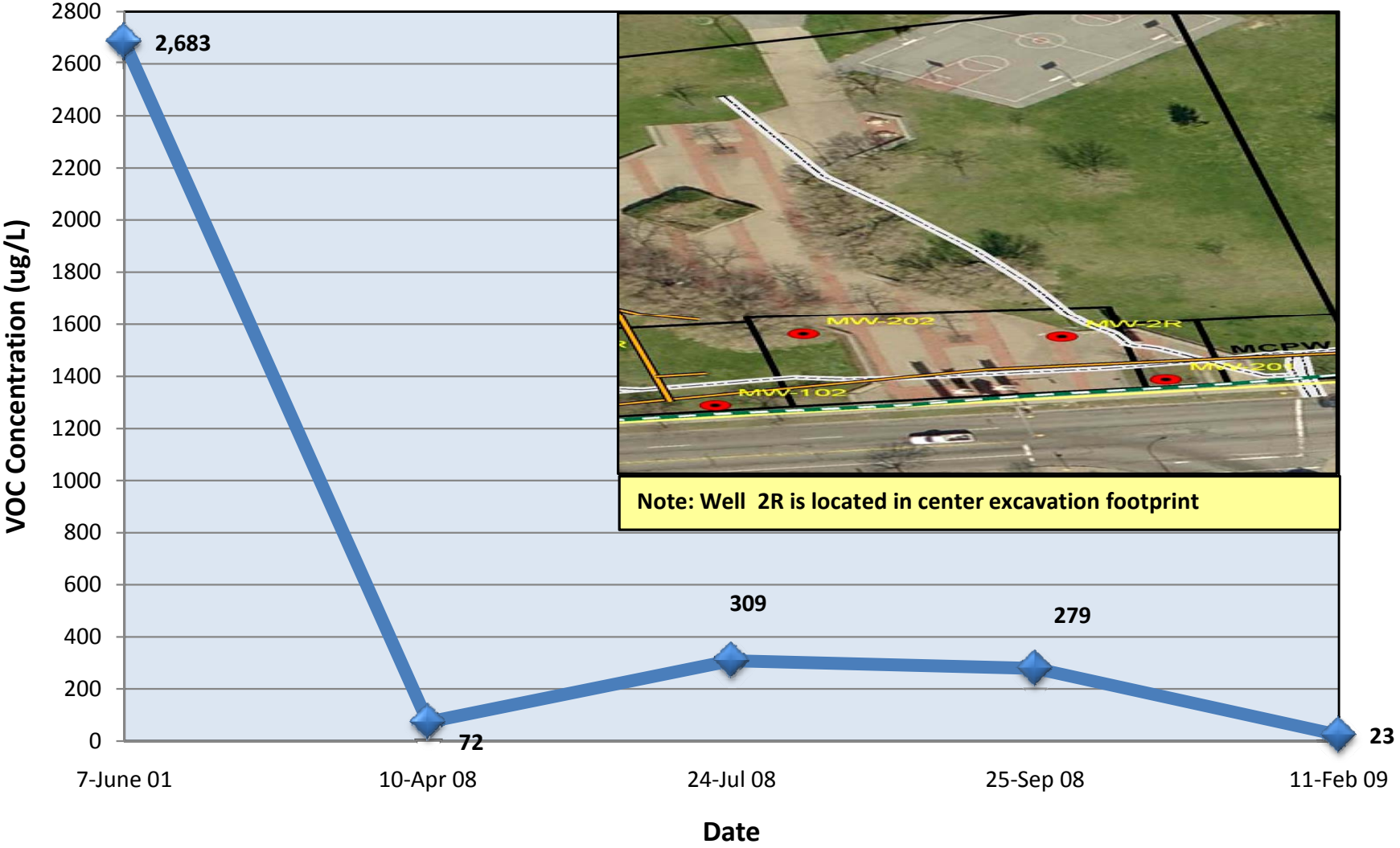
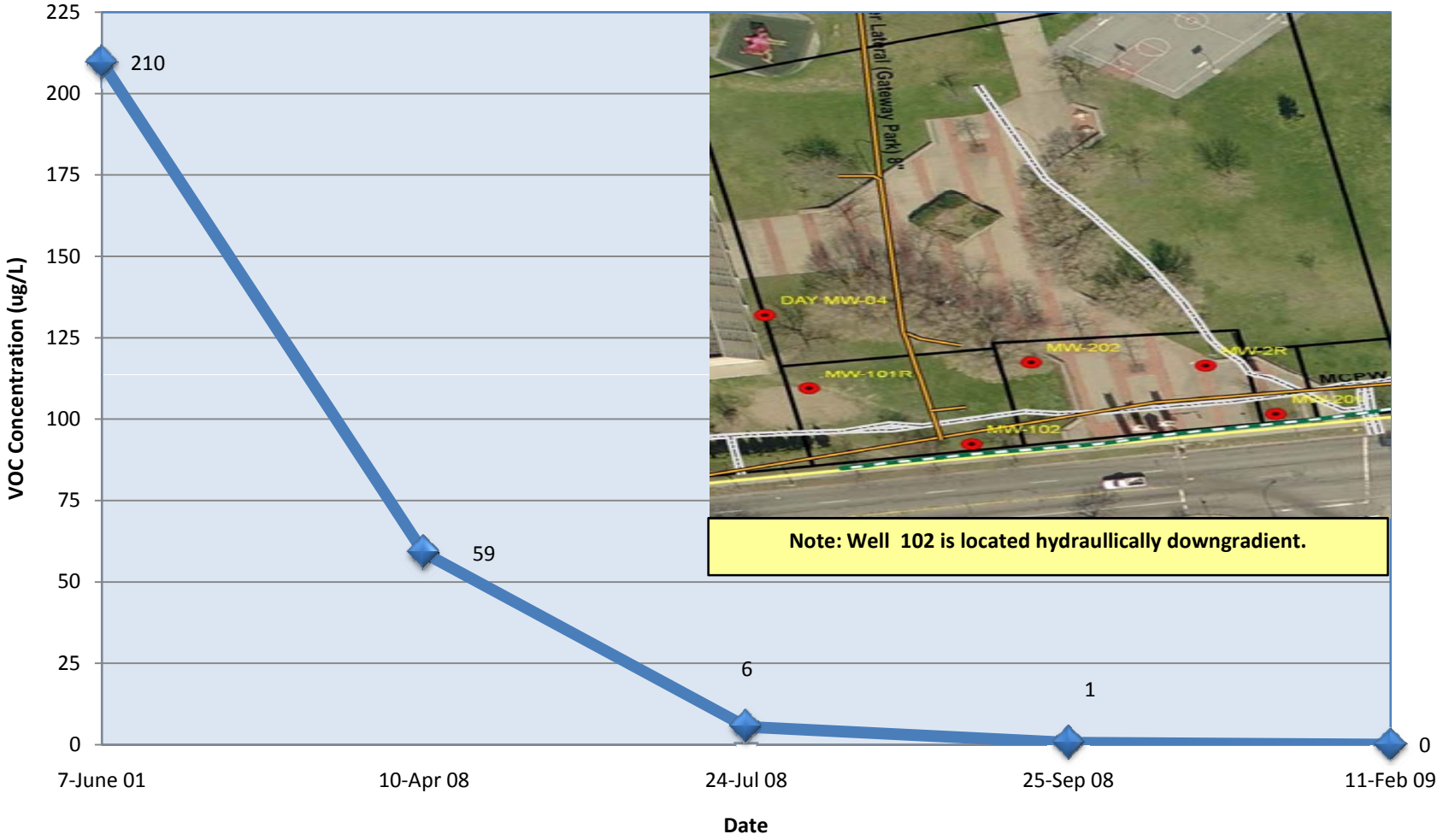


Figure 8 Total VOCs in Monitoring Well MW-102 (ug/L)

NYSDEC Spill No. 0070377
151-191 MOUNT HOPE AVENUE, ROCHESTER, NEW YORK



APPENDIX A

APPENDIX A

HEALTH AND SAFETY PLAN
FOR
SUBSURFACE AND CONSTRUCTION ACTIVITIES

151-191 MOUNT HOPE AVENUE
ROCHESTER, NEW YORK

NYSDEC SPILL NO. 0070377

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1.0 INTRODUCTION

The following Health and Safety Plan (HASP) describes personal safety protection standards and procedures to be followed by site workers during Subsurface and Construction activities at the Site located at 151-191 Mount Hope Avenue, in the City of Rochester, Monroe County, New York (Figure 1).

The activities covered by this HASP include Site preparation, excavation, drilling activities, underground utility repair, Site restoration, and other subsurface activities.

This HASP establishes mandatory safety procedures and personal protection standards pursuant to the Occupational Safety and Health Administration (OSHA) regulations 29 Code of Federal Regulations (CFR) 1910.120.

ALL CONTRACTORS PLANNING SUBSURFACE SITE WORK MUST DEVELOP THEIR OWN HASP AND MEET ALL PERTINENT ASPECTS OF OSHA REGULATIONS.

1.1 Background

A remedial program was completed in February 2009 to address petroleum contamination at the 151-191 Mount Hope Avenue site. The petroleum contamination is believed to have resulted from a past release from underground petroleum storage tanks associated with gas stations that were historically operated on Site. The remedial program was completed under the New York State Spills Program administered by the New York State Department of Environmental Conservation (NYSDEC). The petroleum contamination at the site was assigned NYSDEC Spill No. 0070377.

At the end of the remedial program, residual subsurface contamination by petroleum compounds in soil and groundwater remained in limited areas at locations where excavation was not safe. The main electric lines running along Mt. Hope Avenue did not allow for further excavation to the east due to safety concerns, and the electric lines running across the Site adjacent to the concrete monument and feeding the Genesee Gateway Park lighting system was left in place for safety reasons. Some contamination remains under this line and below the monuments, separating the north excavation from the south excavation. At the southern site boundary, excavation was performed as close to the Conifer property as was deemed safe, but contamination was left in place on the Conifer property. This area is the responsibility of Conifer Properties. Remedial program data indicated that contaminant concentrations were declining and that the residual contamination did not pose a risk of migration beyond the immediate vicinity of the residual contamination.

At the end of the remedial program, a Soil and Groundwater Management Plan (SGMP, Stantec Consulting Services Inc., August 2009) was put in place to address the presence of residual subsurface contamination by petroleum compounds in soil and groundwater. The SGMP provides a detailed description of Site conditions at the time the remedial program was completed in February 2009, and a detailed summary of the results of previous investigations and remedial activities. A copy of the SGMP is available at the NYSDEC Region 8 Office in Avon, New York from the NYSDEC Spills Program Project Manager (currently Mr. Michael Zamiarski). Copies were also provided to the Monroe County Health Department and the City of Rochester.

1.2 Site-Specific Chemicals of Concern

The primary chemicals of concern at the subject Site are the volatile organic compounds (VOCs): benzene, ethylbenzene, toluene, xylenes, 1, 2, 4-trimethylbenzene and 1, 3, 5 trimethylbenzene; the semi-volatile organic compounds (SVOCs): naphthalene, benzo(a)anthracene, benzo(a)pyrene and benzo(k)fluoranthene; and metals: arsenic, calcium, copper, iron, magnesium, nickel, selenium, and zinc. Available Material Safety Data Sheets (MSDS) are presented in Attachment A. The volatile organic air monitoring action levels will be based on benzene, which has the lowest airborne permissible exposure limit (PEL) of the above noted compounds. Exposure limits for less hazardous compounds will be satisfied by meeting the more stringent exposure limits for benzene.

2.0 PERSONNEL TRAINING AND ORGANIZATION

Should subsurface or construction work be planned for the area of the residual petroleum contamination, or should indications of petroleum contamination be encountered during subsurface or construction work at the site, it is recommended that the project team be staffed with personnel who have current OSHA Hazardous Waste Operations and Emergency Response training certificates and respirator fit-tests and who are enrolled in a medical monitoring program.

Petroleum spill site workers can experience physical and chemical stress. Their tasks may expose them to toxic chemicals or physical hazards. They may develop heat stress while wearing protective equipment or while working under temperature extremes. They can face life-threatening emergencies such as explosions and fires. Petroleum spill workers must therefore be properly trained to recognize and deal with the potential hazards. Petroleum spill workers should be enrolled in a medical program that assesses and monitors worker's health and fitness both prior to employment and during the course of the work, provides emergency and other treatment as needed, and maintains accurate records for future reference.

Therefore, this HASP applies to all personnel conducting any work, as defined in 29 CFR 1910.120(a), that involves subsurface activity in the area of residual contamination. All personnel involved must familiarize themselves with this HASP, comply with its requirements and have completed the health and safety training and medical surveillance program participation pursuant to 29 CFR 1910.120 prior to beginning any work on Site.

The following roles must be addressed in the organization of personnel who will be involved in Subsurface and Construction activities in the area of residual contamination at the Site.

2.1 Project Manager

The Project Manager is responsible for ensuring that all Health and Safety procedures and methods are carried out, and that all personnel abide by the provisions of this Health and Safety Plan.

2.2 Site Safety Officer/Field Team Leader

The field team leader and Site Safety Officer will report directly to the Project Manager and will be responsible for the implementation of this HASP. Included in that area of responsibility, he or she will be responsible for ensuring that safety monitoring instruments are functioning as intended and are calibrated daily, and that a log book of all calibration data and instrument readings for the project is kept.

2.3 Field Team Members

Team members providing field support and performing subsurface work activities throughout the duration of the project will be responsible for reading and becoming familiar with and for carrying out the procedures of this HASP.

3.0 MEDICAL SURVEILLANCE

3.1 Introduction

OSHA requires a medical evaluation for employees that may be required to work on hazardous waste sites and/or wear a respirator (29 CFR Part 1910.120 and 1910.134), and certain OSHA standards include specific medical surveillance requirements (e.g., 29 CFR Part 1926.62, Part 1910.95 and Parts 1910.1001 through 1910.1045).

3.2 Medical Examinations

A. Personnel working in contaminated areas of hazardous waste sites shall have been examined by a licensed physician as prescribed in 29 CFR Part 1910.120, and shall be determined to be medically fit to perform their duties for work conditions which require respirators. Employees are provided with medical examinations as outlined below:

- Pre-job physical examination;
- Annually thereafter;
- Termination of employment;
- Upon reassignment in accordance with CFR 29 Part 1910.120(f)(3)(i)(C);
- If the employee develops signs or symptoms of illness related to workplace exposures;
- If the physician determines examinations need to be conducted more often than once a year; and
- When an employee develops a lost time injury or illness during the employment period.

B. Examinations will be performed by, or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and will be provided without cost to the employee, without loss of pay and at a reasonable time and place. Medical surveillance protocols and examination and test results shall be reviewed by the Occupational Physician.

4.0 ON-SITE HAZARDS

4.1 Chemical Hazards

The primary potential chemical hazards on-Site are expected to be exposure to petroleum related organic compounds.

The principle soil and groundwater contaminants identified to date are volatile though, semi-volatile and metals contaminants may also be present; therefore, any activity at the Site which causes physical disturbance of the soil can potentially allow the release of contaminants into the air. Such an occurrence may be recognized by noticeable chemical odors. Field personnel should be aware of the odor threshold for these chemicals and their relation to the action levels and Permissible Exposure Limits. For benzene, odor is not an adequate warning of a hazard.

Common symptoms of overexposure to benzene and other VOCs are the following: dizziness, headache, drowsiness, fatigue, irritated eyes, nose and throat, nausea, eye irritation, upper respiratory tract irritation, dermatitis, central nervous system depression and narcosis.

To prevent dermal exposure to VOCs or SVOCs, dermal contact will be minimized by using disposable surgical gloves with work gloves (as appropriate) when handling soil, groundwater equipment or samples.

To prevent inhalation of VOCs, real-time, breathing zone levels of total VOCs will be monitored using a portable photoionization detector (PID) equipped with a 10.6 eV lamp. If ambient levels exceed action levels, all Site activities will be performed using level C personal protection until ambient concentrations dissipate. Where levels exceed 50 parts per million (ppm), work will cease and the project manager will be notified immediately.

In addition, depending on seasonal conditions, disturbance of the Site soils may cause particulate contaminants to become airborne as dust. Therefore, particulates will be monitored as discussed in Section 6.1 and dust-suppression methods will be used where appropriate as discussed in Section 6.2.

Finally, aeration of the groundwater may cause volatilization of chemicals into the air, particularly VOCs.

4.2 Physical Hazards

Hazards typically encountered during construction will be a concern at this Site. These hazards include slippery ground surfaces, holes, and operation of heavy machinery and equipment. Basic safety apparel including steel-toed shoes, hard hat and safety glasses will be worn during all activities by field team members.

Multi-purpose fire extinguishers, functional and with proof of valid annual inspection, will be staged and readily accessible for use.

The use of electrical equipment in any established exclusion zones will be limited to areas verified as containing non-explosive atmospheres (less than 10 percent of the lower explosive limit, <10% LEL, as determined by appropriate monitoring using an explosivity meter) prior to operation, unless the equipment has been previously demonstrated or designed to be FM or UL rated as intrinsically safe. Care will be taken to avoid an ignition source while working in the presence of vapors.

The contractor shall make all necessary contacts with utilities and/or underground utility locator hotlines prior to excavation, and shall meet OSHA requirements for distances between the heavy equipment and overhead utilities.

4.2.1 Noise

The use of heavy machinery/equipment and operation may result in noise exposures, which require hearing protection. Exposure to noise can result in temporary hearing losses, interference with speech communication, interference with complicated tasks or permanent hearing loss due to repeated exposure to noise.

During the investigative activities, all field team members will use hearing protection when sound levels are in excess of 90 dB TWA. Hearing conservation measures should be implemented when noise levels are in excess of 85 dB TWA. Excavator operations do not typically result in noise exposures requiring hearing conservation measures.

4.2.2 Heat Stress Exposure

Heat is a potential threat to the health and safety of Site personnel if subsurface work is to be conducted during periods of warm weather. The Site Safety Officer under the direction of the Project Manager will determine the schedule of work and rest. These schedules will be employed as necessary so that personnel do not suffer adverse effects from heat.

Symptoms of heat stress include fatigue, sweating and irritability and can be treated by removing victim from hot area and providing rest and fluids.

Symptoms of a heat stroke are dizziness, disorientation, perspiration ceases and loss of consciousness. If heat stroke symptoms occur, the person should be removed from the hot area, 911 should be contacted and first aid administered. No fluids should be administered to an unconscious victim.

4.2.3 Cold Stress Exposure

Cold weather is a potential threat to the health and safety of Site Personnel. The Site Safety Officer under the direction of the Project Manager will determine the schedule of work and rest. These schedules will be employed as necessary so that personnel do not suffer adverse effects from cold. The most important aspect of life-threatening exposure to cold weather is hypothermia, which is a fall in the deep core temperature of the body. The project workers should be protected from exposure to cold so that the body's deep core temperature does not fall below 36 degrees Celsius. Therefore, all workers must be aware that long exposure to cold without proper warm clothing may impair their ability to work safely. Signs of lowered body temperature include reduced mental alertness, shivering and reduction in rational decision making or loss of consciousness with fatal consequences.

5.0 SITE WORK ZONES

The following work zones will be physically delineated during the subsurface activities.

5.1 Work Zone

The controlled portion of the Site will be delineated to identify the work zone, wherein a higher level of personal protective equipment may be required for entry during intrusive activities. The limits of the work zone will be appropriately designated and demarcated at each work location. A decontamination zone will be located immediately outside the entrance to the work zone. All personnel leaving the work zone will be required to adhere to proper decontamination procedures.

5.2 Decontamination Zone

The decontamination zone will be located immediately outside the entrance to the work zone on its apparent upwind side, if feasible, and will be delineated with caution tape and traffic cones. This zone will contain the necessary decontamination materials for personnel decontamination. Decontamination procedures are outlined in Section 8.0 of this plan.

6.0 SITE MONITORING/ACTION LEVELS

6.1 Site Monitoring

Field activities associated with the earth disturbing activities may create potentially hazardous conditions due to the migration of contaminants into the breathing zone. These substances may be in the form of mists, vapors, dusts, or fumes that can enter the body through ingestion, inhalation, absorption, and direct dermal contact. Monitoring for VOCs will be performed in order that appropriate personal protective measures are employed during Site activities.

Although the anticipated concentrations of contaminants in soil/groundwater should not present an explosive hazard, explosive environments or conditions may be encountered unexpectedly during the course of this project. Monitoring for explosivity in the atmosphere will be routinely conducted during Site activities as a precautionary measure to ensure Site personnel are not subjected to any dangerous conditions.

The following describes the conditions that will be monitored for during the remediation activities. All calibrations, etc., done on instruments, as well as background and site readings, will be logged.

Organic Vapor Concentrations - Organic vapors will be monitored continuously in the breathing zone in the work area with a portable PID with a 10.6 eV lamp. The instrument will be calibrated daily. PID readings will be used as the criteria for upgrading or downgrading protective equipment and for implementing additional precautions or procedures.

If applicable, split spoons or other soil sampling devices will be monitored using the PID at the time they are opened, with appropriate PPE to be used where soils exhibit measurable volatile organic compound levels.

Explosivity - Explosivity will be monitored continuously during excavation or drilling operations. Measurements obtained from this monitoring instrument will also be used as criteria for implementation of work stoppage or site evacuation. Explosivity monitoring will be performed with Gastech GT-201 monitor, or its equivalent, calibrated per manufacturer's recommendations.

Particulates - Should subsurface conditions be observed to be dry, particulate monitoring with a MIE PDR-1000, or its equivalent aerosol monitor may be needed within the work area to monitor personal exposures to particulates and to compare work area readings with downwind and upwind readings. The first readings of the

day will be obtained prior to the commencement of work to obtain a daily background reading, and the instrument will be zeroed daily and calibrated to manufacturer's specifications. Readings will be recorded every 30 minutes thereafter. If the work area particulate levels exceed the background levels by more than 100 $\mu g/m^3$, dust suppression measures must be implemented.

6.2 Action Levels

During the course of any activity, as long as sustained PID readings in the breathing zone are less than 5 ppm total organic vapors above background, Level D protection will be deemed adequate. Level C protection will also be required when total organic vapors concentrations in ambient air in the work zone exceed 5 ppm total VOCs above background but remain below 50 ppm total VOCs.

If concentrations in the work zone exceed 50 ppm for a period of 5 minutes or longer, work will immediately be terminated by the Site Safety Officer. Options to allow continued remedial activities will then be discussed amongst all parties. Supplied-air respiratory protection is generally required for activities to resume under these conditions. If Level B protection is not used, work may resume in Level C once monitored concentrations have decreased below 50 ppm.

If the monitoring of fugitive particulate levels exceeds 100 $\mu g/m^3$ above background at property lines, then the contractor will be directed to implement fugitive dust control measures, which may include use of engineering controls such as water spray at the excavation.

7.0 PERSONAL PROTECTIVE EQUIPMENT

Based on an evaluation of the hazards at the Site, personal protective equipment (PPE) may be required for all personnel and visitors entering the exclusion zone. Contractors will be responsible for selection and implementation of PPE for their personnel.

7.1 Protective Clothing/Respiratory Protection:

Protective equipment for each level of protection is as follows:

If PID readings are above 50 ppm, requiring an upgrade to Level B, site work will be halted pending review of conditions and options by all parties involved in the work.

When PID readings range between 5 and 50 ppm total organic vapors, upgrade to Level C:

Level C

- Full face, air purifying respirator with organic/HEPA cartridge;
- Disposable chemical resistant one-piece suit (Tyvek or Saranex, as appropriate);
- Inner and outer chemical resistant gloves;
- Hard hat;
- Steel-toed boots; and
- Disposable booties.

When PID readings range between background and 5 ppm for total organic vapors use Level D:

Level D

- Safety glasses;
- Steel-toed boots;
- Protective cotton, latex or leather gloves depending on site duties;
- Hard hat; and
- Tyvek coverall (optional).

8.0 DECONTAMINATION

8.1 Personnel Decontamination

For complete decontamination, all personnel will observe the following procedures upon leaving the exclusion zone:

1. Remove outer boots and outer gloves and place in disposal drum.

2. If using a respirator, remove respirator, dispose of cartridges if necessary, and set aside for later cleaning.

3. Remove disposable chemical resistant suit and dispose of in drum.

4. Remove and dispose of inner gloves.

Decontamination solutions shall be supplied at the decontamination zone. The wash solution will consist of water and detergent such as Alconox or trisodium phosphate (TSP), and the rinse solution will consist of clean water.

Contaminated wash solutions shall be collected in drums for disposal. All disposable health and safety equipment will be decontaminated and disposed of as non-hazardous waste.

8.2 Equipment Decontamination

If equipment is used during field activities, it will be properly washed or steam-cleaned prior to exiting the decontamination zone. Pre- or post-use rinsing using solvents will be done wearing appropriate PPE.

Monitoring instruments will be either wrapped in polysheeting or carried by personnel not involved in handling contaminated materials, to reduce the need for decontamination. All instruments will be wet-wiped prior to removal from the work zone.

9.0 EMERGENCY PROCEDURES

The Site Safety Officer will coordinate emergency procedures and will be responsible for initiating emergency response activities. Emergency communications at the Site will be conducted verbally and by means of an air horn. All personnel will be informed of the location of the cellular telephone and horn. Three blasts on the air horn will be used to signal distress.

9.1 List of Emergency Contacts

Ambulance: 911
Hospital: Highland Hospital (585) 341-6880 - emergency department
Fire Department: 911
Police: 911
Poison Control Center: (585) 275-3232
Electric or Gas Emergency: (585) 546-1100
Joseph Biondolillo, City of Rochester, Project Manager: (585) 428-6649
Michael F. Zamiarski, P.E., New York State Department of Environmental Conservation, Region 8 Office: (585) 226-5438
Jeffrey M. Kosmala, Monroe County Health Department, (585) 753-5470
Debby McNaughton, New York State Health Department: (585) 423-8069

9.2 Directions to Highland Hospital

A map presenting directions to Highland Hospital is included in the back of the document (Figure 2). The route shall be reviewed at the initial site safety meeting on site.

9.3 Accident Investigation and Reporting

A. All accidents requiring first aid, which occur incidental to activities on-site, will be investigated. The investigation format will be as follows:

- interviews with witnesses;
- pictures, if applicable; and
- necessary actions to alleviate the problem.

B. In the event that an accident or some other incident such as an explosion or exposure to toxic chemicals occurs during the course of the project, the Project Health and Safety Officer will be telephoned as soon as possible and receive a written report within 24 hours.

The accident report will include the following items:

- Name of injured;
- Name and title of person(s) reporting;
- Date and time of accident/incident;
- Location of accident/incident, building number, facility name;
- Brief summary of accident/incident giving pertinent details including type of operation ongoing at the time of the accident/incident;
- Cause of accident/incident;
- Casualties (fatalities, disabling injuries), hospitalizations;
- Details of any existing chemical hazard or contamination;
- Estimated property damage, if applicable;
- Nature of damage; effect on contract schedule;
- Action taken to insure safety and security; and
- Other damage or injuries sustained (public or private).

Where reportable injuries, hospitalizations or fatalities occur amongst personnel, the necessary document required by OSHA will be submitted within timeframes allowed by law.

The accident report form is illustrated in Table 1.

TABLE 1

ACCIDENT REPORT

Project_____ Date of Occurrence_____

Location _____

_____

Type of Occurrence: (check all that Apply)

☐Disabling Injury ☐Other Injury
☐Property Damage ☐Equip. Failure
☐Chemical Exposure ☐Fire
☐Explosion ☐Vehicle Accident
☐Other (explain)_____
_____

Witnesses to Accident/Injury:

_____ _____
_____ _____
_____ _____

Injuries:

Name of Injured _____

What was being done at the time of the accident/injury?

_____
_____

What corrective actions will be taken to prevent recurrence? _____
_____
_____

SIGNATURES

Health and Safety Officer _____ Date _____
Project Manager _____ Date _____
Reviewer _____ Date _____

Comments by reviewer _____
_____

PROJECT ENGINEER/ARCHITECT
D. BELASKAS, P.E.

PROJECT MANAGER
M. STORONSKY

DRAWN BY
A. LESS

SCALE
1" = 2000'

FIRST ISSUE DATE
01/2007

STANTEC CONSULTING SERVICES INC.
2250 Brighton-Henrietta Town Line Road
Rochester, N.Y. 14623-2706
Tel:(585) 475-1440
Fax: (585) 424-5951
www.stantec.com

PROJECT
HEALTH AND SAFETY PLAN
CORRECTIVE ACTION PLAN
151-191 MT. HOPE AVENUE
ROCHESTER, NEW YORK

TITLE OF DRAWING
SITE LOCATION MAP

PROJECT NO.
190500346

DRAWING NO.
FIG. 1

U:\190500346\DRAWING\CAP\HASP\FIG1&2-SITE LOCATION MAP&DIRECTIONS-HASP_10AUG2006.DWG

PROJECT ENGINEER/ARCHITECT
D. BELASKAS, P.E.

PROJECT MANAGER
M. STORONSKY

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A. LESS

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CORRECTIVE ACTION PLAN
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ROCHESTER, NEW YORK

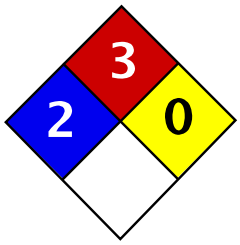
TITLE OF DRAWING
HOSPITAL ROUTE MAP

PROJECT NO.
190500346

DRAWING NO.
FIG. 2

U:\190500346\DRAWING\CAP\HASP\FIG1&2-SITE LOCATION MAP&DIRECTIONS-HASP_10AUG2006.DWG

ATTACHMENT A
MATERIAL SAFETY DATA SHEETS



Health	2
Fire	3
Reactivity	0
Personal Protection	H

Material Safety Data Sheet
Benzene MSDS

Section 1: Chemical Product and Company Identification

Product Name: Benzene

Catalog Codes: SLB1564, SLB3055, SLB2881

CAS#: 71-43-2

RTECS: CY1400000

TSCA: TSCA 8(b) inventory: Benzene

CI#: Not available.

Synonym: Benzol; Benzine

Chemical Name: Benzene

Chemical Formula: C6-H6

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Benzene	71-43-2	100

Toxicological Data on Ingredients: Benzene: ORAL (LD50): Acute: 930 mg/kg [Rat]. 4700 mg/kg [Mouse]. DERMAL (LD50): Acute: >9400 mg/kg [Rabbit]. VAPOR (LC50): Acute: 10000 ppm 7 hours [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of eye contact (irritant), of inhalation. Hazardous in case of skin contact (irritant, permeator), of ingestion. Inflammation of the eye is characterized by redness, watering, and itching.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH, 1 (Proven for human.) by IARC.
MUTAGENIC EFFECTS: Classified POSSIBLE for human. Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female [POSSIBLE].
The substance is toxic to blood, bone marrow, central nervous system (CNS).
The substance may be toxic to liver, Urinary System.
Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention immediately.

Skin Contact:
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 497.78°C (928°F)

Flash Points: CLOSED CUP: -11.1°C (12°F). (Setaflash)

Flammable Limits: LOWER: 1.2% UPPER: 7.8%

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances:
Highly flammable in presence of open flames and sparks, of heat.
Slightly flammable to flammable in presence of oxidizing materials.
Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.
Explosive in presence of oxidizing materials, of acids.

Fire Fighting Media and Instructions:
Flammable liquid, soluble or dispersed in water.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards:
Extremely flammable liquid and vapor. Vapor may cause flash fire.
Reacts on contact with iodine heptafluoride gas.

Dioxygenyl tetrafluoroborate is as very powferful oxidant. The addition of a small particle to small samples of benzene, at ambient temperature, causes ignition.
Contact with sodium peroxide with benzene causes ignition.
Benzene ignites in contact with powdered chromic anhydride.
Virgorous or incandescent reaction with hydrogen + Raney nickel (above 210 C) and bromine trifluoride.

Special Remarks on Explosion Hazards:
Benzene vapors + chlorine and light causes explosion.
Reacts explosively with bromine pentafluoride, chlorine, chlorine trifluoride, diborane, nitric acid, nitryl perchlorate, liquid oxygen, ozone, silver perchlorate.
Benzene + pentafluoride and methoxide (from arsenic pentafluoride and potassium methoxide) in trichlorotrifluoroethane causes explosion.
Interaction of nitryl perchlorate with benzene gave a slight explosion and flash.
The solution of permanganic acid (or its explosive anhydride, dimaganese heptoxide) produced by interaction of permanganates and sulfuric acid will explode on contact with benzene.
Peroxodisulfuric acid is a very powferful oxidant. Uncontrolled contact with benzene may cause explosion.
Mixtures of peroxomonsulfuric acid with benzene explodes.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:
Flammable liquid.
Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.

Storage:
Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 0.5 STEL: 2.5 (ppm) from ACGIH (TLV) [United States]
TWA: 1.6 STEL: 8 (mg/m3) from ACGIH (TLV) [United States]
TWA: 0.1 STEL: 1 from NIOSH
TWA: 1 STEL: 5 (ppm) from OSHA (PEL) [United States]
TWA: 10 (ppm) from OSHA (PEL) [United States]
TWA: 3 (ppm) [United Kingdom (UK)]
TWA: 1.6 (mg/m3) [United Kingdom (UK)]
TWA: 1 (ppm) [Canada]
TWA: 3.2 (mg/m3) [Canada]
TWA: 0.5 (ppm) [Canada]Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor:
Aromatic. Gasoline-like, rather pleasant.
(Strong.)

Taste: Not available.

Molecular Weight: 78.11 g/mole

Color: Clear Colorless. Colorless to light yellow.

pH (1% soln/water): Not available.

Boiling Point: 80.1 (176.2°F)

Melting Point: 5.5°C (41.9°F)

Critical Temperature: 288.9°C (552°F)

Specific Gravity: 0.8787 @ 15 C (Water = 1)

Vapor Pressure: 10 kPa (@ 20°C)

Vapor Density: 2.8 (Air = 1)

Volatility: Not available.

Odor Threshold: 4.68 ppm

Water/Oil Dist. Coeff.: The product is more soluble in oil; log(oil/water) = 2.1

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether, acetone.

Solubility:
Miscible in alcohol, chloroform, carbon disulfide oils, carbon tetrachloride, glacial acetic acid, diethyl ether, acetone.
Very slightly soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources, incompatibles.

Incompatibility with various substances: Highly reactive with oxidizing agents, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Benzene vapors + chlorine and light causes explosion.
Reacts explosively with bromine pentafluoride, chlorine, chlorine trifluoride, diborane, nitric acid, nitryl perchlorate, liquid oxygen, ozone, silver perchlorate.
Benzene + pentafluoride and methoxide (from arsenic pentafluoride and potassium methoxide) in trichlorotrifluoroethane causes explosion.
Interaction of nitryl perchlorate with benzene gave a slight explosion and flash.
The solution of permanganic acid (or its explosive anhydride, dimaganese heptoxide) produced by interaction of permanganates and sulfuric acid will explode on contact with benzene.
Peroxodisulfuric acid is a very powferful oxidant. Uncontrolled contact with benzene may cause explosion.
Mixtures of peroxomonsulfuric acid with benzene explodes.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.
Acute oral toxicity (LD50): 930 mg/kg [Rat].
Acute dermal toxicity (LD50): >9400 mg/kg [Rabbit].
Acute toxicity of the vapor (LC50): 10000 7 hours [Rat].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH, 1 (Proven for human.) by IARC.
MUTAGENIC EFFECTS: Classified POSSIBLE for human. Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female [POSSIBLE].
Causes damage to the following organs: blood, bone marrow, central nervous system (CNS).
May cause damage to the following organs: liver, Urinary System.

Other Toxic Effects on Humans:
Very hazardous in case of inhalation.
Hazardous in case of skin contact (irritant, permeator), of ingestion.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:
May cause adverse reproductive effects (female fertility, Embryotoxic and/or foetotoxic in animal) and birth defects.
May affect genetic material (mutagenic).
May cause cancer (tumorigenic, leukemia))
Human: passes the placental barrier, detected in maternal milk.

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects:
Skin: Causes skin irritation. It can be absorbed through intact skin and affect the liver, blood, metabolism,and urinary system.
Eyes: Causes eye irritation.
Inhalation: Causes respiratory tract and mucous membrane irritation. Can be absorbed through the lungs. May affect behavior/Central and Peripheral nervous systems (somnolence, muscle weakness, general anesthetic, and

other symptoms similar to ingestion), gastrointestinal tract (nausea), blood metabolism, urinary system.
Ingestion: May be harmful if swallowed. May cause gastrointestinal tract irritation including vomiting. May affect behavior/Central and Peripheral nervous systems (convulsions, seizures, tremor, irritability, initial CNS stimulation followed by depression, loss of coordination, dizziness, headache, weakness, pallor, flushing), respiration (breathlessness and chest constriction), cardiovascular system, (shallow/rapid pulse), and blood.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Benzene UNNA: 1114 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Benzene
California prop. 65 (no significant risk level): Benzene: 0.007 mg/day (value)
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Benzene
Connecticut carcinogen reporting list.: Benzene
Connecticut hazardous material survey.: Benzene
Illinois toxic substances disclosure to employee act: Benzene
Illinois chemical safety act: Benzene
New York release reporting list: Benzene
Rhode Island RTK hazardous substances: Benzene
Pennsylvania RTK: Benzene
Minnesota: Benzene
Michigan critical material: Benzene
Massachusetts RTK: Benzene
Massachusetts spill list: Benzene
New Jersey: Benzene
New Jersey spill list: Benzene
Louisiana spill reporting: Benzene
California Director's list of Hazardous Substances: Benzene

TSCA 8(b) inventory: Benzene
SARA 313 toxic chemical notification and release reporting: Benzene
CERCLA: Hazardous substances.: Benzene: 10 lbs. (4.536 kg)

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R11- Highly flammable.
R22- Harmful if swallowed.
R38- Irritating to skin.
R41- Risk of serious damage to eyes.
R45- May cause cancer.
R62- Possible risk of impaired fertility.
S2- Keep out of the reach of children.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S39- Wear eye/face protection.
S46- If swallowed, seek medical advice immediately and show this container or label.
S53- Avoid exposure - obtain special instructions before use.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves.
Lab coat.
Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Splash goggles.

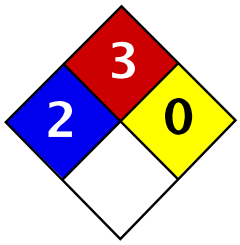
Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 08:35 PM

Last Updated: 10/10/2005 08:35 PM



Health	2
Fire	3
Reactivity	0
Personal Protection	H

Material Safety Data Sheet
Ethylbenzene MSDS

Section 1: Chemical Product and Company Identification

Product Name: Ethylbenzene

Catalog Codes: SLE2044

CAS#: 100-41-4

RTECS: DA0700000

TSCA: TSCA 8(b) inventory: Ethylbenzene

CI#: Not available.

Synonym: Ethyl Benzene; Ethylbenzol; Phenylethane

Chemical Name: Ethylbenzene

Chemical Formula: C8H10

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Ethylbenzene	100-41-4	100

Toxicological Data on Ingredients: Ethylbenzene: ORAL (LD50): Acute: 3500 mg/kg [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, permeator).

Potential Chronic Health Effects:
Slightly hazardous in case of skin contact (irritant, sensitizer).
CARCINOGENIC EFFECTS: Classified 2B (Possible for human.) by IARC.
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance may be toxic to central nervous system (CNS).
Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 432°C (809.6°F)

Flash Points:
CLOSED CUP: 15°C (59°F). (Tagliabue.) OPEN CUP: 26.667°C (80°F) (Cleveland) (CHRIS, 2001)
CLOSED CUP: 12.8 C (55 F) (Bingham et al, 2001; NIOSH, 2001)
CLOSED CUP: 21 C (70 F) (NFPA)

Flammable Limits: LOWER: 0.8% - 1.6%UPPER: 6.7% - 7%

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances: Highly flammable in presence of open flames and sparks, of heat.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.
Slightly explosive in presence of heat.

Fire Fighting Media and Instructions:
Flammable liquid, soluble or dispersed in water.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards:
Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. When heated to decomposition it emits acrid smoke and irritating fumes.

Special Remarks on Explosion Hazards: Vapors may form explosive mixtures in air.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:
Flammable liquid.
Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents.

Storage:
Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Sensitive to light. Store in light-resistant containers.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 100 STEL: 125 (ppm) from OSHA (PEL) [United States]
TWA: 435 STEL: 545 from OSHA (PEL) [United States]
TWA: 435 STEL: 545 (mg/m3) from NIOSH [United States]
TWA: 100 STEL: 125 (ppm) from NIOSH [United States]
TWA: 100 STEL: 125 (ppm) from ACGIH (TLV) [United States]
TWA: 100 STEL: 125 (ppm) [United Kingdom (UK)]
TWA: 100 STEL: 125 (ppm) [Belgium]
TWA: 100 STEL: 125 (ppm) [Finland]
TWA: 50 (ppm) [Norway]
Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Sweetish. Gasoline-like. Aromatic.

Taste: Not available.

Molecular Weight: 106.16 g/mole

Color: Colorless.

pH (1% soln/water): Not available.

Boiling Point: 136°C (276.8°F)

Melting Point: -94.9 (-138.8°F)

Critical Temperature: 617.15°C (1142.9°F)

Specific Gravity: 0.867 (Water = 1)

Vapor Pressure: 0.9 kPa (@ 20°C)

Vapor Density: 3.66 (Air = 1)

Volatility: 100% (v/v).

Odor Threshold: 140 ppm

Water/Oil Dist. Coeff.: The product is more soluble in oil; log(oil/water) = 3.1

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether.

Solubility:
Easily soluble in diethyl ether.
Very slightly soluble in cold water or practically insoluble in water.
Soluble in all proportions in Ethyl alcohol.
Soluble in Carbon tetrachloride, Benzene.
Insoluble in Ammonia.
Slightly soluble in Chloroform.
Solubility in Water: 169 mg/l @ 25 deg. C.; 0.014 g/100 ml @ 15 deg. C.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ingnition sources (flames, sparks, static), incompatible materials, light

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Not considered to be corrosive for metals and glass.

Special Remarks on Reactivity:
Can react vigorously with oxidizing materials.
Sensitive to light.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Inhalation.

Toxicity to Animals: Acute oral toxicity (LD50): 3500 mg/kg [Rat].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified 2B (Possible for human.) by IARC.
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
May cause damage to the following organs: central nervous system (CNS).

Other Toxic Effects on Humans:
Hazardous in case of ingestion, of inhalation.
Slightly hazardous in case of skin contact (irritant, permeator).

Special Remarks on Toxicity to Animals:
Lethal Dose/Conc 50% Kill:
LD50 [Rabbit] - Route: Skin; Dose: 17800 ul/kg
Lowest Published Lethal Dose/Conc:
LDL[Rat] - Route: Inhalation (vapor); Dose: 4000 ppm/4 H

Special Remarks on Chronic Effects on Humans:
May cause adverse reproductive effects and birth defects (teratogenic) based on animal test data.
May cause cancer based on animals data. IARC evidence for carcinogenicity in animals is sufficient. IARC evidence of carcinogenicity in humans inadequate.
May affect genetic material (mutagenic).

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects:
Skin: Can cause mild skin irritation. It can be absorbed through intact skin.
Eyes: Contact with vapor or liquid can cause severe eye irritation depending on concentration. It may also cause conjunctivitis. At a vapor exposure level of 85 - 200 ppm , it is mildly and transiently irritating to the eyes; 1000 ppm causes further irritation and tearing; 2000 ppm results in immediate and severe irritation and tearing; 5,000 ppm is intolerable (ACGIH, 1991; Clayton and Clayton, 1994). Standard draize test for eye irritation using 500 mg resulted in severe irritation (RTECS)
Inhalation: Exposure to high concentrations can cause nasal, mucous membrane and respiratory tract irritation and can also result in chest constriction and, trouble breathing, respiratory failure, and even death. It can also affect behavior/Central Nervous System. The effective dose for CNS depression in experimental animals was 10,000 ppm (ACGIH, 1991). Symptoms of CNS depression include headache, nausea, weakness, dizziness, vertigo, irritability, fatigue, lightheadedness, sleepiness, tremor, loss of coordination, judgement and conciousness, coma, and death. It can also cause pulmonary edema. Inhalation of 85 ppm can produce fatigue, insomnia, headache, and mild irritation of the respiratory tract (Haley & Berndt, 1987).
Ingestion: Do not drink, pipet or siphon by mouth. May cause gastroinestinal/digestive tract irritation with Abdominal pain, nausea, vomiting. Ethylbenzene is a pulmonary aspiration hazard. Pulmonary aspiration of even small amounts of the liquid may cause fatal pneumonitis. It may also affect behavior/central nervous system with

Section 12: Ecological Information

Ecotoxicity:
Ecotoxicity in water (LC50): 14 mg/l 96 hours [Fish (Trout)] (static). 12.1 mg/l 96 hours [Fish (Fathead Minnow)] (flow-through)]. 150 mg/l 96 hours [Fish (Blue Gill/Sunfish)] (static). 275 mg/l 96 hours [Fish (Sheepshead Minnow)]. 42.3 mg/l 96 hours [Fish (Fathead Minnow)](soft water). 87.6mg/l 96 hours [Shrimp].

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Ethylbenzene UNNA: 1175 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
Connecticut hazardous material survey.: Ethylbenzene
Illinois toxic substances disclosure to employee act: Ethylbenzene
Illinois chemical safety act: Ethylbenzene
New York release reporting list: Ethylbenzene
Rhode Island RTK hazardous substances: Ethylbenzene
Pennsylvania RTK: Ethylbenzene
Minnesota: Ethylbenzene
Massachusetts RTK: Ethylbenzene
Massachusetts spill list: Ethylbenzene
New Jersey: Ethylbenzene
New Jersey spill list: Ethylbenzene
Louisiana spill reporting: Ethylbenzene
California Director's List of Hazardous Substances: Ethylbenzene
TSCA 8(b) inventory: Ethylbenzene
TSCA 4(a) proposed test rules: Ethylbenzene
TSCA 8(d) H and S data reporting: Ethylbenzene: Effective Date: 6/19/87; Sunset Date: 6/19/97
SARA 313 toxic chemical notification and release reporting: Ethylbenzene

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
CLASSE D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):
R11- Highly flammable.
R20- Harmful by inhalation.
S16- Keep away from sources of ignition - No smoking.
S24/25- Avoid contact with skin and eyes.
S29- Do not empty into drains.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves.
Lab coat.
Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Splash goggles.

Section 16: Other Information

References:
-Manufacturer's Material Safety Data Sheet.
-Fire Protection Guide to Hazardous Materials, 13th ed., National Fire Protection Association (NFPA)
-Registry of Toxic Effects of Chemical Substances (RTECS)
-Chemical Hazard Response Information System (CHRIS)
-Hazardous Substance Data Bank (HSDB)
-New Jersey Hazardous Substance Fact Sheet
-Ariel Global View
-Reprotext System

Other Special Considerations: Not available.

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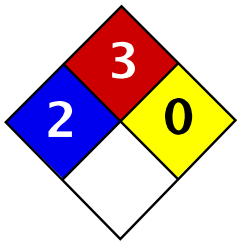

Health	2
Fire	3
Reactivity	0
Personal Protection	H

Material Safety Data Sheet
Toluene-d8 MSDS

Section 1: Chemical Product and Company Identification

Product Name: Toluene-d8

Catalog Codes: SLT3583

CAS#: 2037-26-5

RTECS: Not available.

TSCA: TSCA 8(b) inventory: Toluene-d8

CI#: Not available.

Synonym: Octdeuterotoluene

Chemical Name: Toluene-d8

Chemical Formula: C6-D5-C-D3

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Toluene-d8	2037-26-5	100

Toxicological Data on Ingredients: Toluene-d8: ORAL (LD50): Acute: 636 mg/kg [Rat]. 2600 mg/kg [Rat]. DERMAL (LD50): Acute: 14100 mg/kg [Rabbit]. VAPOR (LC50): Acute: 49000 ppm 4 hour(s) [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant). Slightly hazardous in case of skin contact (permeator).

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance is toxic to mucous membranes, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.
Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: Not available.

Flash Points: CLOSED CUP: 10.2°C (50.4°F).

Flammable Limits: Not available.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances:
Extremely flammable in presence of open flames and sparks, of heat.
Highly flammable in presence of oxidizing materials.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
Flammable liquid, soluble or dispersed in water.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:
Flammable liquid.
Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapour/spray. Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes Keep away from incompatibles such as reducing agents.

Storage:
Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 50 (ppm) from ACGIH (TLV) [1995]
TWA: 188 (mg/m3) from ACGIH (TLV) [1995]
Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Benzene-like.

Taste: Not available.

Molecular Weight: 100.19 g/mole

Color: Colorless.

pH (1% soln/water): Not available.

Boiling Point: 110°C (230°F)

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: 1.6 ppm

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Very slightly dispersed in cold water.

Solubility: Very slightly soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Highly reactive with reducing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.
Acute oral toxicity (LD50): 636 mg/kg [Rat].
Acute dermal toxicity (LD50): 14100 mg/kg [Rabbit].
Acute toxicity of the vapor (LC50): 49000 ppm 4 hour(s) [Rat].

Chronic Effects on Humans:
The substance is toxic to mucous membranes, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Other Toxic Effects on Humans:
Very hazardous in case of ingestion.
Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:
Passes through the placental barrier in human. Detected in maternal milk in human. Embryotoxic and/or foetotoxic in animal.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: Class 3: Flammable liquid.

Identification: : Flammable liquids n.o.s.(Toluene) : UN1294 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Toluene-d8
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Toluene-d8
Pennsylvania RTK: Toluene-d8
Massachusetts RTK: Toluene-d8
TSCA 8(b) inventory: Toluene-d8
SARA 313 toxic chemical notification and release reporting: Toluene-d8
CERCLA: Hazardous substances.: Toluene-d8

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):
CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R11- Highly flammable.
R22- Harmful if swallowed.
R36/37/38- Irritating to eyes, respiratory system and skin.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves.
Lab coat.
Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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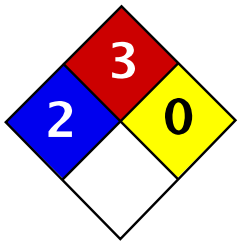

Health	2
Fire	3
Reactivity	0
Personal Protection	H

Material Safety Data Sheet
Xylenes MSDS

Section 1: Chemical Product and Company Identification

Product Name: Xylenes

Catalog Codes: SLX1075, SLX1129, SLX1042, SLX1096

CAS#: 1330-20-7

RTECS: ZE2100000

TSCA: TSCA 8(b) inventory: Xylenes

CI#: Not available.

Synonym: Xylenes; Dimethylbenzene; xylol; methyltoluene

Chemical Name: Xylenes (o-, m-, p- isomers)

Chemical Formula: C6H4(CH3)2

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Xylenes	1330-20-7	100

Toxicological Data on Ingredients: Xylenes: ORAL (LD50): Acute: 4300 mg/kg [Rat]. 2119 mg/kg [Mouse]. DERMAL (LD50): Acute: >1700 mg/kg [Rabbit].

Section 3: Hazards Identification

Potential Acute Health Effects: Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance may be toxic to blood, kidneys, liver, mucous membranes, bone marrow, central nervous system (CNS).
Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact:
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 464°C (867.2°F)

Flash Points: CLOSED CUP: 24°C (75.2°F). (Tagliabue.) OPEN CUP: 37.8°C (100°F).

Flammable Limits: LOWER: 1% UPPER: 7%

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances:
Highly flammable in presence of open flames and sparks, of heat.
Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available.
Slightly explosive in presence of open flames and sparks, of heat.

Fire Fighting Media and Instructions:
Flammable liquid, soluble or dispersed in water.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards: Vapors may travel to source of ignition and flash back.

Special Remarks on Explosion Hazards:
Vapors may form explosive mixtures with air.
Containers may explode when heated.

May polymerize explosively when heated.
An attempt to chlorinate xylene with 1,3-Dichloro-5,5-dimethyl-2,4-imidazolidindione (dichlorohydrantoin) caused a violent explosion

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:
Flammable liquid.
Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.

Storage:
Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 100 (ppm) [Canada]
TWA: 435 (mg/m3) [Canada]
TWA: 434 STEL: 651 (mg/m3) from ACGIH (TLV) [United States]
TWA: 100 STEL: 150 (ppm) from ACGIH (TLV) [United States]
Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Sweetish.

Taste: Not available.

Molecular Weight: 106.17 g/mole

Color: Colorless. Clear

pH (1% soln/water): Not available.

Boiling Point: 138.5°C (281.3°F)

Melting Point: -47.4°C (-53.3°F)

Critical Temperature: Not available.

Specific Gravity: 0.864 (Water = 1)

Vapor Pressure: 0.9 kPa (@ 20°C)

Vapor Density: 3.7 (Air = 1)

Volatility: Not available.

Odor Threshold: 1 ppm

Water/Oil Dist. Coeff.: The product is more soluble in oil; log(oil/water) = 3.1

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility:
Insoluble in cold water, hot water.
Miscible with absolute alcohol, ether, and many other organic liquids.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources, incompatibles

Incompatibility with various substances: Reactive with oxidizing agents, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Store away from acetic acid, nitric acid, chlorine, bromine, and fluorine.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.
Acute oral toxicity (LD50): 2119 mg/kg [Mouse].

Acute dermal toxicity (LD50): >1700 mg/kg [Rabbit].
Acute toxicity of the vapor (LC50): 5000 4 hours [Rat].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC.
May cause damage to the following organs: blood, kidneys, liver, mucous membranes, bone marrow, central nervous system (CNS).

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals:
Lowest Lethal Dose:
LDL [Human] - Route: Oral; Dose: 50 mg/kg
LCL [Man] - Route: Oral; Dose: 10000 ppm/6H

Special Remarks on Chronic Effects on Humans:
Detected in maternal milk in human. Passes through the placental barrier in animal. Embryotoxic and/or foetotoxic in animal.
May cause adverse reproductive effects (male and femael fertility (spontaneous abortion and fetotoxicity)) and birth defects based animal data.

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects:
Skin: Causes skin irritation. Can be absorbed through skin.
Eyes: Causes eye irritation.
Inhalation: Vapor causes respiratory tract and mucous membrane irritation. May affect central nervous system and behavior (General anesthetic/CNS depressant with effects including headache, weakness, memory loss, irritability, dizziness, giddiness, loss of coordination and judgement, respiratory depression/arrest or difficulty breathing, loss of appetite, nausea, vomiting, shivering, and possible coma and death). May also affects blood, sense organs, liver, and peripheral nerves.
Ingestion: May cause gastrointestinal irritation including abdominal pain, vomiting, and nausea. May also affect liver and urinary system/kidneys. May cause effects similar to those of acute inhalation.
Chronic Potential Health Effects:
Chronic inhalation may affect the urinary system (kidneys) blood (anemia), bone marrow (hyperplasia of bone marrow) brain/behavior/Central Nervous system. Chronic inhalation may alsocause mucosal bleeding.
Chronic ingestion may affect the liver and metabolism (loss of appetite) and may affect urinary system (kidney damage)

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Xylenes UNNA: 1307 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
Connecticut hazardous material survey.: Xylenes
Illinois chemical safety act: Xylenes
New York acutely hazardous substances: Xylenes
Rhode Island RTK hazardous substances: Xylenes
Pennsylvania RTK: Xylenes
Minnesota: Xylenes
Michigan critical material: Xylenes
Massachusetts RTK: Xylenes
Massachusetts spill list: Xylenes
New Jersey: Xylenes
New Jersey spill list: Xylenes
Louisiana spill reporting: Xylenes
California Director's List of Hazardous Substances: Xylenes
TSCA 8(b) inventory: Xylenes
SARA 302/304/311/312 hazardous chemicals: Xylenes
SARA 313 toxic chemical notification and release reporting: Xylenes
CERCLA: Hazardous substances.: Xylenes: 100 lbs. (45.36 kg)

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R10- Flammable.
R21- Harmful in contact with skin.
R36/38- Irritating to eyes and skin.
S2- Keep out of the reach of children.
S36/37- Wear suitable protective clothing and gloves.
S46- If swallowed, seek medical advice immediately and show this container or label.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves.
Lab coat.
Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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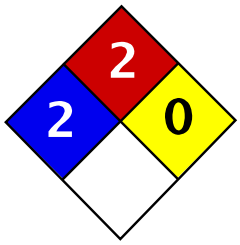

Health	2
Fire	2
Reactivity	0
Personal Protection	E

Material Safety Data Sheet
Naphthalene MSDS

Section 1: Chemical Product and Company Identification

Product Name: Naphthalene

Catalog Codes: SLN1789, SLN2401

CAS#: 91-20-3

RTECS: QJ0525000

TSCA: TSCA 8(b) inventory: Naphthalene

CI#: Not available.

Synonym:

Chemical Name: Not available.

Chemical Formula: C10H8

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Naphthalene	91-20-3	100

Toxicological Data on Ingredients: Naphthalene: ORAL (LD50): Acute: 490 mg/kg [Rat]. 533 mg/kg [Mouse]. 1200 mg/kg [Guinea pig]. DERMAL (LD50): Acute: 20001 mg/kg [Rabbit]. VAPOR (LC50): Acute: 170 ppm 4 hour(s) [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of ingestion. Hazardous in case of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (irritant, permeator). Severe over-exposure can result in death.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Classified Development toxin [POSSIBLE].
The substance is toxic to blood, kidneys, the nervous system, the reproductive system, liver, mucous membranes, gastrointestinal tract, upper respiratory tract, central nervous system (CNS).
Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact: Not available.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:
Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 567°C (1052.6°F)

Flash Points: CLOSED CUP: 88°C (190.4°F). OPEN CUP: 79°C (174.2°F).

Flammable Limits: LOWER: 0.9% UPPER: 5.9%

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances: Not available.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
Flammable solid.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:
Flammable solid.
Stop leak if without risk. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep locked up Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Avoid contact with eyes Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents.

Storage:
Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. Keep container dry. Keep in a cool place.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:
Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
Israel: TWA: 10 (ppm)
TWA: 10 STEL: 15 (ppm) from ACGIH (TLV) [1995]
TWA: 52 STEL: 79 (mg/m3) from ACGIH [1995]
Australia: STEL: 15 (ppm)
Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Crystalline solid.)

Odor: Aromatic.

Taste: Not available.

Molecular Weight: 128.19 g/mole

Color: White.

pH (1% soln/water): Not available.

Boiling Point: 218°C (424.4°F)

Melting Point: 80.2°C (176.4°F)

Critical Temperature: Not available.

Specific Gravity: 1.162 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: 4.4 (Air = 1)

Volatility: Not available.

Odor Threshold: 0.038 ppm

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties:
Partially dispersed in hot water, methanol, n-octanol.
Very slightly dispersed in cold water.
See solubility in methanol, n-octanol.

Solubility:
Partially soluble in methanol, n-octanol.
Very slightly soluble in cold water, hot water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Highly reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: May attack some forms of rubber and plastic

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.
Acute oral toxicity (LD50): 490 mg/kg [Rat].
Acute dermal toxicity (LD50): 20001 mg/kg [Rabbit].
Acute toxicity of the vapor (LC50): 170 ppm 4 hour(s) [Rat].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.

DEVELOPMENTAL TOXICITY: Classified Development toxin [POSSIBLE].
The substance is toxic to blood, kidneys, the nervous system, the reproductive system, liver, mucous membranes, gastrointestinal tract, upper respiratory tract, central nervous system (CNS).

Other Toxic Effects on Humans:
Very hazardous in case of ingestion.
Hazardous in case of inhalation.
Slightly hazardous in case of skin contact (irritant, permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Ecotoxicity in water (LC50): 305.2 ppm 96 hour(s) [Trout].

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: CLASS 4.1: Flammable solid.

Identification: : Naphthalene, refined : UN1334 PG: III

Special Provisions for Transport: Marine Pollutant

Section 15: Other Regulatory Information

Federal and State Regulations:
Rhode Island RTK hazardous substances: Naphthalene
Pennsylvania RTK: Naphthalene
Florida: Naphthalene
Minnesota: Naphthalene
Massachusetts RTK: Naphthalene
TSCA 8(b) inventory: Naphthalene
TSCA 8(a) PAIR: Naphthalene
TSCA 8(d) H and S data reporting: Naphthalene: 06/01/87
SARA 313 toxic chemical notification and release reporting: Naphthalene: 1%
CERCLA: Hazardous substances.: Naphthalene: 100 lbs. (45.36 kg)

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS B-4: Flammable solid.
CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):
R36- Irritating to eyes.
R40- Possible risks of irreversible effects.
R48/22- Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R48/23- Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R63- Possible risk of harm to the unborn child.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 2

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 2

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves.
Lab coat.
Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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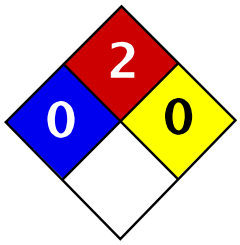
Last Updated: 10/11/2005 01:30 PM

Safety (MSDS) data for 1,2,4-trimethylbenzene

Safety (MSDS) data for 1,2,4-trimethylbenzene

General
  Synonyms: pseudocumene
  Molecular formula: C9H12
  CAS No: 95-63-6
  EINECS No: 202-436-9
Physical data
  Appearance: colourless liquid
  Melting point: -43.8 C
  Boiling point: 169 C
  Vapour density:
  Vapour pressure:
  Density (g cm-3): 0.876
  Flash point: 48 C
  Explosion limits:
  Autoignition temperature:
  Water solubility: slightly soluble
Stability
  Stable. Incompatible with strong oxidizing agents. Flammable. May form explosive mixtures with air.
Toxicology
  Typical STEL 35 ppm. Typical TWA 25 ppm. May be harmful by ingestion, inhalation or through skin contact. Skin, eye and respiratory irritant.
  Toxicity data
  (The meaning of any toxicological abbreviations which appear in this section is given here.)
  ORL-RAT LD50 5000 mg kg-1
  IPN-RAT LDLO 2000 mg kg-1
  IHL-MUS 8147 ppm acute
  IPN-GPG LDLO 1566 mg kg-1
  Risk phrases
  (The meaning of any risk phrases which appear in this section is given here.)
  R36 R37 R38.
Transport information
Personal protection
  Safety glasses, adequate ventilation.
[Return to Physical & Theoretical Chemistry Lab. Safety home page.]



Health	0
Fire	2
Reactivity	0
Personal Protection	H

Material Safety Data Sheet
Mesitylene MSDS

Section 1: Chemical Product and Company Identification

Product Name: Mesitylene

Catalog Codes: SLM2410

CAS#: 108-67-8

RTECS: OX6825000

TSCA: TSCA 8(b) inventory: Mesitylene

CI#: Not available.

Synonym: 1,3,5-Trimethylbenzene

Chemical Formula: C9H12

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Mesitylene	108-67-8	100

Toxicological Data on Ingredients: Mesitylene: VAPOR (LC50): Acute: 4881.9 ppm 4 hour(s) [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of eye contact (irritant), of ingestion, of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant, permeator), .

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes,

keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact: Not available.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 559°C (1038.2°F)

Flash Points: CLOSED CUP: 43°C (109.4°F).

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances: Not available.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
Flammable liquid, soluble or dispersed in water.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:
Flammable liquid.
Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Be careful that the product is not present at a

concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapour/spray. Avoid contact with eyes Wear suitable protective clothing If ingested, seek medical advice immediately and show the container or the label.

Storage:
Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. Keep container dry. Keep in a cool place.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 25 CEIL: 35 (ppm)
TWA: 125 CEIL: 170 (mg/m3)
Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Aromatic.

Taste: Not available.

Molecular Weight: 120.2 g/mole

Color: Not available.

pH (1% soln/water): Not available.

Boiling Point: 164.7°C (328.5°F)

Melting Point: -44.8°C (-48.6°F)

Critical Temperature: Not available.

Specific Gravity: 0.8637 (Water = 1)

Vapor Pressure: 1.86 mm of Hg (@ 20°C)

Vapor Density: 4.14 (Air = 1)

Volatility: Not available.

Odor Threshold: 0.23 ppm

Water/Oil Dist. Coeff.: The product is equally soluble in oil and water; log(oil/water) = 0

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Very slightly soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Not available.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Eye contact. Ingestion.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.
Acute toxicity of the vapor (LC50): 4881.9 ppm 4 hour(s) [Rat].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans:
Hazardous in case of ingestion, of inhalation (lung irritant).
Slightly hazardous in case of skin contact (irritant, permeator), .

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: Class 3: Flammable liquid.

Identification: : 1,3,5-Trimethylbenzene : UN2325 PG: III

Special Provisions for Transport: Marine Pollutant

Section 15: Other Regulatory Information

Federal and State Regulations:
Florida: Mesitylene
New Jersey: Mesitylene
TSCA 8(b) inventory: Mesitylene

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).

DSCL (EEC):
R10- Flammable.
R36/37- Irritating to eyes and respiratory system.

HMIS (U.S.A.):

Health Hazard: 0

Fire Hazard: 2

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 0

Flammability: 2

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves.
Lab coat.
Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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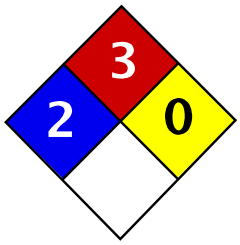

Health	2
Fire	3
Reactivity	0
Personal Protection	H

Material Safety Data Sheet
Methyl tert-butyl ether MSDS

Section 1: Chemical Product and Company Identification

Product Name: Methyl tert-butyl ether

Catalog Codes: SLM2152

CAS#: 1634-04-4

RTECS: KN5250000

TSCA: TSCA 8(b) inventory: Methyl tert-butyl ether

CI#: Not available.

Synonym:

Chemical Name: Methyl tert-Butyl Ether

Chemical Formula: C5-H12-O

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Methyl {tert-}butyl ether	1634-04-4	100

Toxicological Data on Ingredients: Methyl tert-butyl ether: ORAL (LD50): Acute: 4000 mg/kg [Rat]. 5960 mg/kg [Mouse]. VAPOR (LC50): Acute: 23576 ppm 4 hour(s) [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Extremely hazardous in case of eye contact (irritant), of ingestion. Very hazardous in case of skin contact (irritant), of inhalation. Hazardous in case of skin contact (permeator). Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:
Extremely hazardous in case of eye contact (irritant), of ingestion.
Very hazardous in case of skin contact (irritant), of inhalation.
Hazardous in case of skin contact (permeator).
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.

The substance is toxic to lungs, the nervous system, mucous membranes.
Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged inhalation of vapors may lead to chronic respiratory irritation.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 224°C (435.2°F)

Flash Points: CLOSED CUP: -28°C (-18.4°F).

Flammable Limits: LOWER: 2.5% UPPER: 15.1%

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances: Flammable in presence of open flames and sparks.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
Flammable liquid, soluble or dispersed in water.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill:
Flammable liquid.
Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapour/spray. In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes

Storage:
Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Characteristic. (Strong.)

Taste: Not available.

Molecular Weight: 88.15 g/mole

Color: Clear Colorless.

pH (1% soln/water): Not available.

Boiling Point: 55.2°C (131.4°F)

Melting Point: -109°C (-164.2°F)

Critical Temperature: Not available.

Specific Gravity: 0.7405 (Water = 1)

Vapor Pressure: 245 mm of Hg (@ 20°C)

Vapor Density: 3.1 (Air = 1)

Volatility: 100% (v/v).

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol, diethyl ether.

Solubility:
Soluble in methanol, diethyl ether.
Partially soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Not available.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.
Acute oral toxicity (LD50): 4000 mg/kg [Rat].
Acute toxicity of the vapor (LC50): 23576 ppm 4 hour(s) [Rat].

Chronic Effects on Humans: The substance is toxic to lungs, the nervous system, mucous membranes.

Other Toxic Effects on Humans:
Extremely hazardous in case of ingestion.
Very hazardous in case of skin contact (irritant), of inhalation.
Hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: Class 3: Flammable liquid.

Identification: : Methyl tert-butyl ether : UN2398 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
Pennsylvania RTK: Methyl tert-butyl ether
Massachusetts RTK: Methyl tert-butyl ether
TSCA 8(b) inventory: Methyl tert-butyl ether
SARA 313 toxic chemical notification and release reporting: Methyl tert-butyl ether
CERCLA: Hazardous substances.: Methyl tert-butyl ether

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):
CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R11- Highly flammable.
R38- Irritating to skin.
R41- Risk of serious damage to eyes.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves.
Lab coat.
Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 08:23 PM

Last Updated: 10/10/2005 08:23 PM

WESTFORD CHEMICAL CORPORATIO -- BIOSOLVE,2001-55

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MSDS Safety Information

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FSC: 6850
NIIN: 01-453-4865
MSDS Date: 01/01/1998
MSDS Num: CJFSP
Product ID: BIOSOLVE,2001-55
MFN: 01
Responsible Party
Cage: 07JN0
Name: THE WESTFORD CHEMICAL CORPORATION
Box: 798
City: WESTFORD MA 01886
Info Phone Number: 978-392-0689 OR 508-885-1113
Emergency Phone Number: 800-225-3909
Resp. Party Other MSDS No.: 2001

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Item Description Information

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Item Manager: S9G
Item Name: CLEANING COMPOUND,SOLVENT
Unit of Issue: DR
Quantitative Expression: 00000000055GL
UI Container Qty: 0
Type of Container: DRUM

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Ingredients

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Name: *** PROPRIETARY ***

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Health Hazards Data

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LD50 LC50 Mixture: LD50 (ORAL, RAT) N/K
Route Of Entry Inds - Inhalation: NO
Skin: NO
Ingestion: NO
Carcinogenicity Inds - NTP: NO
IARC: NO
OSHA: NO
Effects of Exposure: TARGET ORGANS: EYE, SKIN, AND GASTROINTESTINAL TRACTS.
ACUTE - INHALATION IS UNLIKELY TO OCCUR. LIQUID CONTACT WITH EYES MAY RESULT IN MODERATE IRRITATION AND REDNESS. LIQUID CONTACT WITH SKIN MAY RES ULT IN REDNESS, EDEMA, DRYING OF SKIN. MAY BE HARMFUL IF INGESTED. CHRONIC - UNKNOWN.
Explanation Of Carcinogenicity: NONE
Signs And Symptions Of Overexposure: IRRITATION, REDNESS, EDEMA, DRYING OF SKIN
Medical Cond Aggravated By Exposure: PERSONS WITH PRE-EXISTING SKIN DISORDERS, EYE PROBLEMS MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS PRODUCT.
First Aid: GET MEDICAL HELP IF SYMPTOMS PERSIST. INHALED: NONE CONSIDERED NECESSARY. EYES: IMMEDIATELY FLUSH THOROUGHLY WITH WATER FOR 15 MINUTES. HOLD EYELIDS OPEN. GET MEDICAL ATTENTION. SKIN: REMOVE CONTAMINA TED CLOTHING. WASHEXPOSED AREAS WITH SOAP AND WATER. WASH CLOTHING BEFORE REUSE. INGESTION: GET MEDICAL ATTENTION.

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Handling and Disposal

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Spill Release Procedures: SMALL SPILLS IN AN UNDILUTED FORM, CONTAIN. SOAK UP

WITH ABSORBENT MATERIALS. LARGE SPILLS, IN UNDILUTED FORM, DIKE AND CONTAIN. REMOVE WITH VACUUM TRUCK OR PUMP TO STORAGE/SALVAGE VESSEL. SOAK UP RES IDUE WITH ABSORBENT MATERIALS. WASH SPILL AREA WITH WATER.
Waste Disposal Methods: DISPOSE IN AN APPROVED DISPOSAL AREA OR IN A MANNER WHICH COMPLIES WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
Handling And Storage Precautions: USE GOOD NORMAL HYGIENE. STORE BETWEEN 35F AND 120F. SHELF LIFE IS UNLIMITED FOR UNOPEND PRODUCT.
Other Precautions: THIS PRODUCT DOES NOT CONTAIN ANY HAZARDOUS INGREDIENTS AS DEFINED BY CERCLA, MASSACHUSETTS RIGHT TO KNOWN LAW AND CALIFORNIA PROP 65.

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Fire and Explosion Hazard Information

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Extinguishing Media: NA
Fire Fighting Procedures: NA
Unusual Fire/Explosion Hazard: NONE. SOLVENT FOR CLEANUP:WATER.

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Control Measures

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Respiratory Protection: NOT NECESSARY.
Ventilation: VENTILATION REQUIRED:NORMAL.
Protective Gloves: RUBBER, PLASTIC
Eye Protection: SAFETY GLASSES
Other Protective Equipment: EYE BATH, WASHING FACILITY, LAB COAT OR UNIFORM.
Work Hygienic Practices: OBSERVE GOOD INDUSTRIAL HYGIENE PRACTICES AND RECOMMENDED PROCEDURES. WASH AFTER HANDLING AND BEFORE EATING, DRINKING OR SMOKING.

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Physical/Chemical Properties

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HCC: N1
Boiling Point: =129.4C, 265.F
Melt/Freeze Pt: =0.C, 32.F
Vapor Density: NA AIR=1
Spec Gravity: 1.006+/-.01
PH: 8.81+/-0.5
Viscosity: 490 CPS (6% SOL=15 CPS)
Evaporation Rate & Reference: >1 COMPARED TO H20
Solubility in Water: COMPLETE
Appearance and Odor: CLEAR LIQUID UNLESS DYED; PLEASANT FRAGRANCE
Percent Volatiles by Volume: NA

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Reactivity Data

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Stability Indicator: YES
Materials To Avoid: NONE KNOWN
Hazardous Decomposition Products: NA
Hazardous Polymerization Indicator: NO

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Transportation Information

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Responsible Party Cage: 07JN0
Trans ID NO: 142891
Product ID: BIOSOLVE,2001-55
MSDS Prepared Date: 01/01/1998
Review Date: 05/19/1999
MFN: 1
Net Unit Weight: 460.9 LBS
Multiple KIT Number: 0
Unit Of Issue: DR
Container QTY: 0

Type Of Container: DRUM
Additional Data: NOT REGULATED FOR TRANSPORTATION, PER MSDS.
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Detail DOT Information
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DOT PSN Code: ZZZ
DOT Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION
==========
Detail IMO Information
==========
IMO PSN Code: ZZZ
IMO Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION
==========
Detail IATA Information
==========
IATA PSN Code: ZZZ
IATA Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION
==========
Detail AFI Information
==========
AFI PSN Code: ZZZ
AFI Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION
==========
HAZCOM Label
==========
Product ID: BIOSOLVE,2001-55
Cage: 07JN0
Company Name: THE WESTFORD CHEMICAL CORPORATION
PO Box: 798
City: WESTFORD MA
Zipcode: 01886
Health Emergency Phone: 800-225-3909
Label Required IND: Y
Date Of Label Review: 05/19/1999
Status Code: A
Label Date: 01/01/1998
Year Procured: 1999
Origination
Eye Protection IND: YES
Skin Protection IND: YES
Signal Word: CAUTION
Respiratory Protection IND: NO
Health Hazard: Slight
Contact Hazard: Slight
Fire Hazard: None
Reactivity Hazard: None
Hazard And Precautions: TARGET ORGANS: EYE, SKIN, AND GASTROINTESTINAL TRACTS.
ACUTE - INHALATION IS UNLIKELY TO OCCUR. LIQUID CONTACT WITH EYES MAY RESULT IN MODERATE IRRITATION AND REDNESS. LIQUID CONTACT WITH SKIN MAY RES ULT IN REDNESS, EDEMA, DRYING OF SKIN. MAY BE HARMFUL IF INGESTED. CHRONIC - UNKNOWN.
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United States of America should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation regardless of similarity to a corresponding Department of Defense or other government situation.

ATTACHMENT B
ON-SITE SAFETY MEETING FORMS

DAILY
ON-SITE SAFETY MEETING

Project:_____
Date:_____ Time:_____ Job No.: _____
Address: 151-191 Mount Hope Avenue, Rochester, New York
_____
Scope of Work:_____
_____
_____

Weather Temp:_____ Wind direction/speed:_____
Sky Conditions:_____ Humidity:_____
Weather Conditions affecting work:_____
_____

Safety Topics Discussed

Protective Clothing/Equipment: _____
_____
_____
Chemical Hazards: _____
_____
Physical Hazardous: _____
_____
Personnel/Equipment Decontamination: _____
_____
Personnel/Job Functions: _____
_____
_____
Emergency Procedures: _____
_____
_____
Special Equipment: _____
_____
Other: _____
_____

Emergency Phone Numbers/Addresses

Ambulance, Fire, Police: 911
Hospital: Highland Hospital (585) 341-6880
Poison Control Center: (585) 275-3232
Electric or Gas Emergency: (585) 546-1100
NYSDEC: (585) 226-2466
NYSDOH: (585) 423-8067

On-Site Safety Meeting
ATTENDEES

Name Printed	Signature	Job Function

Meeting Conducted By:_____ _____
Name Printed Signature

Site Safety Officer _____ _____
Team Leader _____ _____