

**SITE MANAGEMENT PLAN**

**FORMER RAILROAD DEPOT  
490 RIVER STREET  
ROCHESTER, NEW YORK**

**NYSDEC SPILL #0170400**

**Prepared for:** City of Rochester  
Department of Environmental Services  
Division of Environmental Quality  
30 Church Street  
Rochester, New York

**Prepared by:** Day Environmental, Inc.  
40 Commercial Street  
Rochester, New York

**Project No.:** 4254S-09

**Date:** November 2009



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## **1.0 INTRODUCTION**

This site-specific Site Management Plan (SMP) was developed to address residual impacts from a leaking Underground Storage Tank (UST) previously used to store gasoline at the property located at 490 River Street, City of Rochester, County of Monroe, New York (Site). The location of the Site is depicted on the project locus map included as Figure 1. The approximately 1,000-gallon capacity UST was decommissioned and removed by the City of Rochester Department of Environmental Services, Division of Environmental Quality (DEQ) in November 2001. Additionally, approximately four cubic yards (CY) of gasoline impacted soil was removed from the UST excavation at that time. Laboratory testing of confirmatory soil samples collected from the UST excavation sidewalls and base, and from subsequent soil and groundwater samples collected from below the former tank location in 2002 and 2003, documented the presence of residual volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in soil and groundwater in the vicinity of the former UST location.

This SMP should be implemented when work performed at the Site has the potential to disturb soil/fill and/or groundwater in proximity to the former UST location that is shown on Figure 2.

### **1.1 Statement of Purpose**

The purpose of this SMP is to provide protocols for managing soil/fill and/or groundwater impacted with residual petroleum constituents that are associated with the former UST area shown on Figure 2, should such impacts be encountered during future construction activities at the Site. This SMP establishes goals, procedures, and appropriate response actions to be used by on-site personnel for handling and disposal/reuse of the residual petroleum impact associated with the former UST.

### **1.2 Site Description**

The Site is located on the west bank of the Genesee River within the City of Rochester, Monroe County, New York. A former railroad depot building, approximately 4,000 square feet in size, is located on the Site (refer to Figure 2).

## 2.0 SUMMARY OF SITE CONDITIONS

Based on the recommendations made by LaBella Associates, P.C. and the Sear-Brown Group, Inc. in draft and final Phase II Environmental Site Assessment (ESA) reports dated April 2001 and May 2001 (respectively), the DEQ decommissioned and removed a 1,000-gallon UST from a location approximately ten feet to the north-northeast of the existing building in November 2001. Upon removal of the UST, DEQ observed evidence of soil contamination at depths between five and eight feet below ground surface (bgs) in the sidewalls and base of the tank grave. Approximately four CY of contaminated soil were excavated from the bottom of the tank grave and subsequently transported and disposed off-site at High Acres Landfill in Perinton, New York. Confirmatory soil samples were collected from the base and sidewalls of the excavation (i.e., tank pit) prior to being backfilled.

Laboratory testing of the confirmatory samples collected from the base and sidewalls of the excavation indicated that residual VOCs and SVOCs remain in the subsurface soil surrounding the tank grave subsequent to removal of the tank and four CY of contaminated soil. The analytical laboratory report and chain-of-custody form for the confirmatory samples are attached in Appendix A.

In order to further assess the extent of contamination resulting from the UST, DEQ installed a monitoring well (designated GP-1) at the backfilled location of the former UST in February 2002. The approximate location of GP-1 is shown on Figure 2. Soil descriptions and Photoionization Detector (PID) readings recorded on the boring log from the well installation indicate the presence of petroleum hydrocarbon constituents in native soil at depths from approximately 8.0 feet bgs to the bottom of the boring at 16.0 feet. Bgs. The presence of groundwater was noted at approximately 12.5 feet bgs. A copy of the boring log for GP-1 is attached in Appendix B.

Laboratory testing of one soil sample (from a depth of 14-16 feet bgs) and one groundwater sample collected during the well installation indicated the presence of several VOCs and SVOCs. An additional groundwater sample collected from GP-1 in March 2003 also contained several VOCs and SVOCs. The analytical laboratory reports and chain-of-custody forms for the soil and groundwater samples collected from GP-1 are attached in Appendix A.

An exposure assessment was conducted to evaluate potential exposure to residual VOCs and SVOCs in the area of the former 1,000-gallon UST. The exposure assessment included preparation of an exposure pathway flowchart and comparison to NYSDEC Petroleum Spill Site Inactivation (PSSI) contaminant concentration limits. The findings of the exposure assessment identified the potential for exposure of construction workers and commercial workers to some VOCs and SVOCs during future intrusive activities or future commercial use at the Site.

### **3.0 SITE MANAGEMENT PLAN**

This SMP provides procedures to mitigate exposure to petroleum-impacted media that could be encountered during future construction activities or commercial use of the Site. In addition, this SMP provides information on how to identify impacted material, and also provides options for the management, disposal and/or re-use of impacted subsurface material. The procedures presented herein are intended to reduce potential exposure to construction workers and building occupants during future operation of the Site should impacted material be encountered that requires management. A site-specific Health and Safety Plan (HASP) that includes a Community Air Monitoring Program (CAMP) to be implemented during activities that disturb potentially impacted subsurface material is included in Appendix B of this SMP.

During construction activities that have the potential to disturb impacted subsurface materials, an environmental professional must monitor and document the work completed for compliance with the requirements of this SMP. In addition, the New York State Department of Environmental Conservation (NYSDEC) Spills Unit must be notified if residual petroleum-impacted media associated with the former UST is encountered. The owner of the Site is responsible for petroleum impacted media unless a different entity acceptable to the NYSDEC is identified as the responsible party.

#### **3.1 Petroleum-Impacted Media**

This section describes the petroleum-impacted media documented at the Site and provides information on the identification, handling, analytical laboratory testing, disposal or re-use of these materials.

##### **3.1.1 In-Field Identification**

During the decommissioning and removal of the UST and within the test boring advanced during the subsequent study, black stained soil/fill was observed at depths ranging from approximately 5 feet bgs to 16 feet bgs in proximity to the location of the former UST (refer to Figure 2). This impacted material emitted odors similar to gasoline. PID screening of ambient air above soil during the tank removal (5.0 to 8.0 feet bgs) resulted responses ranging between 0 ppm and 10 ppm. PID responses ranging between 870 ppm to over 2,000 ppm were recorded when the headspace above soil samples were screened. PID screening of headspace above soil samples from monitoring well (GP-1) ranged from 1.8 ppm and 33.8 ppm. For purposes of this SMP, soil/fill exhibiting the properties described above should be considered petroleum-impacted, and handled as such unless testing is done to quantify the constituents of this subsurface material.

The studies conducted to date have identified groundwater within the overburden at the location of monitoring well GP-1 at depths ranging between 12.5 feet and 16.0 feet bgs. If groundwater is encountered during construction activities at the Site, it could be impacted by petroleum-related constituents (e.g., VOCs). Groundwater impacted with petroleum-related constituents could be characterized by the presence of a rainbow colored sheen, gasoline-type odors, or elevated PID responses.

### **3.1.2 Handling**

Petroleum-impacted soil/fill that is excavated or disturbed should be removed, segregated from non-impacted media, and placed on, and covered with, plastic sheeting. Alternatively, the petroleum-impacted material can be placed in 55-gallon drums or a roll-off disposal container (depending on the quantity of material generated), or the material may be directly loaded onto trucks for off-site disposal (refer to Section 3.1.4).

Groundwater or standing water removed from excavations containing a measurable amount of free product or sheen must be containerized (i.e., placed in sealed New York State Department of Transportation (NYSDOT)-approved 55-gallon drums or a holding tank) prior to characterization and disposal.

### **3.1.3 Analytical Laboratory Testing**

Based on previous test results for samples from the tank pit, the recommended analytical laboratory testing program for petroleum-impacted media (soil, fill, groundwater) in the former UST area is summarized below:

- NYSDEC Spill Technology and Remediation Series (STARS)-list VOCs via United States Environmental Protection Agency (USEPA) Method 8260
- NYSDEC STARS-list SVOCs via USEPA Method 8270

The actual analytical laboratory testing program may vary depending on the nature of the soil, fill, and groundwater encountered, and requirements of the disposal facility or publicly-owned treatment works (POTW).

The analytical laboratory test results for characterization samples should be compared to the appropriate criteria listed below.

- Part 371 waste criteria to assist in evaluating if the material is a hazardous waste or a non-hazardous waste.
- NYSDEC Part 375-6 Soil Cleanup Objectives (SCOs), NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 Recommended Soil Cleanup Objectives (RSCOs), and NYSDEC STARS Memo #1 petroleum soil guidance values to assist in determining if soil or fill media require removal, off-site disposal and/or treatment, or can be re-used on-site.
- Technical and Operational Guidance Series (NYSDEC TOGS 1.1.1) groundwater standards and guidance values to assist in determining if groundwater: 1) can be discharged on-site; 2) requires pre-treatment and/or can be discharged to the public combined sewer system under a sewer use permit; or 3) requires off-site disposal at a regulated treatment/disposal facility.
- Applicable portions of the Monroe County Pure Waters (MCPW) Rules and Regulations, and Sewer Use Law, to assist in determining if water from the Site (groundwater, excavation water, well water, etc.) requires pre-treatment and/or can be discharged to the public combined sewer under a Sewer Use Permit, or requires off-site disposal at a treatment/disposal facility.

### **3.1.4 Disposal of Petroleum-Impacted Media**

Comparison of analytical laboratory test results to the appropriate criteria may indicate that petroleum-impacted soil and/or fill encountered during construction activities at the Site requires disposal off-site in accordance with applicable regulations. In addition, excavated subsurface material may require off-site disposal due to construction requirements (e.g., geotechnical considerations, space available on-site for storage and subsequent re-use, etc.). Based on existing data and information, the petroleum-impacted fill and/or soil that contains VOCs and SVOCs described herein will likely be characterized as non-hazardous waste.

Water (e.g., groundwater, standing water) that is generated/removed during construction activities (if any) that meet TOGS 1.1.1 groundwater standards and guidance values can be discharged on-site. Water that is generated and removed during construction activities at the Site (if any) that does not meet TOGS 1.1.1 groundwater standards and guidance values must be: 1) discharged to the public combined sewer under a sewer use permit; or, 2) transported and disposed off-site at a regulated facility. If the water contains free phase gasoline, petroleum sheen, or a total VOC and SVOC concentration greater than 2.13 mg/l, it should be anticipated that MCPW will require pre-treatment and confirmatory sampling prior to authorizing discharge to the public combined sewer system under a sewer use permit.

Transporters removing contaminated media from the Site must have the appropriate regulatory permits (e.g., NYSDEC Part 364 permit, etc.), and the selected disposal facility of each waste stream (e.g., soil/fill to landfill, water to POTW, etc.) must be approved by the appropriate regulatory agency for accepting the specific waste. This includes contaminated material that may be defined as non-hazardous waste and hazardous waste.

### **3.1.5 Re-Use of Soil or Fill**

Soil or fill material that does not contain petroleum constituents above TAGM 4046 RSCOs can be left in place, but cannot be re-used onsite. Soil that meets STARS Memo #1 guidance values can be used anywhere on-site, including within the top 2 feet of finished grade or in planter boxes. However, to the extent deemed appropriate, geotechnical properties of the soil or fill should be considered prior to it being re-used on-site.

## **3.2 Health and Safety Plan and Air Monitoring**

During future construction work at the Site that has the potential to encounter petroleum-impacted media, such as that described in Section 3.1.1, the site-specific HASP with CAMP included in Appendix C must be implemented. The HASP and CAMP outline policies and procedures to protect workers and the public from potential environmental hazards posed during future site activities, including redevelopment activities.

## **3.3 Management of Potential Future Disturbances**

Workers involved with future on-site work (e.g., new installation/repair of buried utilities, etc.) that have the potential to disturb petroleum-impacted soil, fill and/or groundwater should be made aware of the potential exposure hazards. The owner of the Site will be responsible for



notifying future on-site workers of potential exposure hazards. Workers should be provided with the previous reports, the exposure assessment, and this SMP, which includes the associated HASP/CAMP. These documents contain information on the type and location of petroleum-impact encountered in the area of the former UST, and address how to handle, treat, transport, dispose, or re-use the impacted materials in a manner that precludes exposure. Precautions should be implemented to minimize disturbance of soil or fill that result in air-borne release of particulates. Areas where work has been completed should be repaired (e.g., clean soil/fill re-applied, paved, etc.).

#### **4.0 ENGINEERING CONTROLS**

The potential for vapor intrusion in to the existing building or future buildings should be evaluated. If vapor intrusion is a concern, engineering controls in the form of a vapor barrier, sub-slab depressurization system, etc., may be warranted in the existing or future buildings as part of the redevelopment of this Site. In the event engineering controls are deemed necessary, the appropriate regulatory agencies (i.e., MCDPH, the NYSDEC, and/or the NYSDOH) should be consulted to approve or accept the proposed controls.

## 5.0 DELIVERABLES

If applicable, the following deliverables will be provided to the owner, and copies will be available to appropriate regulatory agencies upon request:

- Field reports describing construction activities where potentially impacted subsurface material is encountered or is anticipated to be encountered. These daily reports should document the personnel on-site, the work completed and the location of this work. The field reports should describe the identification, testing and handling of potential contamination, if encountered. Photographs should be attached if deemed appropriate.
- The results of air monitoring conducted each day that construction activities are anticipated to encounter impacted subsurface material. Air monitoring results should be provided in tabular format that identifies the time and location (referenced to a site sketch) of each measurement, the prevailing wind direction and other relative data. In the event established levels are exceeded, the report should describe corrective actions taken to reduce the measurements to acceptable levels.
- Documentation pertaining to vapor intrusion evaluation and/or engineering controls. This may include vapor intrusion analytical laboratory test results, figures, data tables, or information pertaining to the design, installation, or operation of engineering controls. Photographs should be attached if deemed appropriate.

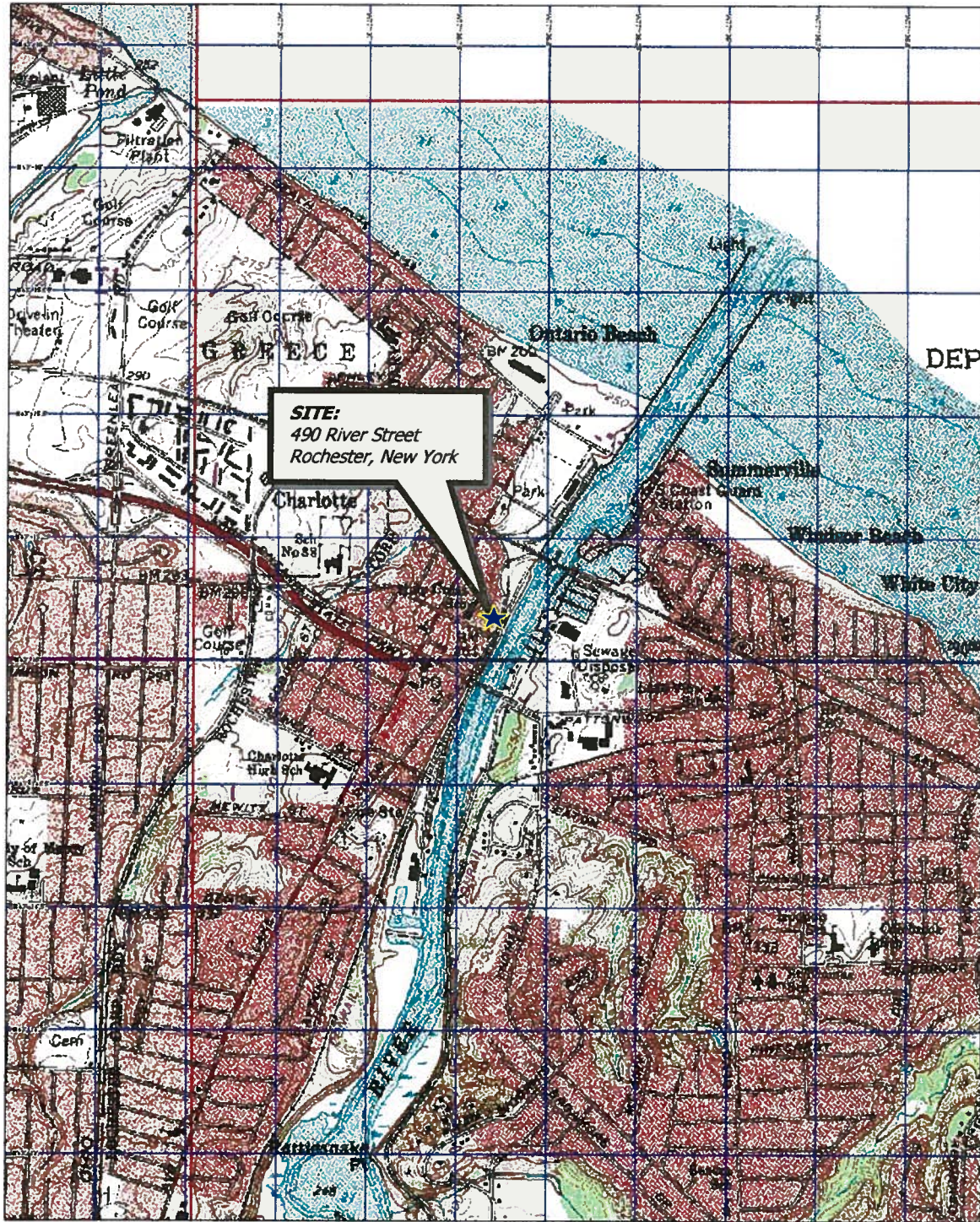
## 6.0 SITE CONTACTS

A copy of this SMP has been provided to the NYSDEC and the City DEQ. During future real estate transactions, the current owner will be responsible for providing this SMP to the new owner(s).

NYSDEC Contact: Mike Zamiarski, P.E.  
NYSDEC Spill Division  
6274 East Avon-Lima Road  
Avon, NY 14414  
(585) 226-5438  
Spills Hotline: (800) 457-7362

DEQ Contact: Ms. Jane Forbes  
City of Rochester  
Department of Environmental Services  
Division of Environmental Quality  
30 Church Street, Room 300B  
Rochester, NY 14614  
(585) 428-7892


## FIGURES

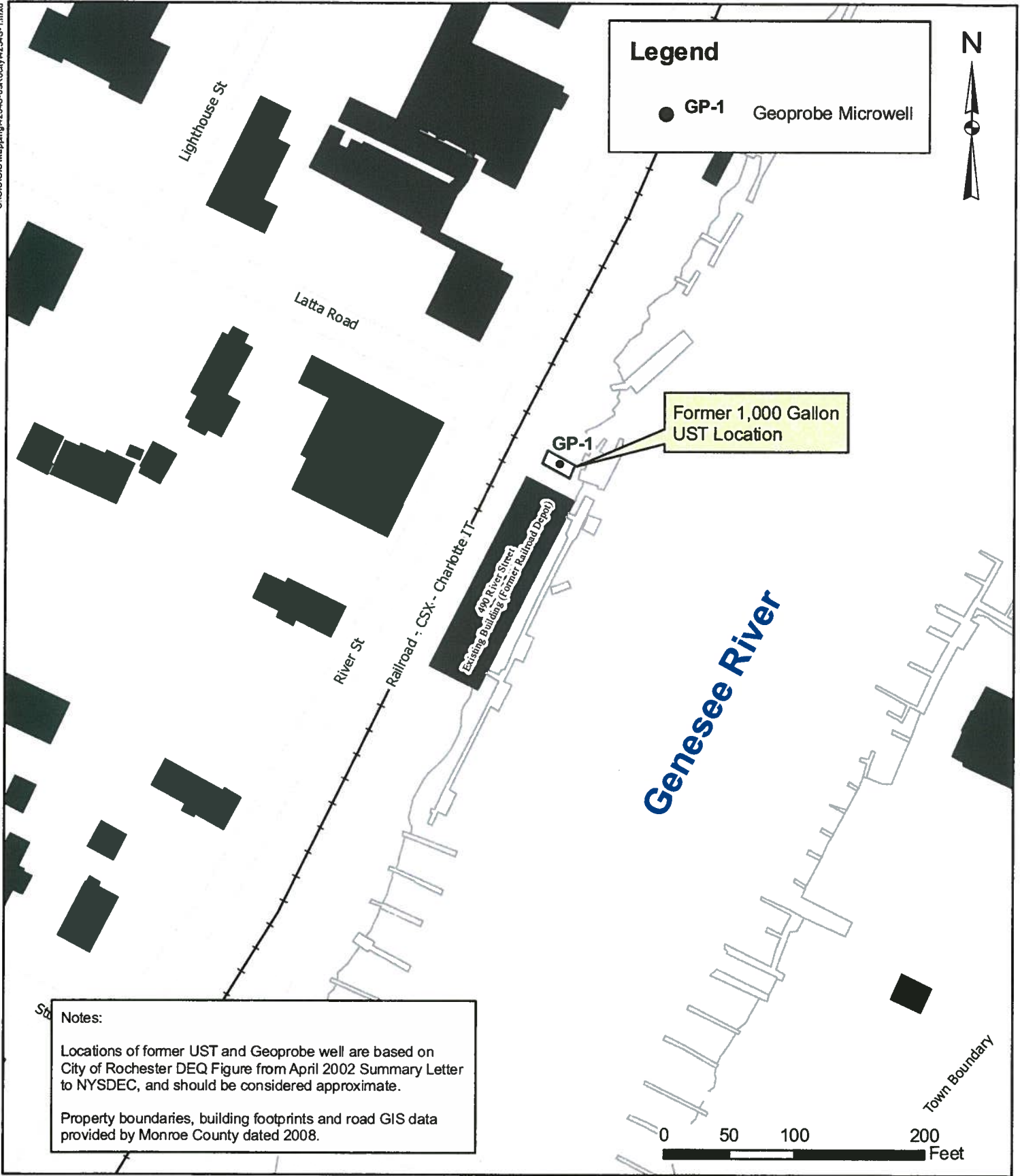


**SITE:**  
490 River Street  
Rochester, New York

3-D TopoQuads Copyright © 1999 DeLorme Vermont, ME 0-0096 Source Data: USGS 1:500 ft Scale: 1:10,000 Detail: 14.0 Datum: WGS84

Drawing Produced From: 3-D TopoQuads, DeLorme Map Co., referencing USGS quad maps Rochester East & West (NY) 1995 and Braddock Heights (NY) 1995. Site Lat/Long: N43° 15.10' - W77° 36.64'

DATE 11/10/2009	 <b>DAY ENVIRONMENTAL, INC.</b> ENVIRONMENTAL CONSULTANTS ROCHESTER, NEW YORK 14614-1008 NEW YORK, NEW YORK 10165-1617	PROJECT TITLE <b>490 RIVER STREET          ROCHESTER, NEW YORK</b>  NYSDEC PETROLEUM SPILL SITE #0170400	PROJECT NO. <b>4254S-09</b>  <b>FIGURE 1</b>
DRAWN BY <b>RJM</b>		DRAWING TITLE <b>PROJECT LOCUS MAP</b>	
SCALE <b>1" = 2000'</b>			



Date	10-06-2009
Drawn By	CPS
Scale	AS NOTED

**day**  
**DAY ENVIRONMENTAL, INC.**  
 Environmental Consultants  
 Rochester, New York 14614-1008  
 New York, New York 10165-1617

Project Title	490 RIVER STREET ROCHESTER, NEW YORK
	NYSDEC PETROLEUM SPILL SITE # 0170400
Drawing Title	Site Plan

Project No.	4254S-09
	FIGURE 2

**APPENDIX A**

**Analytical Laboratory Reports with Chain-of-Custody Forms**





179 Lake Avenue, Rochester, NY 14608 (716) 647-2530 FAX (716) 647-3311

Client: City of Rochester

Lab Project No.: 01-2748

Client Job Site: 490 River Street


Sample Type: Soil  
Method: SW846 1010

Client Job No.: DEQ-01038

Date(s) Sampled: 11/02/2001  
Date Received: 11/05/2001  
Date Analyzed: 11/05/2001

Lab Sample No.	Field ID No.	Field Location	Flashpoint Results (°C)
9970	N/A	Bottom	36.5

ELAP ID No.: 10958

Comments: \_\_\_\_\_  
Approved By:   
Laboratory Director



179 Lake Avenue, Rochester, NY 14608 (716) 647-2530 FAX (716) 647-3311

Client: City of Rochester

Lab Project No.: 01-2748

Client Job Site: 490 River Street

Lab Sample No.: 9970

Client Job No.: DEQ-01038

Sample Type: Soil

Field Location: Bottom

Date Sampled: 11/02/2001

Field ID No.: N/A

Date Received: 11/05/2001

Parameter	Date Analyzed	Analytical Method	Result (mg/kg)
Arsenic	11/07/2001	SW846 6010	4.83
Barium	11/07/2001	SW846 6010	118
Cadmium	11/07/2001	SW846 6010	0.753
Chromium	11/07/2001	SW846 6010	12.8
Lead	11/07/2001	SW846 6010	80.8
Mercury	11/08/2001	SW846 7471	0.451
Selenium	11/07/2001	SW846 6010	<0.586
Silver	11/07/2001	SW846 6010	<1.17

ELAP ID No.:10958

Comments:

Approved By: \_\_\_\_\_

Laboratory Director

# **PARADIGM**

**ENVIRONMENTAL**  
**SERVICES, INC.**

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

## **Semi-Volatile Analysis Report For Solids (STARS List)**

**Client:** City of Rochester

**Lab Project No.** 01-2748

**Lab Sample No.** 9966

**Client Job Site:** 490 River St

**Sample Type:** Soil

**Client Job No.:** DEQ-01038

**Date Sampled:** 11/02/01

**Field Location:** Northwall

**Date Received:** 11/05/01

**Field ID No.:** N/A

**Date Analyzed:** 11/10/01

COMPOUND	RESULT (ug/Kg)
Naphthalene	ND< 327
Acenaphthene	ND< 327
Fluorene	ND< 327
Fluoranthene	1,820
Anthracene	398
Phenanthrene	1,400
Benzo (a) anthracene	680
Chrysene	671
Pyrene	1,550
Benzo (b) fluoranthene	795
Benzo (k) fluoranthene	ND< 327
Benzo (g,h,i) perylene	ND< 327
Benzo (a) pyrene	ND< 327
Dibenz (a,h) anthracene	ND< 327
Indeno (1,2,3-cd) pyrene	472

Analytical Method: EPA 8270

NYS ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By: \_\_\_\_\_

  
Laboratory Director

# PARADIGM

**ENVIRONMENTAL  
SERVICES, INC.**

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

## Semi-Volatile Analysis Report For Solids (STARS List)

Client: **City of Rochester** Lab Project No. 01-2748  
Client Job Site: 490 River St Lab Sample No. 9967  
Client Job No.: DEQ-01038 Sample Type: Soil  
Field Location: Southwall Date Sampled: 11/02/01  
Field ID No.: N/A Date Received: 11/05/01  
Date Analyzed: 11/10/01

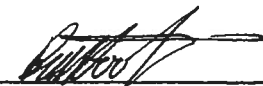
COMPOUND	RESULT (ug/Kg)
Naphthalene	ND< 322
Acenaphthene	ND< 322
Fluorene	ND< 322
Fluoranthene	349
Anthracene	ND< 322
Phenanthrene	ND< 322
Benzo (a) anthracene	ND< 322
Chrysene	ND< 322
Pyrene	ND< 322
Benzo (b) fluoranthene	ND< 322
Benzo (k) fluoranthene	ND< 322
Benzo (g,h,i) perylene	ND< 322
Benzo (a) pyrene	ND< 322
Dibenz (a,h) anthracene	ND< 322
Indeno (1,2,3-cd) pyrene	ND< 322

Analytical Method: EPA 8270

NYS ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By: \_\_\_\_\_

  
Laboratory Director

# PARADIGM

**ENVIRONMENTAL  
SERVICES, INC.**

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

## Semi-Volatile Analysis Report For Solids (STARS List)

Client: **City of Rochester**

Lab Project No. 01-2748

Client Job Site: 490 River St

Lab Sample No. 9968

Client Job No.: DEQ-01038

Sample Type: Soil

Field Location: Eastwall

Date Sampled: 11/02/01

Field ID No.: N/A

Date Received: 11/05/01

Date Analyzed: 11/10/01

COMPOUND	RESULT (ug/Kg)
Naphthalene	ND< 328
Acenaphthene	333
Fluorene	415
Fluoranthene	6,090
Anthracene	963
Phenanthrene	4,080
Benzo (a) anthracene	1,810
Chrysene	1,940
Pyrene	4,400
Benzo (b) fluoranthene	2,130
Benzo (k) fluoranthene	926
Benzo (g,h,i) perylene	1,040
Benzo (a) pyrene	1,700
Dibenz (a,h) anthracene	ND< 328
Indeno (1,2,3-cd) pyrene	1,170

Analytical Method: EPA 8270

NYS ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By: \_\_\_\_\_

  
Laboratory Director

# **PARADIGM**

**ENVIRONMENTAL**  
**SERVICES, INC.**

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

## **Semi-Volatile Analysis Report For Solids (STARS List)**

**Client:** City of Rochester

**Lab Project No.** 01-2748

**Client Job Site:** 490 River St

**Lab Sample No.** 9969

**Client Job No.:** DEQ-01038

**Sample Type:** Soil

**Field Location:** Westwall

**Date Sampled:** 11/02/01

**Date Received:** 11/05/01

**Field ID No.:** N/A

**Date Analyzed:** 11/10/01


COMPOUND	RESULT (ug/Kg)
Naphthalene	ND< 343
Acenaphthene	ND< 343
Fluorene	ND< 343
Fluoranthene	ND< 343
Anthracene	ND< 343
Phenanthrene	ND< 343
Benzo (a) anthracene	ND< 343
Chrysene	ND< 343
Pyrene	ND< 343
Benzo (b) fluoranthene	ND< 343
Benzo (k) fluoranthene	ND< 343
Benzo (g,h,i) perylene	ND< 343
Benzo (a) pyrene	ND< 343
Dibenz (a,h) anthracene	ND< 343
Indeno (1,2,3-cd) pyrene	ND< 343

Analytical Method: EPA 8270

NYS ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By: \_\_\_\_\_

  
Laboratory Director

# **PARADIGM**

**ENVIRONMENTAL**  
**SERVICES, INC.**

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

## **Semi-Volatile Analysis Report For Solids (STARS List)**

Client: **City of Rochester** Lab Project No. 01-2748  
Lab Sample No. 9970  
Client Job Site: 490 River St  
Sample Type: Soil  
Client Job No.: DEQ-01038  
Date Sampled: 11/02/01  
Field Location: Bottom  
Date Received: 11/05/01  
Field ID No.: N/A  
Date Analyzed: 11/13/01


COMPOUND	RESULT (ug/Kg)
Naphthalene	103,000
Acenaphthene	ND< 6,700
Fluorene	ND< 6,700
Fluoranthene	ND< 6,700
Anthracene	ND< 6,700
Phenanthrene	ND< 6,700
Benzo (a) anthracene	ND< 6,700
Chrysene	ND< 6,700
Pyrene	ND< 6,700
Benzo (b) fluoranthene	ND< 6,700
Benzo (k) fluoranthene	ND< 6,700
Benzo (g,h,i) perylene	ND< 6,700
Benzo (a) pyrene	ND< 6,700
Dibenz (a,h) anthracene	ND< 6,700
Indeno (1,2,3-cd) pyrene	ND< 6,700

Analytical Method: EPA 8270

NYS ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By: \_\_\_\_\_

  
Laboratory Director

**PARADIGM  
ENVIRONMENTAL  
SERVICES, INC.**

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

**Volatile Laboratory Analysis Report For Soil/Sludge**

<b>Client:</b>	<u>City of Rochester</u>	<b>Lab Project No.:</b>	01-2748
<b>Client Job Site:</b>	490 River St	<b>Lab Sample No.:</b>	9966
<b>Client Job No.:</b>	DEQ-01038	<b>Sample Type:</b>	Soil
<b>Field Location:</b>	Northwall	<b>Date Sampled:</b>	11/02/01
<b>Field ID No.:</b>	N/A	<b>Date Received:</b>	11/05/01
		<b>Date Analyzed:</b>	11/15/01

VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromochloromethane	ND< 10.5	Benzene	ND< 10.5
Bromomethane	ND< 10.5	Bromobenzene	ND< 10.5
Carbon Tetrachloride	ND< 10.5	n-Butylbenzene	ND< 10.5
Chloroethane	ND< 10.5	sec-Butylbenzene	ND< 10.5
Chloromethane	ND< 10.5	tert-Butylbenzene	ND< 10.5
1,2-Dibromomethane	ND< 10.5	Chlorobenzene	ND< 10.5
Dibromomethane	ND< 10.5	2-Chlorotoluene	ND< 10.5
1,2-Dibromo-3-Chloropropane	ND< 10.5	4-Chlorotoluene	ND< 10.5
1,1-Dichloroethane	ND< 10.5	1,2-Dichlorobenzene	ND< 10.5
1,2-Dichloroethane	ND< 10.5	1,3-Dichlorobenzene	ND< 10.5
1,1-Dichloroethene	ND< 10.5	1,4-Dichlorobenzene	ND< 10.5
cis-1,2-Dichloroethene	ND< 10.5	Ethyl Benzene	ND< 10.5
trans-1,2-Dichloroethene	ND< 10.5	Hexachlorobutadiene	ND< 10.5
1,2-Dichloropropane	ND< 10.5	Isopropylbenzene	ND< 10.5
1,3-Dichloropropane	ND< 10.5	4-Isopropyltoluene	ND< 10.5
2,2-Dichloropropane	ND< 10.5	Naphthalene	ND< 10.5
1,1-Dichloropropene	ND< 10.5	n-Propylbenzene	ND< 10.5
cis-1,3-Dichloropropene	ND< 10.5	styrene	ND< 10.5
trans-1,3-Dichloropropene	ND< 10.5	Toluene	ND< 10.5
Methylene Chloride	ND< 26.3	1,2,3-Trichlorobenzene	ND< 10.5
1,1,1,2-Tetrachloroethane	ND< 10.5	1,2,4-Trichlorobenzene	ND< 10.5
1,1,2,2-Tetrachloroethane	ND< 10.5	1,2,4-Trimethylbenzene	ND< 10.5
Tetrachloroethene	ND< 10.5	1,3,5-Trimethylbenzene	ND< 10.5
1,1,1-Trichloroethane	ND< 10.5	m,p-xylene	ND< 10.5
1,1,2-Trichloroethane	ND< 10.5	o-Xylene	ND< 10.5
Trichloroethene	ND< 10.5		
Trichlorofluoromethane	ND< 10.5	Methyl tert-Butyl Ether	ND< 10.5
1,2,3-Trichloropropane	ND< 10.5		
Vinyl Chloride	ND< 10.5		
Bromodichloromethane	ND< 10.5		
Bromoform	ND< 10.5		
Chloroform	ND< 10.5		
Dibromochloromethane	ND< 10.5		

Analytical Method: EPA 8021

NYS ELAP No.: 10958

Approved By:   
 For: Laboratory Director

Notes: ND denotes Not Detected



**PARADIGM  
ENVIRONMENTAL  
SERVICES, INC.**

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

**Volatile Laboratory Analysis Report For Soil/Sludge**

<b>Client:</b>	<u>City of Rochester</u>	<b>Lab Project No.:</b>	01-2748
<b>Client Job Site:</b>	490 River St	<b>Lab Sample No.:</b>	9967
<b>Client Job No.:</b>	DEQ-01038	<b>Sample Type:</b>	Soil
<b>Field Location:</b>	Southwall	<b>Date Sampled:</b>	11/02/01
<b>Field ID No.:</b>	N/A	<b>Date Received:</b>	11/05/01
		<b>Date Analyzed:</b>	11/10/01

VOLATILE HALOCARBOANS		VOLATILE AROMATICS	
	RESULTS (ug/Kg)		RESULTS (ug/Kg)
Bromochloromethane	ND< 8.9	Benzene	ND< 8.9
Bromomethane	ND< 8.9	Bromobenzene	ND< 8.9
Carbon Tetrachloride	ND< 8.9	n-Butylbenzene	ND< 8.9
Chloroethane	ND< 8.9	sec-Butylbenzene	ND< 8.9
Chloromethane	ND< 8.9	tert-Butylbenzene	ND< 8.9
1,2-Dibromomethane	ND< 8.9	Chlorobenzene	ND< 8.9
Dibromomethane	ND< 8.9	2-Chlorotoluene	ND< 8.9
1,2-Dibromo-3-Chloropropane	ND< 8.9	4-Chlorotoluene	ND< 8.9
1,1-Dichloroethane	ND< 8.9	1,2-Dichlorobenzene	ND< 8.9
1,2-Dichloroethane	ND< 8.9	1,3-Dichlorobenzene	ND< 8.9
1,1-Dichloroethene	ND< 8.9	1,4-Dichlorobenzene	ND< 8.9
cis-1,2-Dichloroethene	ND< 8.9	Ethyl Benzene	ND< 8.9
trans-1,2-Dichloroethene	ND< 8.9	Hexachlorobutadiene	ND< 8.9
1,2-Dichloropropane	ND< 8.9	Isopropylbenzene	ND< 8.9
1,3-Dichloropropane	ND< 8.9	4-Isopropyltoluene	ND< 8.9
2,2-Dichloropropane	ND< 8.9	Naphthalene	ND< 8.9
1,1-Dichloropropene	ND< 8.9	n-Propylbenzene	ND< 8.9
cis-1,3-Dichloropropene	ND< 8.9	styrene	ND< 8.9
trans-1,3-Dichloropropene	ND< 8.9	Toluene	ND< 8.9
Methylene Chloride	ND< 22.3	1,2,3-Trichlorobenzene	ND< 8.9
1,1,1,2-Tetrachloroethane	ND< 8.9	1,2,4-Trichlorobenzene	ND< 8.9
1,1,2,2-Tetrachloroethane	ND< 8.9	1,2,4-Trimethylbenzene	ND< 8.9
Tetrachloroethene	ND< 8.9	1,3,5-Trimethylbenzene	ND< 8.9
1,1,1-Trichloroethane	ND< 8.9	m,p-xylene	ND< 8.9
1,1,2-Trichloroethane	ND< 8.9	o-Xylene	ND< 8.9
Trichloroethene	ND< 8.9		
Trichlorofluoromethane	ND< 8.9	Methyl tert-Butyl Ether	ND< 8.9
1,2,3-Trichloropropane	ND< 8.9		
Vinyl Chloride	ND< 8.9		
Bromodichloromethane	ND< 8.9		
Bromoform	ND< 8.9		
Chloroform	ND< 8.9		
Dibromochloromethane	ND< 8.9		

Analytical Method: EPA 8021

NYS ELAP No.: 10958

Approved By:   
Laboratory Director

Notes: ND denotes Not Detected

**PARADIGM  
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SERVICES, INC.**

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

**Volatile Laboratory Analysis Report For Soil/Sludge**

<b>Client:</b>	<u>City of Rochester</u>	<b>Lab Project No.:</b>	01-2748
<b>Client Job Site:</b>	490 River St	<b>Lab Sample No.:</b>	9968
<b>Client Job No.:</b>	DEQ-01038	<b>Sample Type:</b>	Soil
<b>Field Location:</b>	Eastwall	<b>Date Sampled:</b>	11/02/01
<b>Field ID No.:</b>	N/A	<b>Date Received:</b>	11/05/01
		<b>Date Analyzed:</b>	11/10/01

VOLATILE HALOCARBOANS		VOLATILE AROMATICS	
	RESULTS (ug/Kg)		RESULTS (ug/Kg)
Bromochloromethane	ND< 10.2	Benzene	ND< 10.2
Bromomethane	ND< 10.2	Bromobenzene	ND< 10.2
Carbon Tetrachloride	ND< 10.2	n-Butylbenzene	ND< 10.2
Chloroethane	ND< 10.2	sec-Butylbenzene	ND< 10.2
Chloromethane	ND< 10.2	tert-Butylbenzene	ND< 10.2
1,2-Dibromomethane	ND< 10.2	Chlorobenzene	ND< 10.2
Dibromomethane	ND< 10.2	2-Chlorotoluene	ND< 10.2
1,2-Dibromo-3-Chloropropane	ND< 10.2	4-Chlorotoluene	ND< 10.2
1,1-Dichloroethane	ND< 10.2	1,2-Dichlorobenzene	ND< 10.2
1,2-Dichloroethane	ND< 10.2	1,3-Dichlorobenzene	ND< 10.2
1,1-Dichloroethene	ND< 10.2	1,4-Dichlorobenzene	ND< 10.2
cis-1,2-Dichloroethene	ND< 10.2	Ethyl Benzene	ND< 10.2
trans-1,2-Dichloroethene	ND< 10.2	Hexachlorobutadiene	ND< 10.2
1,2-Dichloropropane	ND< 10.2	Isopropylbenzene	ND< 10.2
1,3-Dichloropropane	ND< 10.2	4-Isopropyltoluene	ND< 10.2
2,2-Dichloropropane	ND< 10.2	Naphthalene	ND< 10.2
1,1-Dichloropropene	ND< 10.2	n-Propylbenzene	ND< 10.2
cis-1,3-Dichloropropene	ND< 10.2	styrene	ND< 10.2
trans-1,3-Dichloropropene	ND< 10.2	Toluene	ND< 10.2
Methylene Chloride	ND< 25.5	1,2,3-Trichlorobenzene	ND< 10.2
1,1,1,2-Tetrachloroethane	ND< 10.2	1,2,4-Trichlorobenzene	ND< 10.2
1,1,2,2-Tetrachloroethane	ND< 10.2	1,2,4-Trimethylbenzene	ND< 10.2
Tetrachloroethene	ND< 10.2	1,3,5-Trimethylbenzene	ND< 10.2
1,1,1-Trichloroethane	ND< 10.2	m,p-xylene	ND< 10.2
1,1,2-Trichloroethane	ND< 10.2	o-Xylene	ND< 10.2
Trichloroethene	ND< 10.2		
Trichlorofluoromethane	ND< 10.2	Methyl tert-Butyl Ether	ND< 10.2
1,2,3-Trichloropropane	ND< 10.2		
Vinyl Chloride	ND< 10.2		
Bromodichloromethane	ND< 10.2		
Bromoform	ND< 10.2		
Chloroform	ND< 10.2		
Dibromochloromethane	ND< 10.2		

Analytical Method: EPA 8021

NYS ELAP No.: 10958

Approved By:   
Laboratory Director

Notes: ND denotes Not Detected

**PARADIGM  
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SERVICES, INC.**

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

**Volatile Laboratory Analysis Report For Soil/Sludge**

<b>Client:</b>	<u>City of Rochester</u>	<b>Lab Project No.:</b>	01-2748
<b>Client Job Site:</b>	490 River St	<b>Lab Sample No.:</b>	9969
<b>Client Job No.:</b>	DEQ-01038	<b>Sample Type:</b>	Soil
<b>Field Location:</b>	Westwall	<b>Date Sampled:</b>	11/02/01
<b>Field ID No.:</b>	N/A	<b>Date Received:</b>	11/05/01
		<b>Date Analyzed:</b>	11/13/01

VOLATILE HALOCARBOHS		VOLATILE AROMATICS	
	RESULTS (ug/Kg)		RESULTS (ug/Kg)
Bromochloromethane	ND< 8.6	Benzene	ND< 8.6
Bromomethane	ND< 8.6	Bromobenzene	ND< 8.6
Carbon Tetrachloride	ND< 8.6	n-Butylbenzene	ND< 8.6
Chloroethane	ND< 8.6	sec-Butylbenzene	ND< 8.6
Chloromethane	ND< 8.6	tert-Butylbenzene	ND< 8.6
1,2-Dibromomethane	ND< 8.6	Chlorobenzene	ND< 8.6
Dibromomethane	ND< 8.6	2-Chlorotoluene	ND< 8.6
1,2-Dibromo-3-Chloropropane	ND< 8.6	4-Chlorotoluene	ND< 8.6
1,1-Dichloroethane	ND< 8.6	1,2-Dichlorobenzene	ND< 8.6
1,2-Dichloroethane	ND< 8.6	1,3-Dichlorobenzene	ND< 8.6
1,1-Dichloroethene	ND< 8.6	1,4-Dichlorobenzene	ND< 8.6
cis-1,2-Dichloroethene	ND< 8.6	Ethyl Benzene	ND< 8.6
trans-1,2-Dichloroethene	ND< 8.6	Hexachlorobutadiene	ND< 8.6
1,2-Dichloropropane	ND< 8.6	Isopropylbenzene	ND< 8.6
1,3-Dichloropropane	ND< 8.6	4-Isopropyltoluene	ND< 8.6
2,2-Dichloropropane	ND< 8.6	Naphthalene	ND< 8.6
1,1-Dichloropropene	ND< 8.6	n-Propylbenzene	ND< 8.6
cis-1,3-Dichloropropene	ND< 8.6	styrene	ND< 8.6
trans-1,3-Dichloropropene	ND< 8.6	Toluene	ND< 8.6
Methylene Chloride	ND< 21.4	1,2,3-Trichlorobenzene	ND< 8.6
1,1,1,2-Tetrachloroethane	ND< 8.6	1,2,4-Trichlorobenzene	ND< 8.6
1,1,2,2-Tetrachloroethane	ND< 8.6	1,2,4-Trimethylbenzene	ND< 8.6
Tetrachloroethene	ND< 8.6	1,3,5-Trimethylbenzene	ND< 8.6
1,1,1-Trichloroethane	ND< 8.6	m,p-xylene	ND< 8.6
1,1,2-Trichloroethane	ND< 8.6	o-Xylene	ND< 8.6
Trichloroethene	ND< 8.6		
Trichlorofluoromethane	ND< 8.6	Methyl tert-Butyl Ether	ND< 8.6
1,2,3-Trichloropropane	ND< 8.6		
Vinyl Chloride	ND< 8.6		
Bromodichloromethane	ND< 8.6		
Bromoform	ND< 8.6		
Chloroform	ND< 8.6		
Dibromochloromethane	ND< 8.6		

Analytical Method: EPA 8021

NYS ELAP No.: 10958

Approved By:   
Laboratory Director

Notes: ND denotes Not Detected

**PARADIGM  
ENVIRONMENTAL**

**SERVICES, INC.** 179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

**Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge/Oil**

<b>Client:</b>	<u>City of Rochester</u>	<b>Lab Project No:</b>	01-2748
<b>Client Job Site:</b>	490 River St	<b>Lab Sample No:</b>	9970
<b>Client Job No:</b>	DEQ-01038	<b>Sample Type:</b>	Soil
<b>Field Location:</b>	Bottom	<b>Date Sampled:</b>	11/02/01
<b>Field ID No:</b>	N/A	<b>Date Received:</b>	11/05/01
		<b>Date Analyzed:</b>	11/14/01

<b>VOLATILE HALOCARBONS</b>	<b>RESULTS (ug/Kg)</b>	<b>VOLATILE AROMATICS</b>	<b>RESULTS (ug/Kg)</b>
Bromodichloromethane	ND< 1,100	Benzene	ND< 1,100
Bromomethane	ND< 1,100	Chlorobenzene	ND< 1,100
Bromoform	ND< 1,100	Ethylbenzene	2,550
Carbon tetrachloride	ND< 1,100	Toluene	15,900
Chloroethane	ND< 1,100	m,p - Xylene	11,900
Chloromethane	ND< 1,100	o - Xylene	3,910
2-Chloroethyl vinyl ether	ND< 1,100	Styrene	ND< 1,100
Chloroform	ND< 1,100		
Dibromochloromethane	ND< 1,100		
1,1-Dichloroethane	ND< 1,100		
1,2-Dichloroethane	ND< 1,100		
1,1-Dichloroethene	ND< 1,100		
trans-1,2-Dichloroethene	ND< 1,100		
1,2-Dichloropropane	ND< 1,100		
cis-1,3-Dichloropropene	ND< 1,100		
trans-1,3-Dichloropropene	ND< 1,100		
Methylene chloride	ND< 2,740		
1,1,2,2-Tetrachloroethane	ND< 1,100		
Tetrachloroethene	ND< 1,100		
1,1,1-Trichloroethane	ND< 1,100		
1,1,2-Trichloroethane	ND< 1,100		
Trichloroethene	ND< 1,100		
Vinyl Chloride	ND< 1,100		
		<b><u>Ketones &amp; Misc.</u></b>	
		Acetone	ND< 5,480
		Vinyl acetate	ND< 2,190
		2-Butanone	ND< 2,190
		4-Methyl-2-pentanone	ND< 2,190
		2-Hexanone	ND< 2,190
		Carbon disulfide	ND< 2,190
		Metyl tert-Butyl Ether	ND< 1,100

Analytical Method: EPA 8260B

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By  \_\_\_\_\_  
Laboratory Director

# PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue  
 Rochester, NY 14608  
 (716) 647-2530 \* (800) 724-1997  
 FAX: (716) 647-3311

## CHAIN OF CUSTODY

REPORT TO: **INVESTIGATIVE**

COMPANY: **City of Rochester**  
 ADDRESS: **507 Church St. Rm 300B**  
 CITY: **Rochester** STATE: **NY** ZIP: **14614**  
 PHONE: **734-7892** FAX: **428-6010**

LAB PROJECT #: **01-2748** CLIENT PROJECT #:  
 TURNAROUND TIME: (WORKING DAYS) 1 2 3 4 5

PROJECT NAME/SITE NAME: **490 River St. DEQ-01038**

ATTN: **Van Faber**

COMMENTS: **Requested Analysis**

DATE	TIME	COMPOSITE	GRAAB	SAMPLE LOCATION/FIELD ID	MATRIX	CONTAINER NUMBERS	REMARKS	PARADIGM LAB SAMPLE NUMBER
11/2/01			X	Northwall	2011	1	metals (ICR) 2240 + MTRB Flash	9966
2			X	Southwall		1		9967
3			X	Eastwall		1		9968
4			X	Westwall		1		9969
5		X		Bottom		1		9970
6								
7								
8								
9								
10								

**\*\*LAB USE ONLY\*\***

SAMPLE CONDITION: Check box if acceptable or note deviation:  PRESERVATIONS:  HOLDING TIME:  TEMPERATURE:

Relinquished By: **Van Faber** Date/Time: **11/2/01 3:30 PM**  
 Received By: **[Signature]** Date/Time: **11/5/01 12:55 PM**  
 Relinquished By: **[Signature]** Date/Time: **11/5/01 12:55 PM**  
 Received By: **[Signature]** Date/Time: **11/5/01 13:20**

Total Cost:

# **PARADIGM**

**ENVIRONMENTAL**  
**SERVICES, INC.**

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

## **Semi-Volatile Analysis Report For Water (STARS List)**

**Client:** City of Rochester

**Lab Project No.:** 02-0557

**Lab Sample No.:** 2513

**Client Job Site:** 490 River St  
Tank Removal

**Sample Type:** Water

**Client Job No.:** N/A

**Date Sampled:** 03/01/02

**Field Location:** GPW-1

**Date Received:** 03/01/02

**Field ID No.:** N/A

**Date Analyzed:** 03/06/02

COMPOUND	RESULT (ug/L)
Naphthalene	237
Acenaphthene	ND< 10.0
Fluorene	ND< 10.0
Fluoranthene	ND< 10.0
Anthracene	ND< 10.0
Phenanthrene	ND< 10.0
Benzo (a) anthracene	ND< 10.0
Chrysene	ND< 10.0
Pyrene	ND< 10.0
Benzo (b) fluoranthene	ND< 10.0
Benzo (k) fluoranthene	ND< 10.0
Benzo (g,h,i) perylene	ND< 10.0
Benzo (a) pyrene	ND< 10.0
Dibenz (a,h) anthracene	ND< 10.0
Indeno (1,2,3-cd) pyrene	ND< 10.0

EPA Analytical Method: 8270

NYS ELAP ID No.: 10958

**Comments:** ND denotes Not Detected

**Approved By:** \_\_\_\_\_

  
Laboratory Director

**Volatile Laboratory Analysis Report**

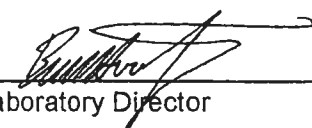
<b>Client:</b>	<u>City of Rochester</u>	<b>Lab Project No.:</b>	02-0557
		<b>Lab Sample No.:</b>	2513
<b>Client Job Site:</b>	490 River St Tank Removal	<b>Sample Type:</b>	Water
<b>Client Job No.:</b>	N/A	<b>Date Sampled:</b>	03/01/02
<b>Field Location:</b>	GPW-1	<b>Date Received:</b>	03/01/02
<b>Field ID No.:</b>	N/A	<b>Date Analyzed:</b>	03/07/02

VOLATILE HALOCARBONS		VOLATILE AROMATICS	
	RESULTS (ug/L)		RESULTS (ug/L)
Bromochloromethane	ND< 50.0	Benzene	87.3
Bromomethane	ND< 50.0	Bromobenzene	ND< 50.0
Carbon Tetrachloride	ND< 50.0	n-Butylbenzene	ND< 50.0
Chloroethane	ND< 50.0	sec-Butylbenzene	ND< 50.0
Chloromethane	ND< 50.0	tert-Butylbenzene	ND< 50.0
1,2-Dibromomethane	ND< 50.0	Chlorobenzene	ND< 50.0
Dibromomethane	ND< 50.0	2-Chlorotoluene	ND< 50.0
1,2-Dibromo-3-Chloropropane	ND< 50.0	4-Chlorotoluene	ND< 50.0
1,1-Dichloroethane	ND< 50.0	1,2-Dichlorobenzene	ND< 50.0
1,2-Dichloroethane	ND< 50.0	1,3-Dichlorobenzene	ND< 50.0
1,1-Dichloroethene	ND< 50.0	1,4-Dichlorobenzene	ND< 50.0
cis-1,2-Dichloroethene	ND< 50.0	Ethyl Benzene	97.5
trans-1,2-Dichloroethene	ND< 50.0	Hexachlorobutadiene	ND< 50.0
1,2-Dichloropropane	ND< 50.0	isopropylbenzene	ND< 50.0
1,3-Dichloropropane	ND< 50.0	4-Isopropyltoluene	ND< 50.0
2,2-Dichloropropane	ND< 50.0	Naphthalene	ND< 125
1,1-Dichloropropene	ND< 50.0	n-Propylbenzene	ND< 50.0
cis-1,3-Dichloropropene	ND< 50.0	styrene	ND< 50.0
trans-1,3-Dichloropropene	ND< 50.0	Toluene	744
Methylene Chloride	ND< 50.0	1,2,3-Trichlorobenzene	ND< 50.0
1,1,1,2-Tetrachloroethane	ND< 50.0	1,2,4-Trichlorobenzene	ND< 50.0
1,1,1,2,2-Tetrachloroethane	ND< 50.0	1,2,4-Trimethylbenzene	570
Tetrachloroethene	ND< 50.0	1,3,5-Trimethylbenzene	188
1,1,1-Trichloroethane	ND< 50.0	m,p-xylene	1,180
1,1,2-Trichloroethane	ND< 50.0	o-Xylene	757
Trichloroethene	ND< 50.0		
Trichlorofluoromethane	ND< 50.0	Trihalomethanes	Result THM
1,2,3-Trichloropropane	ND< 50.0	Bromodichloromethane	ND< 50.0
Vinyl Chloride	ND< 50.0	Bromoform	ND< 50.0
		Chloroform	ND< 50.0
		Dibromochloromethane	ND< 50.0
Methyl tert-Butyl Ether	ND< 50.0	Total THM's (in ug/l)	ND< 50.0

EPA Method 8021

NYS ELAP No.: 10958

Comments: ND denotes Non Detect

Approved By:   
 Laboratory Director

# PARADIGM

**ENVIRONMENTAL  
SERVICES, INC.**

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

## Semi-Volatile Analysis Report For Solids (STARS List)

Client: City of Rochester

Lab Project No. 02-0557

Lab Sample No. 2514

Client Job Site: 490 River St  
Tank Removal

Sample Type: Soil

Client Job No.: N/A

Field Location: GPW1-(14-16')

Date Sampled: 03/01/02

Date Received: 03/01/02

Field ID No.: N/A

Date Analyzed: 03/05/02

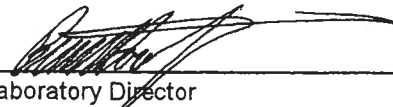
COMPOUND	RESULT (ug/Kg)
Naphthalene	ND< 393
Acenaphthene	ND< 393
Fluorene	ND< 393
Fluoranthene	ND< 393
Anthracene	ND< 393
Phenanthrene	ND< 393
Benzo (a) anthracene	ND< 393
Chrysene	ND< 393
Pyrene	ND< 393
Benzo (b) fluoranthene	ND< 393
Benzo (k) fluoranthene	ND< 393
Benzo (g,h,i) perylene	ND< 393
Benzo (a) pyrene	ND< 393
Dibenz (a,h) anthracene	ND< 393
Indeno (1,2,3-cd) pyrene	ND< 393

Analytical Method: EPA 8270

NYS ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By: \_\_\_\_\_

  
Laboratory Director



**PARADIGM  
ENVIRONMENTAL  
SERVICES, INC.**

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

**Volatile Laboratory Analysis Report For Soil/Sludge**

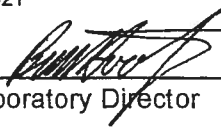
<b>Client:</b>	<u>City of Rochester</u>	<b>Lab Project No.:</b>	02-0557
		<b>Lab Sample No.:</b>	2514
<b>Client Job Site:</b>	490 River St Tank Removal	<b>Sample Type:</b>	Soil
<b>Client Job No.:</b>	N/A	<b>Date Sampled:</b>	03/01/02
<b>Field Location:</b>	GPW1-(14-16')	<b>Date Received:</b>	03/01/02
<b>Field ID No.:</b>	N/A	<b>Date Analyzed:</b>	03/07/02

VOLATILE HALOCARBOHS		VOLATILE AROMATICS	
	RESULTS (ug/Kg)		RESULTS (ug/Kg)
Bromochloromethane	ND< 10.5	Benzene	ND< 10.5
Bromomethane	ND< 10.5	Bromobenzene	ND< 10.5
Carbon Tetrachloride	ND< 10.5	n-Butylbenzene	ND< 10.5
Chloroethane	ND< 10.5	sec-Butylbenzene	ND< 10.5
Chloromethane	ND< 10.5	tert-Butylbenzene	ND< 10.5
1,2-Dibromomethane	ND< 10.5	Chlorobenzene	ND< 10.5
Dibromomethane	ND< 10.5	2-Chlorotoluene	ND< 10.5
1,2-Dibromo-3-Chloropropane	ND< 10.5	4-Chlorotoluene	ND< 10.5
1,1-Dichloroethane	ND< 10.5	1,2-Dichlorobenzene	ND< 10.5
1,2-Dichloroethane	ND< 10.5	1,3-Dichlorobenzene	ND< 10.5
1,1-Dichloroethene	ND< 10.5	1,4-Dichlorobenzene	ND< 10.5
cis-1,2-Dichloroethene	ND< 10.5	Ethyl Benzene	23.9
trans-1,2-Dichloroethene	ND< 10.5	Hexachlorobutadiene	ND< 10.5
1,2-Dichloropropane	ND< 10.5	Isopropylbenzene	ND< 10.5
1,3-Dichloropropane	ND< 10.5	4-Isopropyltoluene	ND< 10.5
2,2-Dichloropropane	ND< 10.5	Naphthalene	ND< 10.5
1,1-Dichloropropene	ND< 10.5	n-Propylbenzene	ND< 10.5
cis-1,3-Dichloropropene	ND< 10.5	styrene	ND< 10.5
trans-1,3-Dichloropropene	ND< 10.5	Toluene	ND< 10.5
Methylene Chloride	ND< 26.1	1,2,3-Trichlorobenzene	ND< 10.5
1,1,1,2-Tetrachloroethane	ND< 10.5	1,2,4-Trichlorobenzene	ND< 10.5
1,1,2,2-Tetrachloroethane	ND< 10.5	1,2,4-Trimethylbenzene	58.8
Tetrachloroethene	ND< 10.5	1,3,5-Trimethylbenzene	24.7
1,1,1-Trichloroethane	ND< 10.5	m,p-xylene	82.5
1,1,2-Trichloroethane	ND< 10.5	o-Xylene	57.5
Trichloroethene	ND< 10.5		
Trichlorofluoromethane	ND< 10.5	Methyl tert-Butyl Ether	ND< 10.5
1,2,3-Trichloropropane	ND< 10.5		
Vinyl Chloride	ND< 10.5		
Bromodichloromethane	ND< 10.5		
Bromoform	ND< 10.5		
Chloroform	ND< 10.5		
Dibromochloromethane	ND< 10.5		

Analytical Method: EPA 8021

NYS ELAP No.: 10958

Approved By: \_\_\_\_\_

  
Laboratory Director

Notes: ND denotes Not Detected

# PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue  
 Rochester, NY 14608  
 (716) 647-2530 \* (800) 724-1997  
 FAX: (716) 647-3311

## CHAIN OF CUSTODY

REPORT TO:

INVOICE TO:

COMPANY: C.O.R.      CLIENT PROJECT #:

ADDRESS: 30 Church St. Rm 300B      LAB PROJECT #: 02-0557

CITY: Roch. NY STATE: 14614      TURNAROUND TIME: (WORKING DAYS)

PHONE: 428-7892      FAX:      STD  1  2  3  5  OTHER

ATTN: Jane      COMMENTS:

PROJECT NAME/SITE NAME:  
490 River St.  
Bank Removal

DATE	TIME	COMPOSITE	GRAAB	SAMPLE LOCATION/FIELD ID	MATRIX	CONTAINERS	REMARKS	PARADIGM LAB SAMPLE NUMBER
12/1/02	2:15 PM		X	GPW-1	H2O	3		2513
2			X	GPW1-(14-16')	Soil	1	8021B + MTRB 8270 STARS	2514
3								
4								
5								
6								
7								
8								
9								
10								

\*\*LAB USE ONLY\*\*

SAMPLE CONDITION: Check box if acceptable or note deviation:      PRESERVATIONS:      CONTAINER TYPE:      HOLDING TIME:      TEMPERATURE: 14

Sampled By: Jane Mtlforbes      Date/Time: 3/1/02 2:15 PM      Relinquished By:      Date/Time:      Total Cost:

Received By: Jane Mtlforbes      Date/Time: 3/1/02 2:40 PM      Relinquished By:      Date/Time:      P.I.F.

Received By: Jane Mtlforbes      Date/Time: 3/1/02 16:40      Relinquished By:      Date/Time:      P.I.F.

**Volatile Analysis Report for Non-potable Water**

**Client: City of Rochester**

<b>Client Job Site:</b>	490 River St.	<b>Lab Project Number:</b>	03-0703
<b>Client Job Number:</b>	DEQ-1038	<b>Lab Sample Number:</b>	2855
<b>Field Location:</b>	GPW1	<b>Date Sampled:</b>	03/12/2003
<b>Field ID Number:</b>	N/A	<b>Date Received:</b>	03/12/2003
<b>Sample Type:</b>	Water	<b>Date Analyzed:</b>	03/19/2003

Halocarbons	Results in ug / L
Bromochloromethane	ND< 2.00
Bromomethane	ND< 2.00
Carbon Tetrachloride	ND< 2.00
Chloroethane	ND< 2.00
Chloromethane	ND< 2.00
1,2-Dibromo-3-Chloropropane	ND< 2.00
Dibromomethane	ND< 2.00
1,2-Dibromoethane	ND< 2.00
1,1-Dichloroethane	ND< 2.00
1,2-Dichloroethane	ND< 2.00
1,1-Dichloroethene	ND< 2.00
cis-1,2-Dichloroethene	ND< 2.00
trans-1,2-Dichloroethene	ND< 2.00
1,2-Dichloropropane	ND< 2.00
1,3-Dichloropropane	ND< 2.00
2,2-Dichloropropane	ND< 2.00
1,1-Dichloropropene	ND< 2.00
cis-1,3-Dichloropropene	ND< 2.00
trans-1,3-Dichloropropene	ND< 2.00
Methylene Chloride	ND< 5.00
Tetrachloroethene	ND< 2.00
1,1,1,2-Tetrachloroethane	ND< 2.00
1,1,2,2-Tetrachloroethane	ND< 2.00
1,1,1-Trichloroethane	ND< 2.00
1,1,2-Trichloroethane	ND< 2.00
Trichloroethene	ND< 2.00
Trichlorofluoromethane	ND< 2.00
1,2,3-Trichloropropane	ND< 2.00
Vinyl Chloride	ND< 2.00

Aromatics	Results in ug / L
Benzene	89.9
Bromobenzene	ND< 2.00
n-Butylbenzene	ND< 2.00
sec-Butylbenzene	4.45
tert-Butylbenzene	ND< 2.00
Chlorobenzene	ND< 2.00
2-Chlorotoluene	ND< 2.00
4-Chlorotoluene	ND< 2.00
1,2-Dichlorobenzene	ND< 2.00
1,3-Dichlorobenzene	ND< 2.00
1,4-Dichlorobenzene	ND< 2.00
Ethyl Benzene	143
Isopropylbenzene	15.8
4-Isopropyltoluene	13.9
Naphthalene	32.1
n-Propylbenzene	53.5
styrene	ND< 2.00
Toluene	5.98
1,2,3-Trichlorobenzene	ND< 2.00
1,2,4-Trichlorobenzene	ND< 2.00
1,2,4-Trimethylbenzene	391
1,3,5-Trimethylbenzene	67.7
m,p-xylene	267
o-Xylene	15.1

Miscellaneous	Results in ug / L
Hexachlorobutadiene	ND< 2.00
Methyl tert-Butyl Ether	ND< 2.00

Trihalomethanes	Results in ug / L
Bromodichloromethane	ND< 2.00
Bromoform	ND< 2.00
Chloroform	ND< 2.00
Dibromochloromethane	ND< 2.00

ELAP Number 10958

Method: EPA 8021B (GC/MS)

Data File: 64294.D

Comments: ND denotes Non Detect  
ug / L = microgram per Liter

Signature: \_\_\_\_\_

Bruce Hoogesteger: Technical Director

**Semi -Volatile STARS Analysis Report for Non-potable Water**

**Client:** City of Rochester

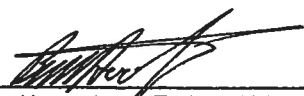
<b>Client Job Site:</b>	490 River St.	<b>Lab Project Number:</b>	03-0703
<b>Client Job Number:</b>	DEQ-1038	<b>Lab Sample Number:</b>	2855
<b>Field Location:</b>	GPW1	<b>Date Sampled:</b>	03/12/2003
<b>Field ID Number:</b>	N/A	<b>Date Received:</b>	03/12/2003
<b>Sample Type:</b>	Water	<b>Date Analyzed:</b>	03/13/2003

Base / Neutrals	Results in ug / L
Acenaphthene	ND< 10.0
Anthracene	ND< 10.0
Benzo (a) anthracene	ND< 10.0
Benzo (a) pyrene	ND< 10.0
Benzo (b) fluoranthene	ND< 10.0
Benzo (g,h,i) perylene	ND< 10.0
Benzo (k) fluoranthene	ND< 10.0
Chrysene	ND< 10.0
Dibenz (a,h) anthracene	ND< 10.0
Fluoranthene	ND< 10.0
Fluorene	ND< 10.0
Indeno (1,2,3-cd) pyrene	ND< 10.0
Naphthalene	56.3
Phenanthrene	ND< 10.0
Pyrene	ND< 10.0

ELAP Number 10958      Method: EPA 8270C      Data File: 10460.D

Comments:      ND denotes Non Detect  
                  ug / L = microgram per Liter

Signature: \_\_\_\_\_

  
Bruce Hoogesteger: Technical Director

**PARADIGM ENVIRONMENTAL SERVICES, INC.**

179 Lake Avenue  
 Rochester, NY 14608  
 (585) 647-2530 \* (800) 724-1997  
 FAX: (585) 647-3311

PROJECT NAME/SITE NAME:

490 River St.  
 DEQ-1038

**CHAIN OF CUSTODY**

REPORT TO: INVOICE TO:

COMPANY: City of Rochester  
 ADDRESS: 50 Church St Rm 300B  
 CITY: Rochester NY STATE: NY ZIP: 14614  
 PHONE: 585-7892 FAX: 428-6010  
 ATTN: Jane Forber

LAB PROJECT #: 03-0703  
 CLIENT PROJECT #: [ ]  
 TURNAROUND TIME: (WORKING DAYS) 1 [ ] 2 [ ] 3 [ ] 5 [X]

OTHER: [ ]

COMMENTS: 8270 STRES + 8271B  
 8021 B Field + 8021B

**REQUESTED ANALYSIS**

DATE	TIME	COMPOSITE	GRA B	SAMPLE LOCATION/FIELD ID	MATRIX	CONTAMINANTS	REMARKS	PARADIGM LAB SAMPLE NUMBER
1 3/12/03	app		X	GPW 1	H <sub>2</sub> O 3	8021 B Field + 8021B 8270 STRES		285
2								
3								
4								
5								
6								
7								
8								
9								
10								

\*\*LAB USE ONLY\*\*

SAMPLE CONDITION: Check box if acceptable or note deviation:  PRESERVATIONS:  CONTAINER TYPE:  HOLDING TIME:  TEMPERATURE: 7 °C

Sampled By: Jane M. Forber Date/Time: 3/12/03 1400  
 Relinquished By: Jm Forber Date/Time: 3/12/03 1410  
 Received By: [Signature] Date/Time: 3/12/03 1410

Relinquished By: [Signature] Date/Time: [ ]  
 Received By: [Signature] Date/Time: [ ]  
 Received @ Lab By: [Signature] Date/Time: 3/12/03 1410

Total Cost: [ ] P.I.F. [ ]

**APPENDIX B**  
**Boring Log for GP-1**

Project No: DEQ-01038

**Borehole #: Microwell GP-1**

Project: 490 River Street

Client: City of Rochester

Well Diameter 1" PVC

Location: Rochester, New York

Logged By: JMHF

SUBSURFACE PROFILE				SAMPLE				Shear Strength blows/ft 20 40 60 80	Well Data	Headspace Readings (ppm)	
Depth	Symbol	Description	Depth/Elev.	Number	Type	Blows/ft	Recovery				
0		Ground Surface	0								
1		<b>Backfill and Organics</b> 24" Recovery Brown backfill and Organic material with cmf Gravel, some Cobbles, trace Sand, moist, No Petroleum Odor.	1								
2			2	S1	MC		24"			1.8	
3			3								
4			4								
5		<b>Backfill Material</b> 4" Recovery. Crushed limestone backfill material.	5								
6			6	S2	MC		4"			4.1	
7			7								
8			8								
9		<b>CLAY</b> Gray CLAY, little Organics, trace mf Gravel, moist, Slight Petroleum Odor.	9								
10			10	S3	MC		48"			1.8	
11			11							24.6	
12			12								
13		<b>Similar Soil</b> Similar Soil, moist to saturated at 14.0 feet bgs, Strong Petroleum Odor. Bottom of Boring @ 16.0 feet bgs.	13								
14			14	S4	MC		48"			22.1	
15			15								33.8
16			16								
17		End Borehole @ 16.0'	16								

Drilled By: MARCOR Remediation, Inc

City of Rochester - DEQ  
30 Church Street Room 300B  
Rochester, New York 14614

Hole Size: 2" Macro Core

Drill Method: Geoprobe 5400

Datum:

Drill Date: February 28, 2002

Sheet: 1 of 1

**APPENDIX C**

**Health and Safety Plan**



**HEALTH AND SAFETY PLAN**

**FORMER RAILROAD DEPOT  
490 RIVER STREET  
ROCHESTER, NEW YORK**

**NYSDEC SPILL # 0170400**

**Prepared for:** City of Rochester  
Division of Environmental Quality  
30 Church Street  
Rochester, New York 14614

**Prepared by:** Day Environmental, Inc  
40 Commercial Street  
Rochester, New York 14614

**Project No.:** 4254S-09

**Date:** November 2009

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**ATTACHMENT 1** Figure 1 – Route to Hospital

## **1.0 INTRODUCTION**

This Health and Safety Plan (HASP) outlines the policies and procedures to protect workers and the public from potential environmental hazards posed during site activities that encounter and/or disturb petroleum-impacted soil associated with a former underground storage tank (UST) that was located north/northeast of the existing building that was formerly used as a railroad depot on a parcel addressed as 490 River Street, City of Rochester, County of Monroe, New York (Site). Redevelopment and construction activities that involve the disturbance of subsurface petroleum-impacted soil/fill material and groundwater will be conducted in accordance with the Site Management Plan (SMP), a separate related document. In addition to the requirements outlined in the SMP and this HASP, work shall be conducted in a manner to reduce the probability of injury, accident, or incident occurrence.

### **1.1 Site History/Overview**

The approximately 1,000-gallon capacity UST was decommissioned and removed by the City of Rochester Department of Environmental Services, Division of Environmental Quality (DEQ) in November 2001. Additionally, approximately four cubic yards of gasoline-impacted soil was removed from the UST area. Based on analytical laboratory testing, residual petroleum contamination containing volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) is present in soil and groundwater in the area where the UST was removed. As a result of the petroleum-impacted media, the New York State Department of Environmental Conservation (NYSDEC) generated spill file #0170400.

### **1.2 Planned Activities Covered by HASP**

This HASP is to be implemented when petroleum-impacted soil, fill material, and groundwater associated with the former UST will be disturbed. This HASP is not intended to cover general health and safety regulations that are associated with normal construction activities. The owner of the property, its contractors, and other site workers will be responsible for the development and/or implementation of health and safety provisions associated with normal construction activities or other site activities.

## **2.0 ENVIRONMENTAL PROJECT MONITOR**

The owner of the Site, or the entity that will be performing intrusive work, must designate an environmental project monitor. The environmental project monitor is responsible for implementing and administering the HASP relative to Site activities, and will be in the field while site activities associated with the disturbance of petroleum-impacted soil, fill material, and groundwater are in progress. The environmental project monitor's operational responsibilities will be monitoring, including personal and environmental monitoring, establishing and ensuring compliance with Site control areas and procedures, and identification of protection levels. The air monitoring data obtained by the environmental project monitor must be available for review by others involved with the project.

### **3.0 SAFETY RESPONSIBILITY**

Contractors, consultants, subcontractors, State or local agencies, other parties, their employees, and on-site personnel involved with construction activities or other activities that disturb petroleum-impacted soil, fill material and groundwater will be responsible for their own safety while on-site. These entities and their employees will be required to understand the information contained in this HASP, and must follow the recommendations that are made in this document. As an alternative, contractors, consultants, state or local agencies, other parties, and their employees involved with this project can utilize their own health and safety plan for intrusive activities at this Site as long as it is found acceptable to appropriate regulatory agencies and the City DEQ.

## 4.0 JOB HAZARD ANALYSIS

This HASP discusses some of the anticipated environmental hazards for this Site that are specifically associated with the management of petroleum-impacted soil, fill material, and groundwater during future redevelopment and construction-related activities.

### 4.1 Chemical Hazards

Chemical substances can enter the unprotected body by inhalation, skin absorption, ingestion, or through a puncture wound (injection). A contaminant can cause damage to the point of contact or can act systemically, causing a toxic effect at a part of the body distant from the point of initial contact.

Some samples of soil, fill or groundwater contained petroleum-related VOCs and SVOCs at concentrations that exceeded various regulatory criteria, and to a lesser degree, Petroleum Spill Site Inactivation (PSSI) exposure assessment criteria.

Presented below is a list of select petroleum-related constituents that have been previously detected in soil, fill and/or groundwater at the Site during the studies conducted to date. This list also presents the available OSHA permissible exposure limits (PELs), the available levels that are considered immediately dangerous to life and health (IDLH), as well as National Institute for Occupational Safety and Health (NIOSH) recommended exposure limits (RELs). Constituents listed in Bold were encountered at the Site at concentrations in excess of one or more Commercial Worker or Construction Worker receptor value as defined in the NYSDEC document titled "Guidelines for Petroleum Spill Site Inactivation" (PSSI), dated February 23, 1998. These values are more fully discussed in a separate Exposure Assessment.

CONSTITUENT	OSHA PEL	NIOSH REL	IDLH
1,2,4-Trimethylbenzene	25 ppm	25 ppm	NA
1,3,5-Trimethylbenzene	25 ppm	25 ppm	NA
<b>Benzene</b>	1 ppm	0.1 ppm	500 ppm
Ethylbenzene	100 ppm	100 ppm	800 ppm
Isopropylbenzene	50 ppm	50 ppm	900 ppm
Toluene	200 ppm	100 ppm	500 ppm
Xylenes	100 ppm	100 ppm	900 ppm
Anthracene	0.2 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	80 mg/m <sup>3</sup>
<b>Benzo(a)pyrene</b>	0.2 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	80 mg/m <sup>3</sup>
<b>Chrysene</b>	0.2 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	80 mg/m <sup>3</sup>
<b>Naphthalene</b>	10 ppm	10 ppm	250 ppm
Phenanthrene	0.2 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	80 mg/m <sup>3</sup>
Pyrene	0.2 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	80 mg/m <sup>3</sup>

Notes: PEL = OSHA Permissible Exposure Limits [time-weighted average (TWA) for 8-hour day]  
IDLH = Immediately Dangerous To Life Or Health  
REL = NIOSH Recommended Exposure Limits (TWA for up to a 10-hour work day)  
NA = Not Available

The potential routes of exposure for these contaminants include inhalation, ingestion, absorption and skin/eye contact. The potential for exposure through any one of these routes will depend on the activity conducted. It is anticipated that inhalation, absorption and skin contact would be the most likely routes of exposure if groundwater is encountered and/or during disturbance of soil or fill material at the Site.

During project activities that involve the removal and/or disturbance of petroleum-impacted soil, fill material, or groundwater, the worker's breathing zone must be monitored for VOCs using a photoionization detector (PID) and/or for dusts and particulates using a real-time aerosol monitor (RTAM) in accordance with the provisions set forth in Section 8.0.

## 4.2 Physical Hazards

There are physical hazards associated with this project, which might compound the chemical hazards. Hazard identification, training, adherence to the redevelopment or work plans, and careful housekeeping can prevent many problems or accidents arising from physical hazards. Potential physical hazards associated with this project and suggested preventative measures include:

- Slip/Trip/Fall Hazards - Some areas may have wet surfaces that will greatly increase the possibility of inadvertent slips. Caution must be exercised when using steps and stairs due to slippery surfaces in conjunction with the fall hazard. Good housekeeping practices are essential to minimize the trip hazards.
- Small Quantity Flammable Liquids - If small quantities of flammable liquids are brought on-site, they will be stored in "safety" cans and labeled according to contents.
- Electrical Hazards - Electrical devices and equipment shall be de-energized prior to working near them. All extension cords will be kept out of water, protected from crushing, and inspected regularly to ensure structural integrity. Temporary electrical circuits will be protected with ground fault circuit interrupters. Only qualified electricians are authorized to work on electrical circuits. Heavy equipment (e.g., backhoe, excavator) shall not be operated within 10 feet of high voltage lines.
- Noise - Work around large equipment often creates excessive noise. The effects of noise can include:
  - Workers being startled, annoyed, or distracted.
  - Physical damage to the ear resulting in pain, or temporary and/or permanent hearing loss.
  - Communication interference that may increase potential hazards due to the inability to warn of danger and proper safety precautions to be taken.

If employees are subjected to noise exceeding an 8-hour time weighted average sound level of 90 d(B)A (decibels on the A-weighted scale), feasible administrative or engineering controls shall be utilized. In addition, whenever employee noise exposures equal or exceed an 8-hour, time weighted average sound level of 85 d(B)A, employers shall administer a continuing, effective hearing conservation program as described in OSHA Regulation 29 CFR Part 1910.95.

- Heavy Equipment - Each morning before start-up, heavy equipment will be observed to ensure safety equipment and devices are operational and ready for immediate use.

- Subsurface and Overhead Hazards - Before any excavation activity, efforts will be made to determine whether underground utilities and potential overhead hazards will be encountered. Underground utility clearance must be obtained prior to subsurface work.

### **4.3 Environmental Hazards**

Environmental factors such as weather, wild animals, insects, and irritant plants can pose a hazard when performing outdoor tasks. Reasonable efforts will be made to alleviate these hazards should they arise.

#### **4.3.1 Heat Stress**

The combination of warm ambient temperature and protective clothing increases the potential for heat stress. In particular:

- Heat rash
- Heat cramps
- Heat exhaustion
- Heat stroke

Site workers will be encouraged to increase consumption of water and electrolyte-containing beverages when the potential for heat stress exists. In addition, workers are encouraged to take rests whenever they feel adverse effects that may be heat-related.

#### **4.3.2 Exposure to Cold**

With outdoor work in the winter months, the potential exists for hypothermia and frostbite. Protective clothing greatly reduces the possibility of hypothermia and frostbite in workers. However, personnel will be instructed to wear warm clothing and to stop work to obtain more clothing if they become too cold. Site Workers will be encouraged to change into dry clothes if their clothing becomes wet from perspiration or from exposure to precipitation.



## **5.0 SITE CONTROLS**

To prevent migration of petroleum-related constituents caused through tracking by personnel or equipment, work areas, and PPE staging/decontamination areas will be clearly specified prior to beginning operations.

### **5.1 Site Zones**

In areas where soil, fill material or groundwater presents a potential for worker exposure (work zone), personnel entering the area must wear the mandated level of protection for the area. A "transition zone" shall be established where personnel can begin personal and equipment decontamination procedures. This can reduce potential off-site migration of contaminants. If petroleum-impacted soil, fill material and/or groundwater are encountered and equipment or clothing becomes contaminated, they will not be allowed outside the transition zone (e.g., on clean portions of the Site). Operational support facilities will be located outside the transition zone (i.e., in a "support zone"), and normal work clothing and support equipment are appropriate in this area. If possible, the support zone should be located upwind of project activities.

### **5.2 General**

The following items will be requirements to protect the health and safety of workers during implementation of project activities that disturb petroleum-impacted soil, fill material, and groundwater.

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand to mouth transfer and ingestion of contaminants shall not occur in the work zone and/or transition zone during disturbance of potentially impacted soil, or fill material and/or groundwater.
- Personnel admitted in the work zone shall be properly trained in health and safety techniques and equipment usage.
- No personnel shall be admitted in the work zone without the proper safety equipment.
- Proper decontamination procedures shall be followed before leaving the Site.

## 6.0 PROTECTIVE EQUIPMENT

This section addresses the various levels of personal protective equipment (PPE) that are or may be required at this job site. Personnel entering the work zone and transition zone shall be trained in the use of the anticipated PPE to be utilized.

### 6.1 Anticipated Protection Levels

The following table summarizes the protection levels (refer to Section 6.2) anticipated for various tasks to be implemented during redevelopment and construction related activities that involve disturbing petroleum-impacted soil, fill material, or groundwater.

TASK	PROTECTION LEVEL	COMMENTS/MODIFICATIONS
Site mobilization	D	
Site preparation	D	
Extrusive work (e.g., surveying, etc.)	D	
Intrusive work (e.g., grading, excavating, trenching, utility repair, etc.)	D, Modified D or C	Based on air monitoring and worker discretion
Support zone	D	
Site breakdown and demobilization	D	

During disturbance of petroleum-impacted soil, fill material, and groundwater, air in the worker's breathing zone and on the Site (upwind, downwind, etc.) shall be monitored for:

- Dusts, aerosols, particulates, etc. using a RTAM, and
- VOCs using a PID.

The air monitoring program in Section 8.0 will be used to assist in determining the level of PPE.

It is anticipated that work conducted as part of this project will be performed in Level D or modified Level D PPE. If conditions are encountered that require higher levels of PPE (e.g., Level C, B, or A), the work will immediately be stopped and the proper health and safety measures will be implemented (e.g., develop and implement engineering controls, upgrade in PPE, etc.).

### 6.2 Protection Level Descriptions

This section lists the minimum requirements for each protection level. Modifications to these requirements can be made upon approval of the environmental project monitor. If Level A, Level B, and/or Level C PPE is required, Site personnel that enter the work zone and/or transition zone must be properly trained in the use of those levels of PPE.

### **6.2.1 Level D**

Level D consists of the following:

- Safety glasses
- Hard hat when working with heavy equipment
- Steel-toed or composite-toed work boots
- Protective gloves during handling of petroleum-impacted media
- Work clothing as prescribed by weather

### **6.2.2 Modified Level D**

Modified Level D consists of the following:

- Safety glasses with side shields
- Hard hat
- Steel-toed or composite-toed work boots
- Work gloves
- Outer protective wear, such as Tyvek coverall [Tyveks (Sarans) and polyvinyl chloride (PVC) acid gear will be required when workers have a potential to be exposed to impacted liquids or impacted particulates].

### **6.2.3 Level C**

Level C consists of the following:

- Air-purifying respirator with appropriate cartridges
- Outer protective wear, such as Tyvek coverall [Tyveks (Sarans) and PVC acid gear will be required when workers have a potential to be exposed to impacted liquids or particulates].
- Hard hat
- Steel-toed or composite-toed work boots
- Nitrile, neoprene, or PVC over-boots, if appropriate
- Nitrile, neoprene, or PVC gloves, if appropriate
- Face shield (when projectiles or splashes pose a hazard)

Level C PPE is not anticipated to be required during this project. If the need for level C PPE becomes evident, the Site activities will be ceased until Site conditions are further evaluated, and any necessary modifications to the HASP have been addressed. Subsequently, the appropriate safety measures (including Level C PPE) must be implemented prior to commencing Site activities involving petroleum-impacted media.

### **6.2.4 Level B**

Level B protection consists of the items required for Level C protection with the exception that an air-supplied respirator is used in place of the air-purifying respirator. Level B PPE is not anticipated to be required during this project. If the need for level B PPE becomes evident, the Site activities will be ceased until Site conditions are further evaluated, and any necessary modifications to the HASP have been addressed. Subsequently, the appropriate safety measures (including Level B

PPE) must be implemented prior to commencing Site activities involving petroleum-impacted media.

### **6.2.5 Level A**

Level A protection consists of the items required for Level B protection with the addition of a fully encapsulating, vapor-proof suit capable of maintaining positive pressure. Level A PPE is not anticipated to be required during this project. If the need for level A PPE becomes evident, the Site activities will be ceased until Site conditions are further evaluated, and any necessary modifications to the HASP have been addressed. Subsequently, the appropriate safety measures (including Level A PPE) must be implemented prior to commencing Site activities involving petroleum-impacted media.

### **6.3 Respiratory Protection**

Any respirator used will meet the requirements of OSHA 29 CFR 1910.134. Both the respirator and cartridges specified shall be fit-tested prior to use in accordance with OSHA regulations (29 CFR 1910). Air purifying respirators shall not be worn if contaminant levels exceed designated use concentrations. The workers will wear respirators with approval for: organic vapors <1,000 parts per million (ppm); and dusts, fumes and mists with a TWA <0.05 mg/m<sup>3</sup>.

No personnel who have facial hair, which interferes with the respirator's sealing surface, will be permitted to wear a respirator and will not be permitted to work in areas requiring respirator use.

Only workers who have been certified by a physician as being physically capable of respirator usage shall be issued a respirator. Personnel unable to pass a respiratory fit test or without medical clearance for respirator use will not be permitted to enter or work in areas on-site that require respirator protection.

## **7.0 DECONTAMINATION PROCEDURES**

This section describes the procedures necessary to ensure that both personnel and equipment are free from contamination when they leave the work Site.

### **7.1 Personnel Decontamination**

As deemed necessary by the environmental project monitor, personnel involved with activities that involve disturbing petroleum-impacted soil, fill material, or groundwater will follow the decontamination procedures described herein to ensure that materials which workers may have contacted in the work zone and/or transition zone do not result in personal exposure and are not spread to clean areas of the Site. This sequence describes the general decontamination procedure. The specific stages can vary depending on the Site, the task, the protection level, etc.

1. Leave work zone and go to transition zone
2. Remove soil/debris from boots and gloves
3. Remove boots
4. Remove gloves
5. Remove Tyvek suit and discard, if applicable
6. Remove and wash respirator, if applicable
7. Go to support zone

### **7.2 Equipment Decontamination**

If equipment becomes contaminated, it shall be decontaminated in the transition zone before leaving the Site. Decontamination procedures can vary depending upon the contaminant involved, but may include sweeping, wiping, scraping, hosing, or steam cleaning the exterior of the equipment. Personnel performing this task will wear the proper PPE.

### **7.3 Disposal**

Disposable clothing will be treated as contaminated waste or solid waste and be disposed of in accordance with applicable regulations. Liquids (e.g., decontamination water, etc.), if generated by project activities, will be disposed of in accordance with applicable regulations.

## 8.0 AIR MONITORING

During activities that disturb petroleum-impacted soil, fill material, or groundwater, air monitoring will be conducted in order to determine airborne particulate and potential contaminant levels. This ensures that respiratory protection is adequate to protect personnel against the contaminants, and that contaminants are not migrating off-site. Additional air monitoring may be conducted at the discretion of the environmental project monitor.

The following chart describes the direct reading instrumentation that will be utilized, the currently anticipated action levels, and the anticipated response actions.

Monitoring Device	Action level	Action/Level of PPE
RTAM Particulate Meter	< 150 ug/m <sup>3</sup> over an integrated period not to exceed 15 minutes.	Continue working
	> 150 ug/m <sup>3</sup> over an integrated period not to exceed 15 minutes.	Cease work, implement dust suppression, change in way work performed, etc. If levels can not be brought below 150 ug/m <sup>3</sup> , then upgrade PPE to <u>Level C</u> .
PID Volatile Organic Compound Meter	< 1 ppm in breathing zone, sustained 5 minutes	<u>Level D</u>
	1-25 ppm in breathing zone, sustained 5 minutes	<u>Level C</u> , monitor air for VOCs using chemical-specific drager tubes.
	26-250 ppm in breathing zone, sustained 5 minutes	<u>Level B</u> , Stop work, evaluate the use of engineering controls
	>250 ppm in breathing zone	<u>Level A</u>

### 8.1 Particulate Monitoring

During activities that disturb petroleum-impacted soil, fill material or groundwater, air monitoring will include RTAM monitoring for particulates using a RTAM particulate meter at the perimeter of the work zone in accordance with the 1989 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4031, titled "*Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites*". The TAGM uses an action level of 150 ug/m<sup>3</sup> over an integrated period not to exceed 15 minutes. If the action level is exceeded, or if visible dust is encountered, then work shall be discontinued until corrective actions are implemented. Corrective actions may include dust suppression, change in the way work is performed, upgrade of PPE, etc. Readings will be recorded and be available for review.

## 8.2 Volatile Organic Compound Monitoring

During activities that disturb petroleum-impacted soil, fill material, or groundwater, a PID will be used to monitor total VOC content of the ambient air. The PID will prove useful as a direct reading instrument to aid in determining if current respiratory protection is adequate or needs to be upgraded. The environmental project monitor will take measurements before operations begin in an area to determine the amount of VOCs naturally occurring in the air. This is referred to as a background level. Levels of VOCs will periodically be measured in the air at active work sites, and at the transition zone when levels are detected above background in the work zone. If VOC concentrations are detected, appropriate response actions should be taken and appropriate protective gear utilized as specified in the preceding table in Section 8.0.

## 8.3 Community Air Monitoring Plan

During activities that disturb petroleum-impacted soil, fill material or groundwater, a Community Air Monitoring Plan (CAMP) will be implemented. The CAMP includes RTAM monitoring for VOCs and particulates (i.e., dust) at the downwind perimeter of each designated work area when activities with the potential to release VOCs or dust are in progress at the Site. This CAMP is based on the New York State Department of Health (NYSDOH) Generic CAMP included as Appendix 1A of the NYSDEC document titled “*Draft DER-10, Technical Guidance for Site Investigation and Remediation*” dated December 2002. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of project work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shut down. Additionally, the CAMP helps to confirm that work activities did not spread contaminants off-site through the air. Reliance on the CAMP should not preclude simple, common sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

**Continuous monitoring** will be conducted during ground intrusive activities involving petroleum-impacted soil, fill material or groundwater. Ground intrusive activities include, but are not limited to, excavation, grading, handling, etc.

**Periodic monitoring** for VOCs will be conducted during non-intrusive activities involving petroleum-impacted soil, fill material or groundwater when deemed appropriate (e.g., during collection of background data, during worker breaks, etc.).

### 8.3.1 VOC Monitoring, Response Levels, and Actions

VOCs must be monitored at the downwind perimeter of the immediate work area (i.e., the work zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present (such as a PID equipped with a 10.6 eV lamp). The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running

average concentrations, which will be compared to the levels specified below.

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

Total Organic Vapor readings must be recorded and made available for review.

### **8.3.2 Particulate Monitoring, Response Levels, and Actions**

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the work zone at temporary particulate monitoring stations. The particulate monitoring should be performed using RTAM monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during work activities that have the potential to disturb petroleum-impacted media.

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

Particulate readings must be recorded and made available for review.



## 9.0 EMERGENCY CONTINGENCY PLAN

To provide first-line assistance to field personnel in the case of illness or injury, the following items will be made immediately available on the Site:

- First-aid kit;
- Portable emergency eye wash; and
- Supply of clean water.

## 9.1 Emergency Telephone Numbers

The following telephone numbers are listed in case there is an emergency at the Site:

Fire/Police Department:	911
Poison Control Center:	(800) 222-1222
NYSDEC, Mike Zamiarski, P.E.	(585) 226-5438
NYSDEC Spills Hotline	(800) 457-7362
City of Rochester, Jane Forbes	(585) 428-7892
Nearest Hospital	Rochester General Hospital 1425 Portland Avenue Rochester, NY 14621 (585) 922-4000 (Main)

### Directions to the Hospital (refer to Figure 1):

1. Head southwest on River St toward Latta Rd
2. Take the 1st right onto Latta Rd
3. Take the 1<sup>st</sup> left onto Lake Ave
4. Turn left at Pattonwood Dr
5. Turn right on Thomas Ave
6. Turn right on St.Paul Blvd
7. Merge onto Cooper Rd
8. Turn left on Titus Ave
9. Turn right on Portland Ave

## 9.2 Evacuation

During activities involving disturbance of petroleum-impacted soil, fill material or groundwater, a log of each individual entering and leaving the Site will be kept for emergency accounting practices. Although unlikely, it is possible that a site emergency could require evacuating personnel from the site. If required, the environmental project monitor will give the appropriate signal for site evacuation (i.e., hand signals, alarms, etc.).

Personnel shall exit the site and shall congregate in an area designated by the environmental project monitor. The environmental project monitor shall ensure that personnel are accounted for. If

someone is missing, the environmental project monitor will alert emergency personnel. The appropriate government agencies will be notified as soon as possible regarding the evacuation, and any necessary measures that may be required to mitigate the reason for the evacuation.

### **9.3 Medical Emergency**

In the event of a medical emergency involving illness or injury to one of the on-site personnel, Emergency Medical Service (EMS) and the appropriate government agencies should be notified immediately. The area in which the injury or illness occurred shall not be entered until the cause of the illness or injury is known. The nature of injury or illness shall be assessed. If the victim appears to be critically injured, administer first aid and/or cardio-pulmonary resuscitation (CPR) as needed. If appropriate, real time air monitoring shall be done in accordance with air monitoring outlined in Section 8.0 of this HASP.

### **9.4 Contamination Emergency**

It is unlikely that a contamination emergency will occur; however, if such an emergency does occur, the specific work area shall be shut down and immediately secured. If an emergency rescue is needed, notify Police, Fire Department and EMS units immediately. Advise them of the situation and request an expedient response. The appropriate government agencies shall be notified immediately. The area in which the contamination occurred shall not be entered until the arrival of trained personnel who are properly equipped with the appropriate PPE and monitoring instrumentation as outlined in Section 8.0 of this HASP.

### **9.5 Fire Emergency**

In the event of a fire on-site, non-essential site personnel shall be evacuated to a safe, secure area. The Fire Department will be notified immediately, and advised of the situation and the identification of any hazardous materials involved. The appropriate government agencies shall be notified as soon as possible.

The four classes of fire along with their constituents are as follows:

- Class A: Wood, cloth, paper, rubber, many plastics, and ordinary combustible materials.
- Class B: Flammable liquids, gases and greases.
- Class C: Energized electrical equipment.
- Class D: Combustible metals such as magnesium, titanium, sodium, and potassium.

Small fires on-site may be actively extinguished; however, extreme care shall be taken while in this operation. Approaches to the fire shall be done from the upwind side if possible. Distance from on-site personnel to the fire shall be close enough to ensure proper application of the extinguishing material, but far enough away to ensure that the personnel are safe. The proper extinguisher shall be utilized for the Class(s) of fire present on the site. If possible, the fuel source shall be cut off or separated from the fire. Care must be taken when performing operations involving the shut-off of valves and manifolds, if present.

Examples of proper extinguishing agent as follows:

- Class A: Water  
Water with 1% AFFF Foam (Wet Water)  
Water with 6% AFFF or Fluorprotein Foam  
ABC Dry Chemical
- Class B: ABC Dry Chemical  
Purple K  
Carbon Dioxide  
Water with 6% AFFF Foam
- Class C: ABC Dry Chemical  
Carbon Dioxide
- Class D: Metal-X Dry Powder

No attempt shall be made against large fires. These shall be handled by the Fire Department.

## **9.6 Spill or Air Release**

In the event of spills or air releases of hazardous materials on-site, the specific area of the spill or release shall be shut down and immediately secured. The area in which the spills or releases occurred shall not be entered until the cause can be determined and site safety can be evaluated. All non-essential site personnel shall be evacuated to a safe and secure area. The appropriate government agencies shall be notified as soon as possible. The spilled or released materials shall be immediately identified and appropriate containment measures shall be implemented, if possible. Real time air monitoring shall be implemented as outlined in Section 8.0 of this HASP. If the materials are unknown, Level B protection is mandatory. Samples of the materials shall be acquired to facilitate identification, if deemed necessary.

## **9.7 Locating Containerized Waste and/or Underground Storage Tanks**

In the event that unanticipated containerized waste (e.g., drums) and/or underground storage tanks are located during the project, the work will be stopped in the specific area until site safety can be evaluated and addressed. Non-essential Site personnel shall not work in the immediate area until conditions, including possible exposure hazards, are addressed. The appropriate government agencies shall be notified as soon as possible. The environmental project monitor shall monitor the area as outlined in Section 8.0 of this HASP.

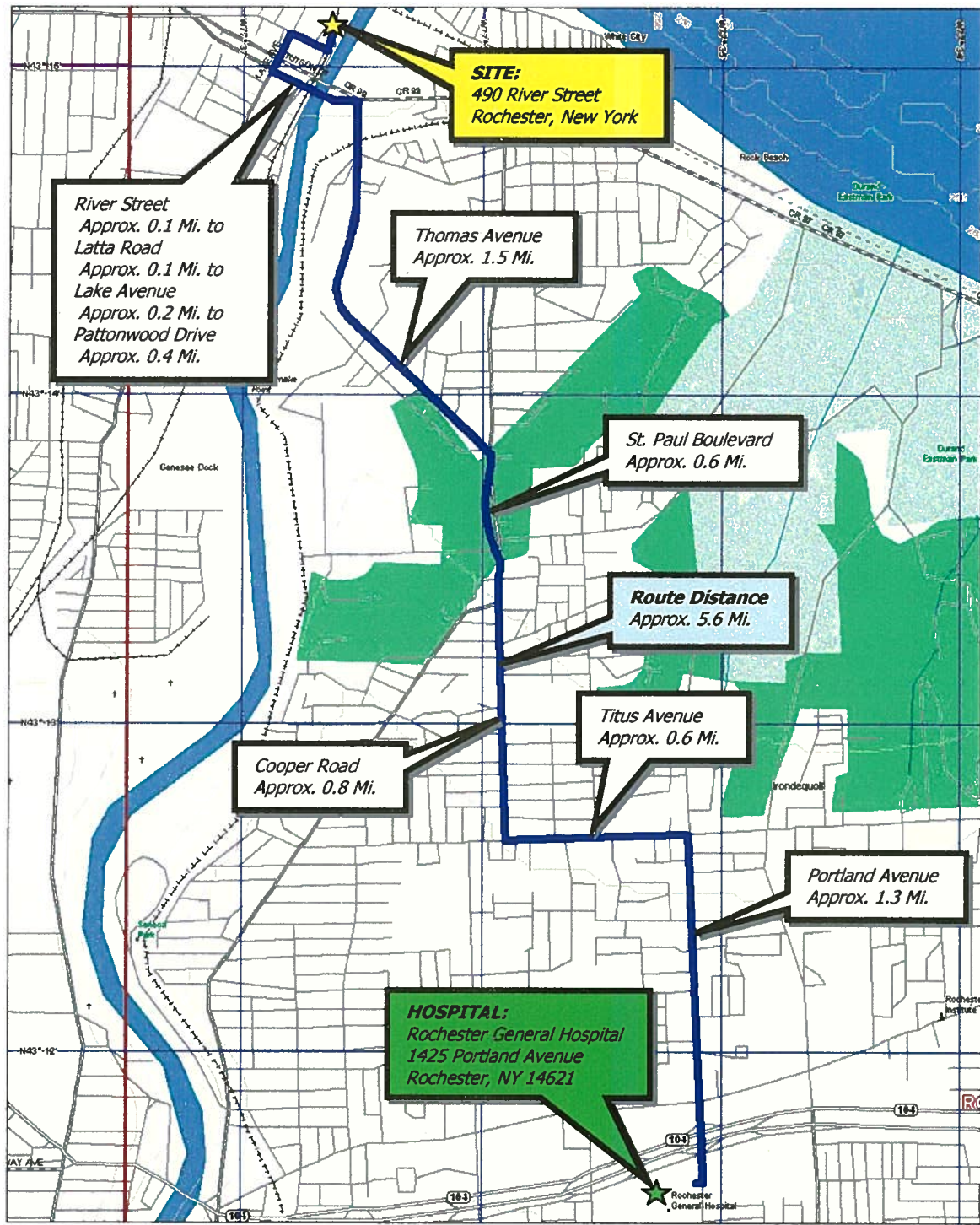
Prior to any handling, unanticipated containers will be visually assessed by the environmental project monitor to gain as much information as possible about their contents. As a precautionary measure, personnel shall assume that unlabelled containers and/or tanks contain hazardous materials until their contents are characterized. To the extent possible based upon the nature of the containers encountered, actions may be taken to stabilize the area and prevent migration (e.g., placement of berms, etc.). Subsequent to initial visual assessment and any required stabilization, properly trained personnel will sample, test, remove, and dispose of any containers and/or tanks, and their contents. After visual assessment and air monitoring, if the material remains unknown, Level B protection is mandatory.

## 10.0 ABBREVIATIONS


CAMP	Community Air Monitoring Program
CPR	Cardio-Pulmonary Resuscitation
d(B)A	Decibels on the A-Weighted Scale
DEQ	City of Rochester Department of Environmental Services Division of Environmental Quality
EMS	Emergency Medical Service
HASP	Health and Safety Plan
IDLH	Immediately Dangerous to Life or Health
NIOSH	National Institute for Occupational Health and Safety
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PID	Photoionization Detector
PM-10	Particulate Matter less than 10 micrometers in diameter
PPE	Personal Protective Equipment
ppm	Parts Per Million
PSSI	NYSDEC Guidelines for Petroleum Spill Site Inactivation
PVC	Polyvinyl Chloride
REL	NIOSH Recommended Exposure Limits (TWA for up to a 10-hour work day)
RTAM	Real-Time Aerosol Monitor
SMP	Site Management Plan
SVOC	Semi-Volatile Organic Compound
TAGM	Technical and Administrative Guidance Memorandum
TWA	Time-Weighted Average
ug/m <sup>3</sup>	Micrograms Per Meter Cubed
UST	Underground Storage Tank
VOC	Volatile Organic Compound

**ATTACHMENT 1**

**Map to Hospital**



Drawing Produced From: 3-D TopoQuads, DeLorme Map Co., referencing USGS quad maps Rochester East (NY) 1995, Rochester West (NY) 1995 and Braddock Heights (NY) 1995.

DATE <b>10/6/2009</b>	 <b>DAY ENVIRONMENTAL, INC.</b> ENVIRONMENTAL CONSULTANTS ROCHESTER, NEW YORK 14614-1008	PROJECT TITLE <b>490 RIVER STREET          ROCHESTER, NEW YORK</b>  <b>HEALTH AND SAFETY PLAN</b>	PROJECT NO.  <b>4254S-09</b>  <b>FIGURE 1</b>
DRAWN BY <b>RJM</b>  SCALE <b>As Noted</b>		DRAWING TITLE <b>ROUTE FOR EMERGENCY SERVICES</b>	