

#### SOIL AND GROUNDWATER MANAGEMENT PLAN

760 Brooks Ave., Rochester, NY NYSDEC Spill #9301027 3730 California Road P.O. Box 427 Orchard Park, NY 14127-0427 p: 716.662.0745 f: 716.662.0946 www.matrixbiotech.com

To inform those involved with future business dealings at 760 Brooks Avenue in Rochester, New York (Site) and in accordance with a request from the New York State Department of Environmental Conservation (NYSDEC, Region 8 Office), Matrix Environmental Technologies Inc. (METI), on behalf of Sunoco, Inc. (Sunoco) and Superior Plus Energy Services (Superior), has prepared the following Soil and Groundwater Management Plan (SGMP). The SGMP outlines actions to be taken by the current or future property owner(s), should petroleum vapors, petroleum sheen or staining, and/or volatile organic or semi volatile organic compounds (VOCs & SVOCs) in soil and groundwater be encountered during intrusive activities (at the Site).

#### **PURPOSE:**

Although natural attenuation has reduced soil and overburden groundwater petroleum contaminant concentrations at the Site, some impacts remain at concentrations that exceed NYSDEC soil guidance values and groundwater standards. As such, this SGMP has been prepared for the purpose of communicating soil and groundwater conditions to those who may perform subsurface activities at the Site in the future. It should be noted that soil and groundwater contaminant concentrations may be at higher or lower levels in the future (i.e. dependent on additional activities and/or continued natural attenuation of the petroleum compounds). The information presented in this SGMP is intended as an environmental data baseline that can be used in conjunction with future site activities where necessary.

#### **DISCOVERY OF IMPACTS:**

Evidence of hydrocarbon impacts in Site soil and groundwater may include one or more of the following:

- a petroleum odor emanating soil or groundwater and/or;
- a petroleum sheen or staining (typically black in color).

Such impacts are to be determined by a qualified environmental professional in the field using a VOC monitor and verified by a certified laboratory using appropriate EPA-approved testing methods; typically EPA Method 8260 for VOC-impacted media and EPA Method 8270 for SVOC impacted media.

#### **CONTACT INFORMATION:**

In the event that petroleum impacts to either soil or groundwater are discovered on the 760 Brooks Avenue property, please contact the following:

- NYSDEC Spills Hotline......1-800-457-7362 The NYSDEC must be contacted within 2 hours of discovery of impacts.

• Superior Plus Energy Services......1-585-328-3930

#### REGULATORY GUIDANCE FOR IMPACTED SOIL AND GROUNDWATER:

In the event that petroleum impacts to either soil or groundwater are discovered on the 760 Brooks Ave. property, Sunoco and/or Superior may perform any necessary remediation in accordance with NYSDEC Commissioner's Policy CP-51: Soil Cleanup Guidance. If impacts are encountered, adhere to the following guidelines for the proper handling and treatment of materials:

#### Material Handling and Treatment:

**Soil** - In the event that petroleum-impacted soil is encountered at the Site, work should be suspended immediately and the NYSDEC, Sunoco, and Superior should be contacted using the telephone numbers referenced above. **NO IMPACTED SOIL IS TO BE REMOVED FROM THE SITE.** Petroleum-impacted material that has been removed from the ground should be placed on plastic and covered with plastic. Do not backfill the excavation until authorization has been granted by the NYSDEC. Once approved, excavated impacted soil can be disposed at an approved landfill.

Groundwater – In the event that impacted groundwater is encountered at the Site, work should be suspended immediately and the NYSDEC, Sunoco, and Superior should be contacted using the telephone numbers referenced above. **DO NOT ATTEMPT TO PUMP IMPACTED WATER FROM AN EXCAVATION.** Petroleum-impacted groundwater must be properly treated using an approved remedial technology (i.e. carbon filtration, air stripping, etc.) prior to discharge. Authorization from the NYSDEC or local municipality must be obtained prior to discharging the treated groundwater.

#### Post-remedial Sampling:

Once petroleum-impacted soil and/or groundwater have been remediated, soil and groundwater samples should be obtained and submitted for laboratory analysis to confirm that no impacted soil and/or groundwater remains. **Soil and groundwater samples should be obtained by a qualified professional.** Samples should be submitted for laboratory analysis using EPA Methods 8260 and 8270, which quantifies VOC and SVOC concentrations, respectively (NYSDEC CP-51 Tables 2 and 3, VOCs and SVOCs only).

#### Health and Safety:

An appropriate, site-specific Health and Safety Plan (HASP) should be developed to protect worker safety for any excavation and/or dewatering activities conducted on the Site. The HASP should be compliant with the Occupational Safety and Health Administration (OSHA) guidance as outlined in 29 CFR 1910.120 (OSHA Hazardous Waste Operations and Emergency Response Standard) for worker safety at hazardous sites. The responsibility for the HASP exists with the parties conducting the work.



#### **DISTRIBUTION LIST:**

Copies of this SGMP will be distributed to the following:

- The NYSDEC Region 8 Office, Avon, NY
- Sunoco, Inc. (R&M), Philadelphia, PA
- Superior Plus Energy Services, Rochester, NY
- The New York State Department of Health (NYSDOH), Rochester, NY
- The New York State Department of Transportation (NYSDOT), Region 4, Rochester, NY
- Property Owner, 760 Brooks Avenue (Saunders Management)
- Division of Environmental Quality, City of Rochester, NY
- Code Inspection and Enforcement, City of Rochester, NY

#### **ATTACHMENTS:**

Remedial Action Plan, Matrix Environmental Technologies Inc., February 10, 2011

Subsurface Investigation Report, Matrix Environmental Technologies Inc., October 30, 2012

Semi-Annual 2015 Site Status Report (January-June 2015), Matrix Environmental Technologies Inc., July 16, 2015



# REMEDIAL ACTION PLAN MATRIX ENVIRONMENTAL TECHNOLOGIES INC. FEBRUARY 10, 2011



February 10, 2011

Mrs. Kinyorda D. Sliwiak Sunoco, Inc. (R&M) 1109 Milton Avenue Syracuse, NY 13204

**RE:** Remedial Action Plan

Former Bulk Petroleum Terminal 760 Brooks Avenue Rochester, New York DUNS #0090-5828 NYSDEC Spill#00-05282 Matrix Project #05-033

Mrs. Sliwiak:



3730 California Road P.O. Box 427 Orchard Park, N.Y. 14127-0427

Voice: (716) 662-0745 Fax: (716) 662-0946 www.matrixbiotech.com

Per your authorization, Matrix Environmental Technologies Inc. (METI) has developed a Remedial Action Plan (RAP) for the site referenced above. The RAP was developed based on historical site data, and information summarized in the *Site Characterization & Data Evaluation*, dated June 15, 2010. Based on our review of the historic site data, impacted soil was identified as the medium of concern, and therefore, this RAP focuses on remediating impacts in soil from volatile organic compounds (VOCs). The source of the impacts in soil appears to be related to the former operation of the site as a bulk petroleum facility.

#### Site Data Summary

Since May 2008, a total of 70 soil borings have been completed at the site and have resulted in the analysis of 77 soil samples for VOC and semi-volatile organic compounds (SVOC) analysis via EPA Methods 8260 (STARS<sup>1</sup> list) and 8270 (STARS list), respectively. The analytical testing results were compared to New York State Department of Environmental Conservation (NYSDEC) CP-51 / Soil Cleanup Guidance (SCG) values (CP-51 replaced STARS list 1/1/2011). Twenty-one of the 77 soil samples contained VOCs in exceedence of their respective SCG value as shown on Table 1.

The highest VOC concentration was detected in the soil sample collected from B-2 (14'-15'), located in the northwestern portion of the Site, at a total VOC concentration of 638,730 parts per billion (ppb). Based on our review of the analytical data, in general, four areas of petroleum impacted soil have been identified with VOC concentrations exceeding the SCG (Figure 1). These areas are:

• Area 1 – the largest area was identified along the northern and western portions of the property at depths ranging from approximately 12 to 20 feet bgs, as shown on

<sup>&</sup>lt;sup>1</sup> NYSDEC Spills Technology and Remediation Series (STARS), Petroleum Contaminated Soil Guidance Policy Memo #1, Revised August 1992

Figure 1. Field screening of soils using an organic vapor meter (OVM) suggests soils above 12 feet bgs consisted generally of non-impacted fill material. Historic review indicated the fill material was likely brought to the site subsequent to petroleum operations.

- Area 2 Northeastern area soil depths generally ranging from 10 to 16 feet bgs;
- Area 3 Area north of existing building, located under existing paved parking lot
   soil depths generally ranging from 8 to 16 feet bgs;
- Area 4 Area west of existing building, located under existing paved parking lot, with soil depths raging from 7 to 18 feet bgs.

Several SVOCs were detected in soil samples selected, however at concentrations below their respective SCGs. Only one SVOC (naphthalene) was detected from boring B-8 (16.5' to 17.5') at a concentration of 17,100 ppb, which exceeds its respective SCG of 12,000 ppb as shown on Table 2. Based on the results of the SVOC analytical testing results, further work to address the SVOCs is not needed.

Soil geophysical analytical results obtained from identified impact zone depths within Area 1 indicate hydraulic conductivity (k) values ranging from  $1.5 \times 10^{-5}$  to  $4.1 \times 10^{-7}$  cm/s in the native silt and clay soils. This data is consistent with the results of slug testing completed in wells screened in the overburden, which had k values ranging between  $4.6 \times 10^{-5}$  to  $6.9 \times 10^{-6}$  cm/s. The k values indicate that groundwater flow and recharge is occurring predominately through soils of poor permeability (Appendix A).

Results of a groundwater elevation gauging event completed in April 2010 indicate that shallow groundwater flow is to the north-northwest in the overburden and to the northwest in both the shallow and deep bedrock aquifers. The hydraulic gradients are moderate in each water-bearing zone. The vertical gradients are downward from overburden to shallow bedrock and from shallow bedrock to deep bedrock. Light non-aqueous phase liquid (LNAPL) thicknesses of 0.10 and 2.48 feet were detected in shallow bedrock wells MW-3SB and MW-5SB, and of 0.03 feet in deep bedrock well MW-3DB. The source of the LNAPL is currently not known, but appears to be unrelated to the petroleum impacts detected in soil based on the following;

- LNAPL impacts are located hydraulically upgradient of soil impacts; MW-3SB is located on the up-gradient portion of the Site, along the southeastern property limit;
- Shallow and deep bedrock wells nearer the soil areas are free of LNAPL impacts;
- Low permeable silt and clay soil overlying bedrock appears to limit the vertical migration of petroleum impacts from overburden to bedrock.

A total of 25 groundwater samples were submitted for VOC and SVOC analysis from the three aquifer systems. Nine (9) samples; two overburden VOC, two shallow bedrock VOC, two shallow bedrock SVOC contained at least one compound above NYSDEC groundwater standards. VOC impacts were greatest in the sample obtained from shallow bedrock well MW3-SB  $(1,573 \mu g/L)$ 



and SVOC concentrations were greatest in MW-3SB and totaled 7,083  $\mu$ g/L. MW3-SB is located at the southeastern corner of the site, in an estimated up-gradient direction.

VOC and SVOC impacts were generally non-detect in the samples obtained from the overburden wells (Table 4 and Table 5). Additional samples from select overburden wells were obtained and submitted for iron, sulfate, nitrate, and bacteria count analysis. The results of the geochemical analysis and the low-level or non-existent dissolved-phase hydrocarbon impacts identified in these wells suggest that natural attenuation has already occurred.

Soil vapor sampling was completed by GZA Geo Environmental of New York (GZA) on May 13, 2010. A total of three soil vapor samples and one ambient outdoor air sample were obtained and submitted for laboratory VOC analysis using EPA Method TO-15. Soil vapor samples were collected from near boring B-2 (highest soil VOC concentration – not due to presumed hydraulically upgradient location as indicated in the GZA Summary Report), and borings B-7 and EGS-3 (within the proposed building footprint). The ambient outdoor sample was collected upwind (south) of the soil vapor samples.

New York State does not have regulatory standards for soil vapor VOC concentrations; therefore analytical results identified four compounds between the three samples at levels above the 90<sup>th</sup> percentile values as presented in the New York State Department of Health (NYSDOH) Guidance Manual Table 2. Acetone was identified in all three samples at levels of 7 to 27 times the 90<sup>th</sup> percentile value. However, acetone is frequently used to clean laboratory equipment and for an industrial cleanser. Refer to the attached quality assurance/quality control analysis for the sample batch from Centek Laboratories which identifies Acetone in the blank sample. Refer to Appendix B for a copy of the Air Sampling Services Report (GZA, June 7, 2010).

Based on the air sampling results, GZA concluded that there is a potential for subsurface soil vapor to migrate and accumulate beneath the proposed building footprint. Therefore, a mitigation strategy was recommended, such as placement of a vapor barrier beneath the building slab during construction.



#### **REMEDIAL ACTION PLAN**

#### Evaluation

Based on the NYSDEC CP-51 Soil Cleanup Guidance, Section V, Part B.5; Petroleum Spill Response Program "The remedial party shall achieve, to the extent feasible, the unrestricted soil cleanup objective (SCO) for petroleum-related contaminants listed in 6 NYCRR Table 375-6.8(a)" (similar to CP-51 SCGs). Further "Where DEC determines it is not feasible to achieve the soil cleanup levels as set forth in this paragraph, the remedial party may propose soil cleanup levels in accordance with any of the general approaches (within CP-51). However, when considering restricted use soil cleanup levels, the remedial party should apply the least restrictive use category."

In order to complete remedial efforts to obtain the Part 375 Unrestricted Use Soil Cleanup Objectives (Unrestricted SCOs) or CP-51 SCGs for the subject property, an estimated volume of 43,000-tons of soil would require to be excavated in order to access the impacted soil, generally encountered 8 to 14 feet bgs and extending to approximately 20 feet bgs. In order to remove compounds that exceed their respective SCGs approximately 13,000 tons to 25,000 tons of soil may require off-site disposal. These areas are generally represented in Areas 1 to 4, as shown on Figure 1, but also include limited additional single boring location points.

As impacted soils were generally not identified at the site until depths of at least 8 feet bgs, the site is currently zoned as manufacturing/industrial, the proposed usage is commercial, and the significant costs associated with the removal of deep soils, METI considered the use of Restricted Use Soil Cleanup Objectives under 6 NYCRR Table 375-6.8(b) as an alternative remedial approach. METI considered several factors, including the land use (zoning), the protection of groundwater, and ecological resources per CP-51 Section V., Part A – Approach 2, to determine the usefulness of the restricted use SCOs for the site. The results of the evaluation are as follows:

#### Land Use

Information obtained from the City of Rochester, New York, Online Geographic Information System (GIS) web site (http://www.cityofrochester.gov/GIS/) does not specify a zone for 760 Brooks or 764 Brooks Avenue, the adjoining parcel to the north. Neighboring properties to the north, south, and east are zoned M-1, industrial/manufacturing. The subject property and 764 Brooks Avenue are within the M-1 boundary, and it is assumed that the subject property and 764 Brooks Avenue are zoned for industrial/manufacturing use (Appendix C). METI also contacted the City of Rochester Zoning Department and confirmed 760 Brooks and 764 Brooks are zoned as M-1, manufacturing. Further, a hotel is planned to be built on the subject property and 764 Brooks Avenue, which could be considered commercial usage.



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#### Protection of Groundwater

Based on the results of soil geophysical analysis, aquifer slug testing, groundwater geochemical analysis, and overburden groundwater sample VOC and SVOC analytical results, it appears that the VOCs present within the overburden soil samples are not leaching from soil into overburden groundwater and therefore have not significantly impacted the overburden groundwater. Furthermore, METI also considered the following.

- The site and the surrounding area are serviced by municipal water supply, provided by the City of Rochester;
- VOCs in soil have not affected overburden groundwater; and
- The results of the geochemical analysis and the low-level or non-existent dissolved-phase hydrocarbon impacts identified in these wells suggest that natural attenuation has already occurred, and groundwater quality will improve over time.

As indicated above, LNAPL was found in bedrock wells, which appears to be unrelated to the overburden VOC contamination. Additionally, the LNAPL was found in the upgradient well (MW3-SB), located at the southeast corner of the site. Further investigation and evaluation may be needed to identify the source of the LNAPL in the bedrock wells.

#### **Ecological Resources**

Data obtained from soil borings and overburden groundwater monitoring wells located along the western property boundary did not identify VOC or SVOC concentrations above NYSDEC guidance values, which indicates that on-site impacts are not migrating to the west toward the Erie Canal (zoned as open space). These considered, ecological resources are not affected by the overburden impacts identified on the site (as specified in NYSDEC DER-10 Section 3.10).

#### Conclusion

Based on the above evaluation, proposed usage of the property as a hotel, and the current zoning of the site as M-1 (industrial/manufacturing), an alternative remedial approach is to utilize the Restrictive Use Soil Cleanup Objectives, with the applicable land use category for the protection of public health being commercial for the site. A comparison of the detected soil concentrations to the Part 375-6.8(b) restricted commercial values (Commercial SCOs) does not identify compounds in exceedence of the guidance values, and therefore, no further work would be required to address the VOC overburden soil impact.

However, as listed in CP-51, when considering restricted use soil cleanup objectives, the least restrictive use category should be applied. Therefore, METI has considered the use of the residential use category (Residential SCOs), which is the least restrictive use category provided. The use of Residential SCOs would therefore require the limited removal of overburden soil. A comparison of the soil analytical data to the Residential and Commercial SCOs is provided in Table 3.



Of the 21 soil samples that contained a VOC in exceedence of CP-51 SCGs (or Unrestricted Use SCOs), only four (4) soil samples are shown to exceed Residential SCOs. No sample contained VOC concentrations above the Commercial SCOs. Samples that exceeded the Residential SCOs were B-2 (14'-15'), EGS-32 (14'-16'), and GP-2 (12'-16') located along the northern portion of the property, and B-8 (16.5'-17.5') located along near the western property boundary. With the exception of B-2 sample, only one VOC, 1,2,4-trimethylbenezene exceeded its respective Residential SCO in the three remaining samples (B-8, EGS-32 and GP-2). The location of these samples is within the interpolated 100,000 ppb (cumulative VOC concentration) contour interval depicted on Figure 1.

#### **Remedial Action**

Based on comparison of VOC soil concentrations to Restricted Commercial SCOs, no further work would be needed to address the VOCs identified in the site soil.

However, to address impacted soil which exceeds the Residential SCOs, the proposed remedial action to address the VOC impacted soil at depth of greater than 12 to 14 feet bgs is soil excavation and landfill disposal. CP-51 policy also identifies that soil cleanup levels generally do not need to be achieved to more than 15 feet below ground surface. As the impacted area within the site is generally identified at 12 to 14 feet deep in exceedence of Residential SCOs, but below Commercial SCOs, limited, if any excavation may be required.

As a conservative approach, in order to achieve the Residential SCOs and provide reduce the current property owner's concerns, soil from approximately 12 feet to 20 feet below ground surface within the interpolated 100,000 ppb contour interval presented on Figure 1 will be excavated. Two separate areas of soil impacts above 100,000 ppb are present and cumulatively measure approximately 4,500 ft<sup>2</sup>. Assuming a total excavation depth of 20 feet bgs, the total soil volume measures 3,400 yd<sup>3</sup>, of which 1,300 yd<sup>3</sup> (2,000 tons) would be transported for landfill disposal (Figure 2). Soil within the excavation areas that does not exhibit impacts (assumed from grade to approximately 12 feet bgs) will be segregated and staged on-site for later use as backfill.

Impacted soil will be loaded into tandem axel trucks and transported to an approved landfill for disposal. Periodically during the excavation, soil from the excavation walls and floors will be inspected for evidence of petroleum impact, screened for VOCs using an organic vapor meter (OVM), and submitted for laboratory VOC analysis. Once the extents of the excavation have been reached as proposed in Figure 2, or modified based on a review of soil analytical results, composite soil samples will be collected from the excavation walls and floors (in accordance with sampling guidelines provided in DER-10) to document remaining impacts. Soil samples will be submitted for laboratory analysis for volatile aromatic hydrocarbons using EPA Method 8260 (STARS list). The completed excavation will be backfilled to grade with a combination of the non-impacted staged soil and clean backfill.



The results of the soil vapor sampling identified acetone and benzene in soil vapor above EPA comparative values. Contaminant concentrations were identified in two locations within the footprint of the proposed building that is outside of the proposed excavation area. As such, a sub-slab vapor control system was recommended to be installed under the proposed footprint of the building during construction. METI recommends that a vapor barrier and/or sub slab depressurization system be installed during building construction. Additionally, as remedial efforts will not address all impacted soil present at the Site, as part of the site remediation activities, METI recommends a Soil and Groundwater Management Plan (SGMP) be developed to address soil that is uncovered during site construction activities, such as foundation or utility construction.

The work will be performed in accordance with all New York State Department of Environmental Conservation (NYSDEC) specifications applicable to this project.

If you have any questions, please contact me.

Sincerely,

Matrix Environmental Technologies Inc.

D. Robert Gill, C.P.G.

Project Manager

Michele M. Wittman, P.G.

Senior Project Manager

**Enclosure** 

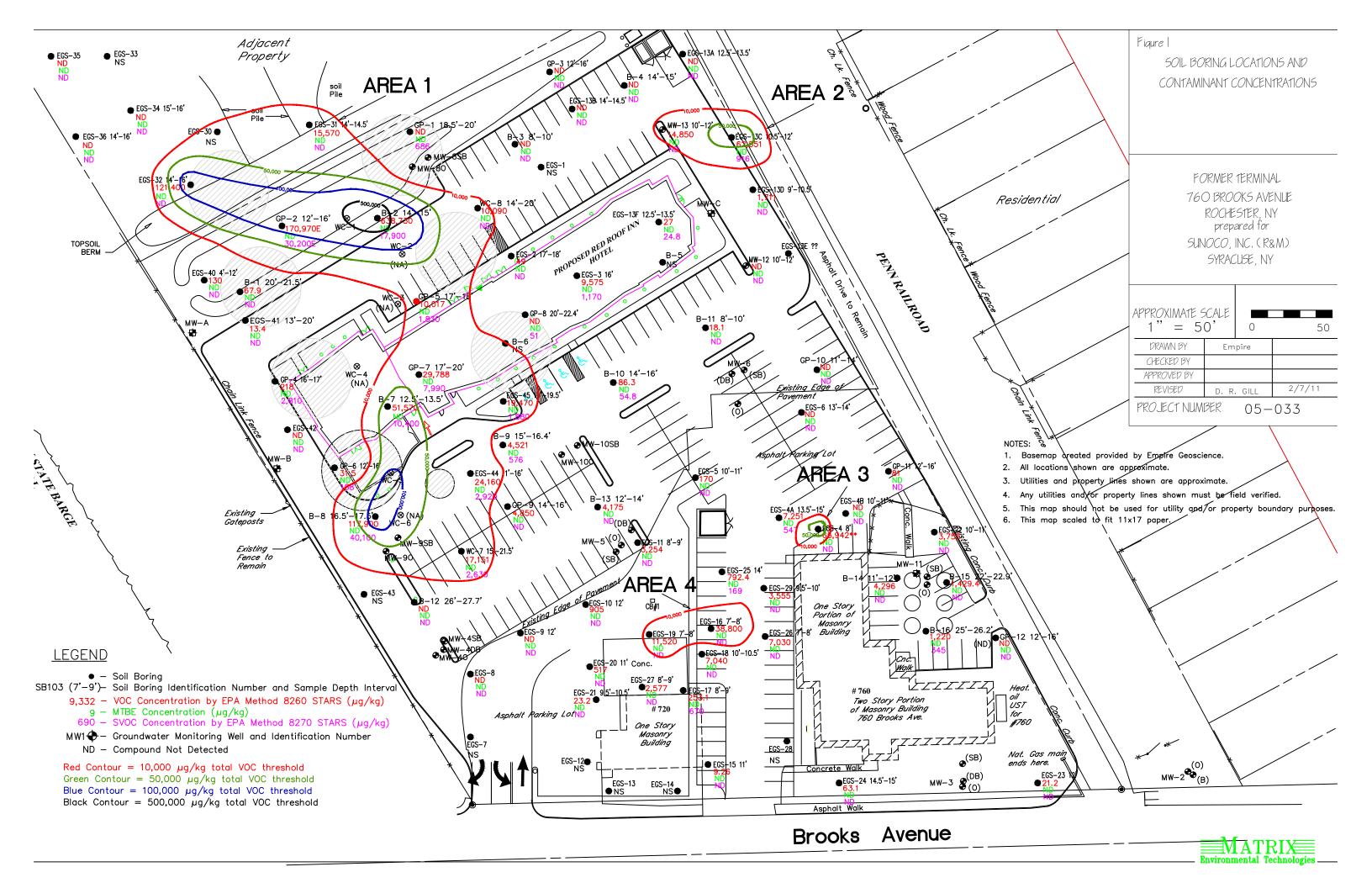
cc: Mrs. Rhonda Giovannitti – Sunoco, Inc. (R&M)

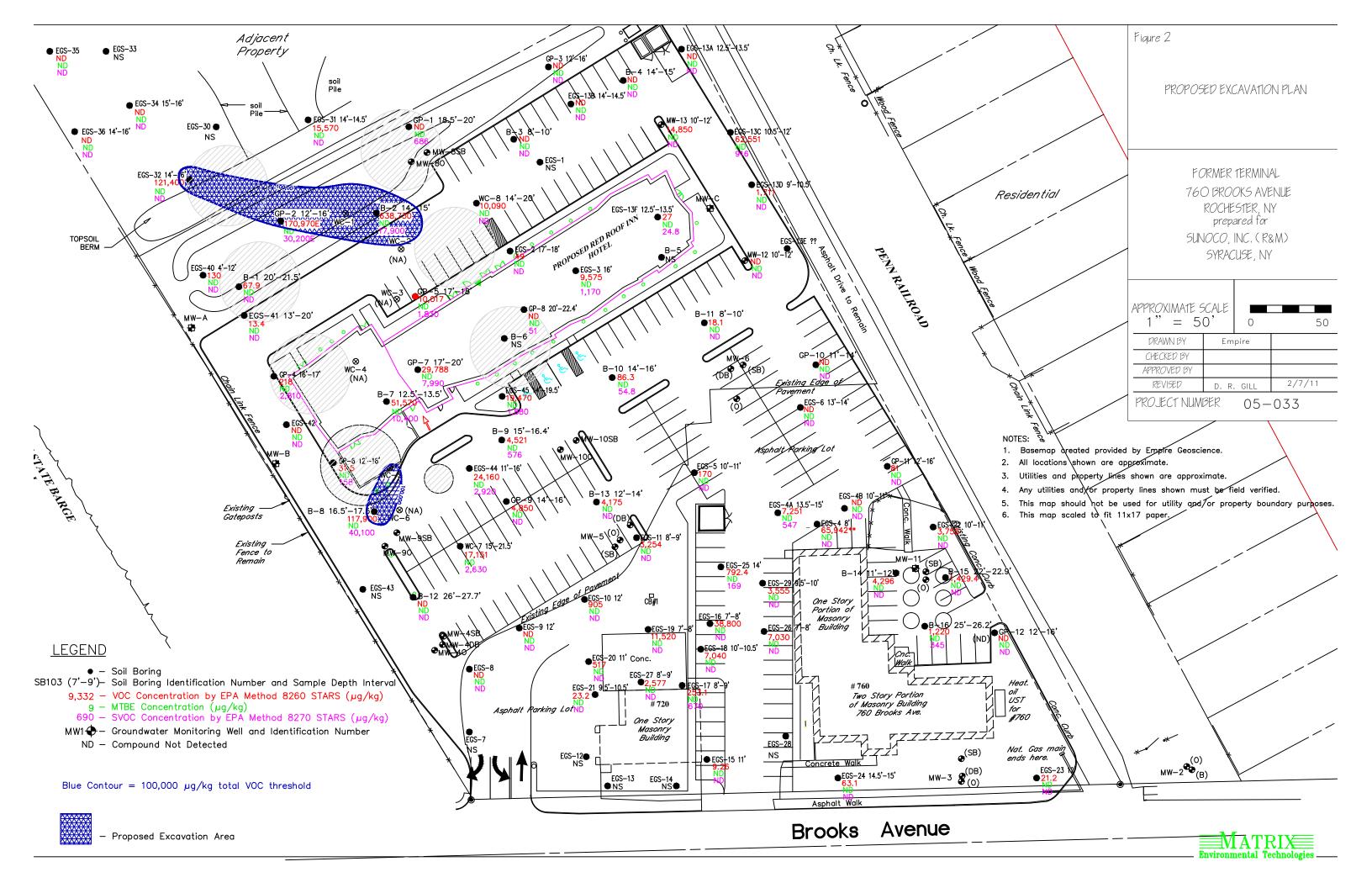
Mr. Kevin Dunleavy, Legal Council – Sunoco, Inc. (R&M)



# **FIGURES**







# **TABLES**



Soil VOC Analytical Data Summary EPA MEthod 8260 STARS (µg/kg) Former Terminal 760 Brooks Ave. Rochester, NY

Compound	NYSDEC CP-51 SCG	B-1 20'-21.5'	B-1 12'-13.5'	B-2 14'-15'	B-2 26'-28'	B-3 8'-10'	B-4 14'-15'	B-7 12.5'-13.5'	B-8 16.5'-17.5'	B-9 15'-16.4'	B-9 24'-24.6'	B-10 14'-16'
Benzene	60	ND	ND	6,230	ND	ND	ND	ND	ND	133	ND	ND
n-Butylbenzene	12,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	11,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	5,900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1,000	ND	ND	45,500	ND	ND	ND	ND	ND	523	40.4	40.5
n-Propylbenzene	3,900	ND	ND	15,900	ND	ND	ND	ND	ND	134	21.9	23.6
Isopropylbenzene	2,300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	700	ND	ND	173,000	ND	ND	ND	ND	ND	ND	16.3	ND
1,2,4-Trimethylbenzene	3,600	ND	ND	113,000	ND	ND	ND	24,700	84,100	914	138	ND
1,3,5-Trimethylbenzene	8,400	30.9	ND	30,400	ND	ND	ND	9,470	33,800	279	46.2	22.2
Total Xylenes	260	37.0	ND	254,700	ND	ND	ND	17,400	ND	2,538	241	ND
Total STARS VOCs	-	67.9	ND	638,730	ND	ND	ND	51,570	117,900	4,521	504.2	86.3
MTBE	930	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.2	ND

MTBE	930	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.2	ND
Naphthalene	12,000	ND	ND	17,900	ND	ND	ND	10,400	40,100	576	32.7	54.8

- 1) B-1 through B-16 sampled in May 2008
- 2) GP-1 through GP-12 sampled in September 2009
- 3) EGS-1 through EGS-45 sampled in October and December 2009
- 4) Laboratory Analytical: All concentrations are presented in  $\mu g/Kg$  or parts per billion (ppb)
- 5) "ND" denotes none detected.
- 6) "E" denotes estimated result due to calibration limits being exceeded
- 7) All samples were analyzed by EPA Method 8260 STARS + MtBE.
- 8) Soil Cleanup Guidelines (SCG) were obtained from NYSDEC CP-51
- 9) Shaded concentrations exceed the respective SCG

Soil VOC Analytical Data Summary EPA MEthod 8260 STARS (µg/kg) Former Terminal 760 Brooks Ave. Rochester, NY

Compound	NYSDEC CP-51 SCG	B-10 26'-26.4'	B-11 8'-10'	B-11 24'-24.4'	B-12 26'-27.7'	B-13 12'-14'	B-13 24'-25.4'	B-14 11'-12'	B-14 20'-22'	B-15 13'-15'	B-15 22'-22.9'	B-16 8'-10'	B-16 25'-26.2'
Benzene	60	51.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	12,000	ND	ND	ND	ND	1,120	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	11,000	ND	18.1	ND	ND	472	ND	311	ND	343	181	50.7	ND
tert-Butylbenzene	5,900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1,000	ND	ND	ND	ND	ND	ND	287	ND	ND	51.4	22.8	ND
n-Propylbenzene	3,900	ND	ND	ND	ND	1,250	14.3	826	17.5	531	120	62.1	125
Isopropylbenzene	2,300	ND	ND	ND	ND	849	ND	635	ND	ND	308	ND	ND
p-Isopropyltoluene	10,000	ND	ND	ND	ND	ND	ND	847	ND	ND	124	ND	ND
Toluene	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	24.4	22.6	ND
1,2,4-Trimethylbenzene	3,600	ND	ND	ND	ND	ND	71	ND	67.7	ND	74.2	130	681
1,3,5-Trimethylbenzene	8,400	ND	ND	ND	ND	484	30.6	1,390	79.6	ND	421	76.2	295
Total Xylenes	260	8	ND	ND	ND	ND	10.9	ND	21.6	ND	125.4	66.7	119
Total STARS VOCs	-	59.9	18.1	ND	ND	4,175	126.8	4,296	186.4	874	1,429.4	431.1	1,220
MTBE	930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12,000	ND	ND	ND	ND	ND	120	ND	ND	ND	ND	ND	345

- 1) B-1 through B-16 sampled in May 2008
- 2) GP-1 through GP-12 sampled in September 2009
- 3) EGS-1 through EGS-45 sampled in October and December 2009
- 4) Laboratory Analytical: All concentrations are presented in  $\mu g/Kg$  or parts per billion (ppb)
- 5) "ND" denotes none detected.
- 6) "E" denotes estimated result due to calibration limits being exceeded
- 7) All samples were analyzed by EPA Method 8260 STARS + MtBE.
- 8) Soil Cleanup Guidelines (SCG) were obtained from NYSDEC CP-51
- 9) Shaded concentrations exceed the respective SCG

Soil VOC Analytical Data Summary EPA MEthod 8260 STARS (µg/kg) Former Terminal 760 Brooks Ave. Rochester, NY

Compound	NYSDEC CP-51 SCG	EGS-2 17'-18'	EGS-3 11.5'	EGS-3 16'	EGS-4 8'	EGS-4A 13.5'-15'	EGS-4B 10'-11.5'	EGS-5 10'-11'	EGS-6 13'-14'	EGS-9 12'	EGS-10 12'	EGS-11 8'-9'	EGS-15 11'
Benzene	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	12,000	ND	ND	ND	14,900 E	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	11,000	49	63.6	638	13,400	1,250	ND	ND	ND	ND	277	221	ND
tert-Butylbenzene	5,900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1,000	ND	ND	1,520	218	811	ND	ND	ND	ND	ND	1,270	ND
n-Propylbenzene	3,900	ND	235	2,810	21,700 E	2,630	ND	170	ND	ND	628	849	9.26
Isopropylbenzene	2,300	ND	136	1,730	14,300 E	1,320	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	10,000	ND	ND	1,500	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	3,600	ND	88.7	ND	448	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	8,400	ND	42.1	1,250	203	1,240	ND	ND	ND	ND	ND	914	ND
Total Xylenes	260	ND	30.2	127	773	ND	ND	ND	ND	ND	ND	ND	ND
Total STARS VOCs	-	49	595.6	9,575	65,942 E	7,251	ND	170	ND	ND	905	3,254	9.3
MTBE	930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND

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ND

ND

ND

ND

ND

ND

ND

# NOTES:

1) B-1 through B-16 sampled in May 2008

Naphthalene

- 2) GP-1 through GP-12 sampled in September 2009
- 3) EGS-1 through EGS-45 sampled in October and December 2009
- 4) Laboratory Analytical: All concentrations are presented in  $\mu g/Kg$  or parts per billion (ppb)

ND

12,000

133

1,170

- 5) "ND" denotes none detected.
- "E" denotes estimated result due to calibration limits being exceeded
- 7) All samples were analyzed by EPA Method 8260 STARS + MtBE.
- 8) Soil Cleanup Guidelines (SCG) were obtained from NYSDEC CP-
- 9) Shaded concentrations exceed the respective SCG

Soil VOC Analytical Data Summary EPA MEthod 8260 STARS (µg/kg) Former Terminal 760 Brooks Ave. Rochester, NY

Compound	NYSDEC CP-51 SCG	EGS-16 7'-8'	EGS-17 8'-9'	EGS-18 10'-10.5'	EGS-19 7'-8'	EGS-20 11'	EGS-21 9.5'-10.5'	EGS-22 10'-11'	EGS-23 12'	EGS-24 14.5'-15'	EGS-25 14'	EGS-26 7'-8'	EGS-27 8'-9'
Benzene	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	14.8	ND	ND
n-Butylbenzene	12,000	13,100	ND	1,630	2,470	ND	ND	ND	ND	ND	194	2,120	ND
sec-Butylbenzene	11,000	7,660	81.1	1,280	3,640	293	23.2	398	21.2	ND	111	1,150	777
tert-Butylbenzene	5,900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1,000	ND	ND	ND	ND	ND	ND	337	ND	ND	44.9	ND	1,800
n-Propylbenzene	3,900	15,700	172	2,740	3,830	224	ND	1,560	ND	63.1	261	2,540	ND
Isopropylbenzene	2,300	ND	ND	1,390	1,580	ND	ND	ND	ND	ND	135	1,220	ND
p-Isopropyltoluene	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	700	2,340	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	3,600	ND	ND	ND	ND	ND	ND	ND	ND	ND	16.5	ND	ND
1,3,5-Trimethylbenzene	8,400	ND	ND	ND	ND	ND	ND	1,460	ND	ND	15.2	ND	ND
Total Xylenes	260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total STARS VOCs	-	38,800	253.1	7,040	11,520	517	23.2	3,755	21.2	63.1	792.4	7,030	2,577
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			ND	ND	ND	NID.	ND	NП	ND	ND	ND	ND.	NID.

MTBE	930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12,000	ND	670	ND	169	ND	ND						

- 1) B-1 through B-16 sampled in May 2008
- 2) GP-1 through GP-12 sampled in September 2009
- 3) EGS-1 through EGS-45 sampled in October and December 2009
- 4) Laboratory Analytical: All concentrations are presented in  $\mu g/Kg$  or parts per billion (ppb)
- 5) "ND" denotes none detected.
- "E" denotes estimated result due to calibration limits being exceeded
- 7) All samples were analyzed by EPA Method 8260 STARS + MtBE.
- 8) Soil Cleanup Guidelines (SCG) were obtained from NYSDEC CP-
- 9) Shaded concentrations exceed the respective SCG

Soil VOC Analytical Data Summary EPA MEthod 8260 STARS (µg/kg) Former Terminal 760 Brooks Ave. Rochester, NY

Compound	NYSDEC CP-51 SCG	EGS-29 9.5'-10'	EGS-31 14-14.5'	EGS-32 14'-16'	EGS-34 15'-16'	EGS-36 14'-16'	EGS-40 4'-12'	EGS-41 13'-20'	EGS-44 11'-16'	EGS-45 14'-19.5'	EGS-13A 12.5'-13.5'	EGS-13B 14'-14.5'	EGS-13C 10.5'-12'
Benzene	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	12,000	1,350	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12,600
sec-Butylbenzene	11,000	815	ND	ND	ND	ND	130	ND	ND	ND	ND	ND	2,790
tert-Butylbenzene	5,900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	889
Ethylbenzene	1,000	ND	ND	10,700	ND	ND	ND	ND	4,400	1,740	ND	ND	725
n-Propylbenzene	3,900	1,390	3,350	13,000	ND	ND	ND	ND	4,950	1,470	ND	ND	14,600
Isopropylbenzene	2,300	ND	ND	ND	ND	ND	ND	ND	1,330	ND	ND	ND	5,700
p-Isopropyltoluene	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,390
Toluene	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	3,600	ND	5,780	60,800	ND	ND	ND	13.4	2,880	9,070	ND	ND	ND
1,3,5-Trimethylbenzene	8,400	ND	3,070	16,500	ND	ND	ND	ND	7,720	2,180	ND	ND	20,200
Total Xylenes	260	ND	3,370	20,400	ND	ND	ND	ND	2,880	5,010	ND	ND	657
Total STARS VOCs	-	3,555	15,570	121,400	ND	ND	130	13.4	24,160	19,470	ND	ND	62,551

MTBE	930	ND	ND	ND	ND	ND	
Naphthalene	12,000	ND	2,920	1,880	ND	ND	916

- 1) B-1 through B-16 sampled in May 2008
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- 3) EGS-1 through EGS-45 sampled in October and December 2009
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- 5) "ND" denotes none detected.
- 6) "E" denotes estimated result due to calibration limits being exceeded
- 7) All samples were analyzed by EPA Method 8260 STARS + MtBE.
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Soil VOC Analytical Data Summary EPA MEthod 8260 STARS (µg/kg) Former Terminal 760 Brooks Ave. Rochester, NY

Compound	NYSDEC CP-51 SCG	EGS-13D 9'-10.5'	EGS-13F 12.5'-13.5'	GP-1 18.5'-20'	GP-2 12'-16'	GP-3 12'-16'	GP-4 16'-17'	GP-5 17'-18'	GP-6 12'-16'	GP-7 17'-20'	GP-8 20'-22.4'	GP-9 14'-16'	GP-10 11'-14'
Benzene	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	12,000	ND	ND	ND	9,580	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	11,000	491	27.0	ND	1,260	ND	ND	145	13.9	342	ND	ND	ND
tert-Butylbenzene	5,900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1,000	ND	ND	ND	11,200	ND	ND	649	ND	3,980	ND	345	ND
n-Propylbenzene	3,900	1,220	ND	ND	9,570	ND	ND	972	ND	2,150	ND	399	ND
Isopropylbenzene	2,300	ND	ND	ND	1,960	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	3,600	ND	ND	ND	60,500 E	ND	ND	5,560	17.6	11,700	ND	1,900	ND
1,3,5-Trimethylbenzene	8,400	ND	ND	ND	24,600	ND	218	1,860	ND	4,070	ND	679	ND
Total Xylenes	260	ND	ND	ND	52,300	ND	ND	831	ND	7,546	ND	1,527	ND
Total STARS VOCs	-	1,711	27	ND	170,970 E	ND	218	10,017	31.5	29,788	ND	4,850	ND
	1												

MTBE	930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12,000	ND	24.8	686	30200 E	ND	2,810	1,830	158	7,990	51	ND	ND

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- 5) "ND" denotes none detected.
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- 9) Shaded concentrations exceed the respective SCG

Compound	NYSDEC CP-51 SCG	B-1 12'-13.5'	B-1 20'-21.5'	B-2 14'-15'	B-2 26'-28'	B-3 8'-10'	B-4 14'-15'	B-7 12.5'-13.5'	B-8 16.5'-17.5'	B-9 15'-16.4'	B-9 24'-24.6'	B-10 14'-16'	B-10 26'-26.4'
Acenaphthene	20,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,I)perylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	30,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12,000	ND	ND	6,240	ND	ND	ND	1,490	17,100	1,220	ND	ND	ND
Phenanthrene	100,000	ND	ND	ND	ND	ND	ND	362	ND	ND	ND	ND	ND
Pyrene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total STARS SVOCs	na	ND	ND	6,240	ND	ND	ND	1,852	17,100	1,220	ND	ND	ND

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- 5) "ND" denotes none detected.
- 6) All samples were analyzed by EPA Method 8270 STARS.
- 8) Soil Cleanup Guidelines (SCG) were obtained from NYSDEC CP-51
- 9) Shaded concentrations exceed the respective SCG

Compound	NYSDEC CP-51 SCG	B-11 8'-10'	B-11 24'-24.4'	B-12 26'-27.7'	B-13 12'-14'	B-13 24'-25.4'	B-14 11'-12'	B-14 20'-22'	B-15 13'-15'	B-15 22'-22.9'	B-16 8'-10'	B-16 25'-26.2'	EGS-2 17'-18'
Acenaphthene	20,000	ND	ND	ND	1,110	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100,000	ND	ND	ND	655	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	100,000	ND	ND	ND	356	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	1,000	763	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	1,000	482	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,I)perylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1,000	837	ND	ND	ND	ND	ND	ND	ND	448	ND	ND	ND
Dibenz(a,h)anthracene	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100,000	1,440	ND	ND	ND	ND	ND	ND	ND	774	ND	ND	ND
Fluorene	30,000	ND	ND	ND	2,810	ND	ND	ND	ND	494	386	ND	ND
Indeno(1,2,3-cd)pyrene	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12,000	1,170	ND	ND	ND	ND	ND	ND	ND	433	ND	357	ND
Phenanthrene	100,000	1,100	ND	ND	7,540	ND	ND	ND	1,070	1,890	429	ND	ND
Pyrene	100,000	1,490	ND	ND	672	ND	ND	ND	ND	889	ND	ND	ND
Total STARS SVOCs	na	7,282	ND	ND	13,143	ND	ND	ND	1,070	4,928	815	357	ND

- 1) B-1 through B-16 sampled in May 2008
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- 5) "ND" denotes none detected.
- 6) All samples were analyzed by EPA Method 8270 STARS.
- 8) Soil Cleanup Guidelines (SCG) were obtained from NYSDEC CP-51
- 9) Shaded concentrations exceed the respective SCG

Compound	NYSDEC CP-51 SCG	EGS-3 11.5'	EGS-3 16'	EGS-4 8'	EGS-4A 13.5'-15'	EGS-4B 10'-11.5'	EGS-5 10'-11'	EGS-6 13-14'	EGS-9 12'	EGS-10 12'	EGS-11 8-9'	EGS-15 11'	EGS-16 7'-8'
Acenaphthene	20,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,030
Benzo(a)anthracene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,I)perylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100,000	ND	ND	2,180	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	30,000	ND	ND	9,980	995	ND	ND	ND	ND	867	ND	ND	15,700
Indeno(1,2,3-cd)pyrene	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	100,000	ND	ND	19,400	1,920	ND	ND	ND	ND	1,860	429	ND	34,900
Pyrene	100,000	ND	ND	2,570	ND	ND	ND	ND	ND	ND	ND	ND	3,130
Total STARS SVOCs	na	ND	ND	34,130	2,915	ND	ND	ND	ND	2,727	429	ND	56,760

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- 9) Shaded concentrations exceed the respective SCG

Compound	NYSDEC CP-51 SCG	EGS-17 8'-9'	EGS-18 10'-10.5'	EGS-19 7'-8'	EGS-20 11'	EGS-21 9.5-10.5	EGS-22 10'-11'	EGS-23 12'	EGS-24 14.5'-15'	EGS-25 14'	EGS-26 7'-8'	EGS-27 8'-9'	EGS-29 9.5'-10'
Acenaphthene	20,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,I)perylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100,000	ND	788	2,960	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	30,000	1,100	1,160	4,630	ND	ND	ND	ND	ND	942	949	1,450	816
Indeno(1,2,3-cd)pyrene	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12,000	ND	ND	ND	ND	ND	ND	ND	ND	519	ND	ND	ND
Phenanthrene	100,000	589	2,210	7,970	ND	ND	ND	ND	ND	2,130	1,710	3,090	1,400
Pyrene	100,000	ND	768	2,800	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total STARS SVOCs	na	1,689	4,926	18,360	ND	ND	ND	ND	ND	3,591	2,659	4,540	2,216

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Compound	NYSDEC CP-51 SCG	EGS-31 14'-14.5'	EGS-32 14'-16'	EGS-34 15'-16'	EGS-36 14'-16'	EGS-40 4'-12'	EGS-41 13'-20'	EGS-44 11'-16'	EGS-45 14'-19.5'	EGS-13A 12.5'-13.5'	EGS-13B	EGS-13C 10.5'-12'	EGS-13D 9'-10.5'
Acenaphthene	20,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	604	ND
Acenaphthylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,I)perylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100,000	ND	ND	ND	ND	ND	596	ND	ND	ND	ND	ND	ND
Fluorene	30,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,370	664
Indeno(1,2,3-cd)pyrene	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12,000	ND	4,200	ND	ND	ND	ND	416	1,020	ND	ND	ND	ND
Phenanthrene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,700	ND
Pyrene	100,000	ND	ND	ND	ND	ND	469	ND	ND	ND	ND	ND	ND
Total STARS SVOCs	na	ND	4,200	ND	ND	ND	1,065	416	1,020	ND	ND	4,674	664

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Compound	NYSDEC CP-51 SCG	EGS-13F 12.5'-13.5'	MW-12 10'-12'	MW-13 10'-12'	GP-1 18.5'-20'	GP-2 12'-16'	GP-3 12'-16'	GP-4 16'-17'	GP-5 17'-18'	GP-6 12'-16'	GP-7 17'-20'	GP-8 20'-22.4'	GP-9 14'-16'
Acenaphthene	20,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,I)perylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100,000	ND	ND	1,460	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	30,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12,000	ND	ND	ND	ND	10,500	ND	ND	ND	ND	910	ND	ND
Phenanthrene	100,000	ND	ND	2,500	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total STARS SVOCs	na	ND	ND	3,960	ND	ND	ND	ND	ND	ND	910	ND	ND

- 1) B-1 through B-16 sampled in May 2008
- 2) GP-1 through GP-12 sampled in September 2009
- 3) EGS-1 through EGS-45 sampled in October and December 2009
- 4) Laboratory Analytical: All concentrations are presented in  $\mu g/Kg$  or parts per billion (ppb)
- 5) "ND" denotes none detected.
- 6) All samples were analyzed by EPA Method 8270 STARS.
- 8) Soil Cleanup Guidelines (SCG) were obtained from NYSDEC CP-51
- 9) Shaded concentrations exceed the respective SCG

Soil VOC Concentrations Summary EPA Method 8260 STARS (µg/kg) Former Terminal 760 Brooks Ave. Rochester, NY

Compound	375 RESIDENTIAL	375 COMMERCIAL	B-2 14'-15'	B-8 16.5'-17.5'	EGS-32 14'-16'	GP-2 12'-16'
Benzene	2,900	44,000	6,230	ND	ND	ND
n-Butylbenzene	NA	NA	ND	ND	ND	9,580
sec-Butylbenzene	100,000	500,000	ND	ND	ND	1,260
tert-Butylbenzene	100,000	500,000	ND	ND	ND	ND
Ethylbenzene	30,000	390,000	45,500	ND	10,700	11,200
n-Propylbenzene	100,000	500,000	15,900	ND	13,000	9,570
Isopropylbenzene	NA	NA	ND	ND	ND	1,960
p-Isopropyltoluene	NA	NA	ND	ND	ND	ND
Toluene	100,000	500,000	173,000	ND	ND	ND
1,2,4-Trimethylbenzene	47,000	190,000	113,000	84,100	60,800	60500 E
1,3,5-Trimethylbenzene	47,000	190,000	30,400	33,800	16,500	24,600
Total Xylenes	100,000	500,000	254,700	ND	20,400	52,300
Total STARS VOCs	NA	NA	638,730.0	117,900.0	121,400.0	170,970 E

MTBE	62,000	500,000	ND	ND	ND	ND
Naphthalene	NA	NA	17,900	40,100	ND	30200 E

- 1) B-1 through B-16 sampled in May 2008
- 2) GP-1 through GP-12 sampled in September 2009
- 3) EGS-1 through EGS-45 sampled in October and December 2009
- 4) Laboratory Analytical: All concentrations are presented in µg/Kg or parts per billion (ppb)
- 5) "ND" denotes none detected.
- 6) "NA" denotes value not assigend.
- 7) "E" denotes estimated result due to calibration limits being exceeded
- 8) All samples were analyzed by EPA Method 8260 STARS + MtBE.
- 8) Part 375 Residential and 375 Commercial from NYSDEC 6 NYCRR Part 375 Table 375-6.8(b)
- 9) Red-shaded concentrations exceed Part 375 Residential value.
- 9) No values exceeded the Part 375 Commercial value.

#### Overburden Groundwater VOC Data Summary EPA Method 8260 STARS (µg/L) Former Terminal 760 Brooks Avenue Rochester, New York

#### April 2010

Compound	MWA	MWB	MWC	MW3-O	MW4-O	MW5-O	MW6-O	MW8-O	MW9-O	MW10-O	MW11-0	MW12-O	MW13-0	Standards
Benzene	ND<0.5	0.5	1											
n-Butylbenzene	ND<1.0	5												
sec-Butylbenzene	ND<1.0	5												
tert-Butylbenzene	ND<1.0	5												
Ethylbenzene	ND<0.8	2.0	5											
Isopropylbenzene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5
p-Isopropyltoluene	ND<1.0	5												
n-Propylbenzene	ND<1.0	1.0	5											
Toluene	ND<0.7	5												
1,2,4-Trimethylbenzene	ND<1.0	3.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	1.0	5						
1,3,5-Trimethylbenzene	ND<1.0	2.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5						
m+p-Xylene	ND<0.8	2.0	ND<0.8	ND<0.8	ND<0.8	ND<0.8	17.0	5						
o-Xylene	ND<0.8	0.9	5											
Total STARS VOCs	ND	ND	ND	ND	ND	ND	1.0	7.0	ND	ND	ND	ND	22.4	-
MTBE	ND<0.5	ND<0.5	ND<1.0	ND<0.5	ND<0.5	11.0	ND<0.5	ND<1.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	10
Naphthalene	ND<1.0	ND<1.0	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	10

Standards = NYSDEC Groundwater Standard Concentrations

= exceeds NYSDEC Groundwater Standard

#### Overburden Groundwater SVOC Data Summary EPA Method 8270 STARS (µg/L) Former Terminal 760 Brooks Avenue Rochester, New York

#### April 2010

Compound	MW3-O	MW10-O	MWA	MW8-O	MWC	MW4-O	MWB	MW5-O	MW9-O	MW13-O	MW12-O	MW6-O	MW11-O	Standards
Acenaphthene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	ND<0.9	ND<1.0	ND<1.0	ND<1.0	1.0	ND<0.9	20
Anthracene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	4.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	50
Benzo(a)anthracene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	ND<0.9	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	0.002
Benzo(a)pyrene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	ND<0.9	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	0.002
Benzo(b)fluoranthene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	ND<0.9	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	0.002
Benzo(g,h,i)perylene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	ND<0.9	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	5
Benzo(k)fluoranthene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	ND<0.9	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	0.002
Chrysene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	ND<0.9	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	0.002
Dibenz(a,h)anthracene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	ND<0.9	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	50
Fluoranthene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	50
Fluorene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	10.0	ND<1.0	ND<1.0	ND<1.0	2.0	ND<0.9	50
Indeno(1,2,3-cd)pyrene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	ND<0.9	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	0.002
Naphthalene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	ND<0.9	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	10
Phenanthrene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	14.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	50
Pyrene	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	ND<5.0	1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.9	50
Total STARS SVOCs	ND	30.0	ND	ND	ND	3.0	ND	-						

Standards = NYSDEC Groundwater Standard Concentrations = exceeds NYSDEC Groundwater Standard

# APPENDIX A SOIL GEOPHYSICAL DATA 3<sup>RD</sup> ROCK GEOTECHNICAL, APRIL 23, 2010





580 Olean Road East Aurora, NY 14052 Phone: (716)655.4933 Fax: (716)655.8638

May 4, 2010

Mr. D. Robert Gill Matrix Environmental Tech. Inc. 3730 California Road Orchard Park, New York 14127

Re: Soil Testing Report & Associated Invoice

Dear Mr. Gill:

Enclosed are the testing results for three intact soil samples received by our laboratory on April 20, 2010. The sample results and invoice have been transmitted to you via electronic mail. If you have any questions or require additional information please call us.

Very truly yours,

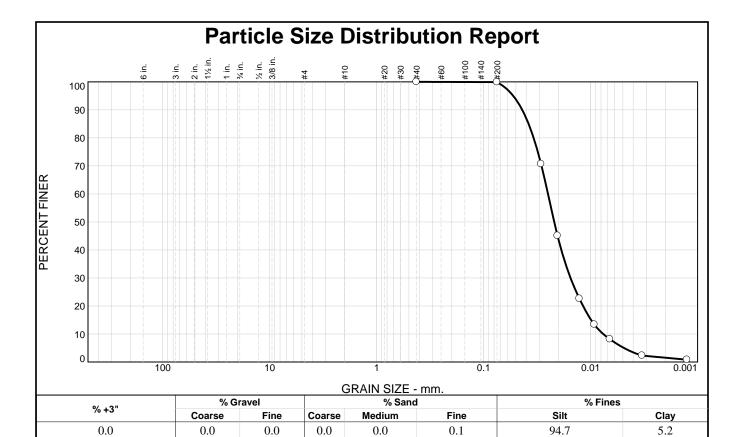
Jeanne M. Asquith

Soils Laboratory Manager

Jeanne M. asget

**Enclosures** 

Sample ID#'s 10-101, 10-102, 10-103



TEST RESULTS (ASTM D 422)								
Opening	Percent	Spec.*	Pass?					
Size	Finer	(Percent)	(X=Fail)					
#40	100.0							
#200	99.9							
0.0291 mm.	70.7							
0.0204 mm.	45.1							
0.0127 mm.	22.6							
0.0092 mm.	13.4							
0.0066 mm.	8.2							
0.0033 mm.	2.3							
0.0013 mm.	0.8							
<u> </u>								

ID#10 101	Material Descrip	otion					
ID#10-101							
Atte	rberg Limits (AST						
PL=	LL=	PI=					
USCS (D 2487)=	Classification AASHT(	<u>n</u> O (M 145)=					
D <sub>90</sub> = 0.0436 D <sub>50</sub> = 0.0219 D <sub>10</sub> = 0.0076	Coefficients D <sub>85</sub> = 0.0380 D <sub>30</sub> = 0.0154 C <sub>u</sub> = 3.28	D <sub>60</sub> = 0.0250 D <sub>15</sub> = 0.0099 C <sub>c</sub> = 1.24					
	Remarks						
Date Received: 4 Tested By: J		e Tested: 4/23/10					
Checked By: <u>I</u>	LM						
Title: <u>I</u>	LM						

(no specification provided)

**Location:** SB101 **Date Sampled:** 4/20/10

3rd Rock, LLC

Client: Matrix Environmental Tech. Inc.
Project: Matrix Environmental Tech. Inc.

Project No: 10-015

Figure



#### FINAL PERMEABILITY REPORT

Project Name:	Matrix Environmental Tech	Date:
Project No.:	10-015	Tested By:
Sample No.:	SB101 14-16'	Check By:
Sample I.D.:	10-101	Date of Test:
Laboratory Meth	od: ASTM D5084, Method C	Date Test Comp
Remarks:	None	CELL NO.:

Date:	05/03/10	
Tested By:	RP	_
Check By:	JMA	_
Date of Test:	04/21/10	_
Date Test Complete	e:	04/23/10
CELL NO.:		5A

#### **INITIAL SAMPLE DATA:**

Height, in.: 2.411 Wet Density, pcf: 135.7
Diameter, in.: 2.855 Dry Density, pcf: 110.0
Moisture Content,%: 23.40 Compaction, %: NA

#### **FINAL SAMPLE DATA:**

Height, in.: 2.300 Wet Density, pcf: 133.8 Diameter, in.: 2.915 Dry Density, pcf: 112.0

Moisture Content,%: 19.50

#### **SATURATION AND CONSOLIDATION DATA:**

Consolidation Pressure: 85 psi

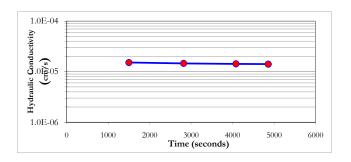
Backpressure: 80 psi

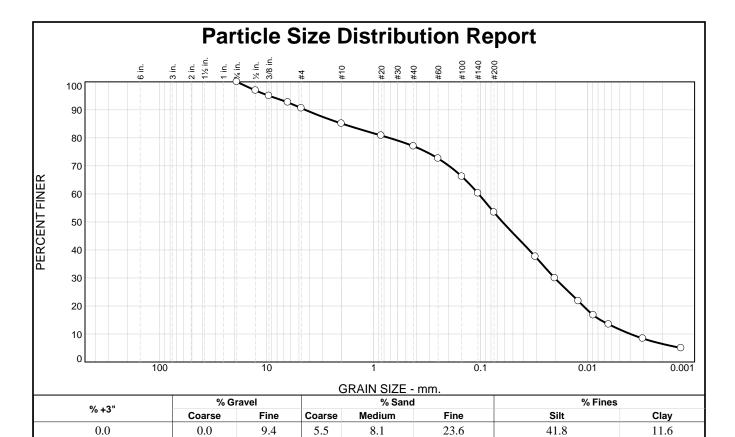
Saturation (B parameter): 98%

#### AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

Trial #	Testing Pressures (psi)		Q (ml/sec)	Final K (cm/s)	
	1	2	3	( , , , , ,	( , ,
1	85	80	80	1.66E-03	1.5E-05
2	85	80	80	1.12E-03	1.5E-05
3	85	80	80	7.98E-04	1.4E-05
4	85	80	80	6.15E-04	1.4E-05

Average K 1.5E-05
Average K, ft/day 4.1E-02





Size         Finer         (Percent)           .75         100.0         .5         96.9           .375         95.0         .25         92.7           #4         90.6         #10         85.1           #20         80.8         #40         77.0           #60         72.7         #100         66.2           #140         60.2         #200         53.4           0.0308 mm.         37.6         0.0203 mm.         30.0           0.0122 mm.         21.8         0.0088 mm.         16.7           0.0064 mm.         13.4         13.4	Pass?	Spec.*	TEST RESULTS Opening Percent		
.5 96.9 .375 95.0 .25 92.7 #4 90.6 #10 85.1 #20 80.8 #40 77.0 #60 72.7 #100 66.2 #140 60.2 #200 53.4 0.0308 mm. 37.6 0.0203 mm. 30.0 0.0122 mm. 21.8 0.0088 mm. 16.7 0.0064 mm. 13.4	(X=Fail)		Finer	Size	
.375 95.0 .25 92.7 #4 90.6 #10 85.1 #20 80.8 #40 77.0 #60 72.7 #100 66.2 #140 60.2 #200 53.4 0.0308 mm. 37.6 0.0203 mm. 30.0 0.0122 mm. 21.8 0.0088 mm. 16.7 0.0064 mm. 13.4			100.0	.75	
.25			96.9	.5	
#4			95.0	.375	
#10			92.7	.25	
#20 80.8 #40 77.0 #60 72.7 #100 66.2 #140 60.2 #200 53.4 0.0308 mm. 37.6 0.0203 mm. 30.0 0.0122 mm. 21.8 0.0088 mm. 16.7 0.0064 mm. 13.4			90.6	#4	
#40 77.0 #60 72.7 #100 66.2 #140 60.2 #200 53.4 0.0308 mm. 37.6 0.0203 mm. 30.0 0.0122 mm. 21.8 0.0088 mm. 16.7 0.0064 mm. 13.4			85.1	#10	
#60 72.7 #100 66.2 #140 60.2 #200 53.4 0.0308 mm. 37.6 0.0203 mm. 30.0 0.0122 mm. 21.8 0.0088 mm. 16.7 0.0064 mm. 13.4			80.8	#20	
#100 66.2 #140 60.2 #200 53.4 0.0308 mm. 37.6 0.0203 mm. 30.0 0.0122 mm. 21.8 0.0088 mm. 16.7 0.0064 mm. 13.4			77.0	#40	
#140 60.2 #200 53.4 0.0308 mm. 37.6 0.0203 mm. 30.0 0.0122 mm. 21.8 0.0088 mm. 16.7 0.0064 mm. 13.4			72.7	#60	
#200 53.4 0.0308 mm. 37.6 0.0203 mm. 30.0 0.0122 mm. 21.8 0.0088 mm. 16.7 0.0064 mm. 13.4			66.2	#100	
0.0308 mm. 37.6 0.0203 mm. 30.0 0.0122 mm. 21.8 0.0088 mm. 16.7 0.0064 mm. 13.4			60.2	#140	
0.0203 mm. 0.0122 mm. 0.0088 mm. 0.0064 mm. 13.4			53.4	#200	
0.0122 mm. 0.0088 mm. 0.0064 mm. 13.4			37.6	0.0308 mm.	
0.0088 mm. 16.7 0.0064 mm. 13.4			30.0	0.0203 mm.	
0.0064 mm. 13.4			21.8	0.0122 mm.	
			16.7	0.0088 mm.	
0.0020 mm   9.4			13.4	0.0064 mm.	
0.0030 111111.			8.4	0.0030 mm.	
0.0013 mm. 5.0			5.0	0.0013 mm.	

ID#10-102	Material Descrip	otion			
Atte	erberg Limits (AST LL=	M D 4318) PI=			
USCS (D 2487)= Classification  AASHTO (M 145)=					
<b>D<sub>90</sub>=</b> 4.3624 <b>D<sub>50</sub>=</b> 0.0625 <b>D<sub>10</sub>=</b> 0.0040	Coefficients D <sub>85</sub> = 1.9505 D <sub>30</sub> = 0.0203 C <sub>u</sub> = 26.29	D <sub>60</sub> = 0.1047 D <sub>15</sub> = 0.0076 C <sub>c</sub> = 0.99			
Remarks					
Date Received: 4/20/10 Date Tested: 5/3/10 Tested By: RP					
Checked By:	JMA				
Title:	LM				

(no specification provided)

 Location: SB102
 Date Sampled: 4/20/10

 Depth: 16-20'
 4/20/10

3rd Rock, LLC

Client: Matrix Environmental Tech. Inc.
Project: Matrix Environmental Tech. Inc.

Project No: 10-015

Figure



Remarks:

#### FINAL PERMEABILITY REPORT

Date:

Project Name:	Matrix Environmental	
Project No.:	10-015	
Sample No.:	SB102, 16-20'	
Sample I.D.:	10-102	
Laboratory Metho	od: ASTM D5084, Method C	

Permeability Test Sample remolded at inplace

Tested By:	RP		
Check By:	JMA		_
Date of Test:	04/23/10		_
<b>Date Test Complet</b>	e:	04/27/10	_
CELL NO.:		2	

05/03/10

density/water content

#### **INITIAL SAMPLE DATA:**

Height, in.: 3.001 Wet Density, pcf: 143.8

Diameter, in.: 2.800 Dry Density, pcf: 131.5

Moisture Content,%: 9.30 Compaction, %: NA

#### **FINAL SAMPLE DATA:**

Height, in.: 2.894 Wet Density, pcf: 148.0 Diameter, in.: 2.813 Dry Density, pcf: 134.5

Moisture Content,%: 10.00

#### **SATURATION AND CONSOLIDATION DATA:**

Consolidation Pressure: 86 psi

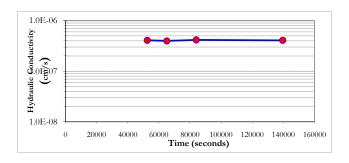
Backpressure: 80 psi

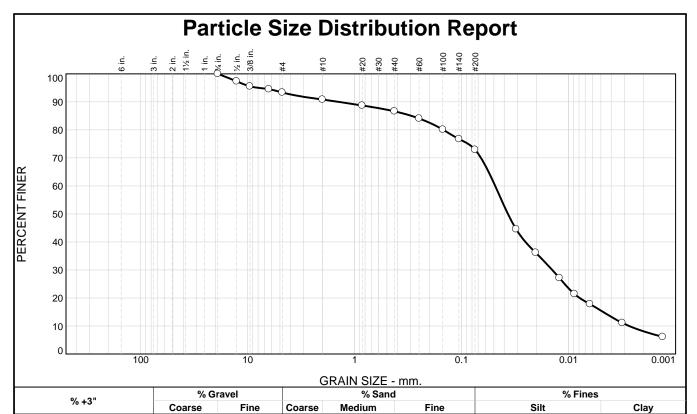
Saturation (B parameter): 96%

#### AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

Trial #	Testing Pressures (psi)			Q (ml/sec)	Final K (cm/s)
	1	2	3	( , ,	( , ,
1	86	80	80	3.88E-05	4.1E-07
2	86	80	80	3.19E-05	4.0E-07
3	86	80	80	3.06E-05	4.2E-07
4	86	80	80	2.49E-05	4.1E-07

Average K 4.1E-07
Average K, ft/day 1.2E-03





0.0		0.0	6.7	2.5	4.2	13.7	57.	.4
	TEST RESUL	_TS (ASTM D 42	22)			Mater	ial Descripti	on
Opening	Percent	Spec.*	Pass	?	ID#10-103	-	•	
Size	Finer	(Percent)	(X=Fa	ail)				
.75	100.0							
.5	97.3					Atterbera L	imits (ASTM	I D 4318)
.375	95.5				PL=	LL=		PI=
.25	94.5					-		
#4	93.3				11000 (5.0		assification	(B. 4.45)
#10	90.8				USCS (D 2	487)=	AASHTO	(IVI 145)=
#20	88.7					C	oefficients	
#40	86.6				Don= 1.41	69 <b>D</b> os=	0.2953	$D_{co} = 0.0486$
#60	84.1				D <sub>90</sub> = 1.41 D <sub>50</sub> = 0.03	69 <b>D</b> 30=	0.0142	D <sub>15</sub> = 0.0048
#100	80.1				D <sub>10</sub> = 0.00	27 C <sub>u</sub> =	0.0142 17.87	<b>D<sub>60</sub>=</b> 0.0486 <b>D<sub>15</sub>=</b> 0.0048 <b>C<sub>c</sub>=</b> 1.53
#140	76.7					<b></b>		•
#200	72.9						Remarks	

Date Received: 4/20/10 Date Tested: 4/25/10 Tested By: RP

15.5

Checked By: JMA
Title: LM

(no specification provided)

44.6

36.2

27.2

21.4

17.8

11.1

6.1

0.0310 mm.

0.0204 mm.

0.0122 mm.

0.0088 mm.

0.0063 mm.

0.0032 mm.

0.0013 mm.

Location: SB103 Date Sampled: 4/20/10

3rd Rock, LLC

Client: Matrix Environmental Tech. Inc.

Project: Matrix Environmental Tech. Inc.

Project No: 10-015

Figure



#### FINAL PERMEABILITY REPORT

Project Name: Matrix Environmental Tech. Date: 05/03/10	
Project No.: 10-015 Tested By: RP	
Sample No.: SB-103 Check By: JMA	
Sample I.D.: 10-103 Date of Test: 04/22/10	
Laboratory Method: ASTM D5084, Method C Date Test Complete: 0	04/25/10
Remarks: None CELL NO.: 5	5A

#### **INITIAL SAMPLE DATA:**

Height, in.: 2.290 Wet Density, pcf: 144.1
Diameter, in.: 2.802 Dry Density, pcf: 128.7
Moisture Content,%: 12.00 Compaction, %: NA

#### **FINAL SAMPLE DATA:**

Height, in.: 2.253 Wet Density, pcf: 145.5 Diameter, in.: 2.802 Dry Density, pcf: 130.0

Moisture Content,%: 11.90

#### **SATURATION AND CONSOLIDATION DATA:**

Consolidation Pressure: 85 psi

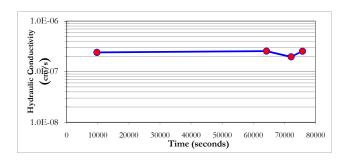
Backpressure: 80 psi

Saturation (B parameter): 98%

#### AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

Trial #	Tes	ting Press (psi)	ures	Q (ml/sec)	Final K (cm/s)
	1	2	3	, ,	· · /
1	85	80.3	79.7	8.20E-05	2.4E-07
2	85	80.3	79.7	7.64E-05	2.6E-07
3	85	80.3	79.7	5.18E-05	2.0E-07
4	85	80.3	79.7	6.56E-05	2.6E-07

Average K 2.4E-07
Average K, ft/day 6.7E-04





# **Summary of Laboratory Test Results**

Project:Matrix Environmental Tech. Inc.Project No: 10-015Client:Matrix Environmental Tech. Inc.Date: 5/03/10

Sample No.,	ASTM D2216					ASTM D854
Depth ft. below grade	Natural Water Content, %	Wet Density, pcf	Dry Density, pcf	Porosity %	Saturation %	Specific Gravity
SB101, 14-16'	23.4	135.7	110.0	34	122	2.666
SB102, 16-20'	9.3	143.8	131.5	22	91	2.686
SB103	12.0	144.1	128.7	24	105	2.697

# APPENDIX B AIR SAMPLING SERVICES REPORT GZA, JUNE 7, 2010



## Centek Laboratories, LLC

143 Midler Park Drive Syracuse, NY 13206

TEL: 3154319730

FAX: 3154319731

## **BOTTLE ORDER**

1797

08-Jun-10

SHIPPED TO:

Company:

GZA GeoEnvironmental of NY

Contact:

Dan Wulf

Address:

535 Washington Street

11th Floor

Buffalo, NY 14203

Phone:

0

Quote ID:

716-685-2300

VIA: FedEx Due Date: 5/12/2010

Ship Date: 5/11/2010

Submitted By:

Project:

**Bottle Code Bottle Type** TEST(s) QTY MC1000CC 1L Mini-Can 1ug/M3 by Method TO15 6

Can / Reg ID	Description	
na	41 Mini Con 1000	
98	1L Mini-Can - 1099	
143	Time-Set Reg - 638	
144	Time-Set Reg - 639	
129	1L Mini-Can - 1077	
198	1L Mini-Can - 1153	
163	1L Mini-Can - 1133	
172	Time-Set Reg - 656	
393	Time-Set Reg - 772	
400	Time-Set Reg - 779	
295	Time-Set Reg - 718	
563	1L Mini-Can - 134	

Comments: 6 1L @ 1 hr. Dan needs these by Thursday morning either by courier or FedEx WAC 043010 E-H

QC Canister Cleaning Logbook

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Centek Laboratories, LLC

Instrument: Entech 3100

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Page #

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Cleaned by:

QC Canister Cleaning Logbook

Centek Laboratories, LLC

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QC Batch Number	MACOY3010G				<b>→</b>	WACO430 IOH				<b>→</b>	1,1ACO430IOI				<b>→</b>										
Date	al/08/140	- 1													<b>&gt;</b>										
Number of Cycles	30													-	<b>^</b>										
QC Can Number	691				<b>&gt;</b>	198	•	·		<del>)</del>	545		·		<b>→</b>										
Canister Number   QC Can Number   Number of	96	95	129	98	163	170	287	[0]	563	198	290	462	333	428	545					:					

(OT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA2\10APR\AH043011.D

Vial: 5 Acq On : 30 Apr 2010 16:18 Sample : WAC043010E Misc : 1UG + 0.25 Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Apr 30 16:40:21 2010 Quant Results File: A405\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A405\_1UT.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Apr 24 10:47:46 2010
Response via : Initial Calibration

DataAcq Meth : A405\_1UT

Internal Standards	R.T. QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane 30) 1,4-difluorobenzene 44) Chlorobenzene-d5	7.71 128 10.03 114 14.90 117	61391	1.00 ppb 1.00 ppb 1.00 ppb	0.00 0.00 0.00
System Monitoring Compounds 57) Bromofluorobenzene Spiked Amount 1.000	16.45 95 Range 70 - 13		0.92 ppb ery = 92.	0.00 .00%

Target Compounds

Qvalue

Quant Method Title Last Un		RTEINT.P			Ī							
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RESPO	•• •• ••	\1\METHODS\ Standards 1 10:47:46	A405_1UT.M (RT s for 5 point c 2010	í (RTE Ir nt calib	E Integrator) alibration	r)			·			
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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\10APR\AH043012.D

Vial: 6 Acq On : 30 Apr 2010 16:56 Operator: RJP Inst : MSD #1

Sample : WAC043010F Misc : 1UG + 0.25 Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Time: Apr 30 17:18:15 2010 Quant Results File: A405\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A405\_1UT.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Apr 24 10:47:46 2010
Response via : Initial Calibration

DataAcq Meth : A405\_1UT

Internal Standards	R.T. QIon	Response	Conc Units Dev	v(Min)
1) Bromochloromethane 30) 1,4-difluorobenzene 44) Chlorobenzene-d5	7.70 128 10.04 114 14.91 117		1.00 ppb 1.00 ppb 1.00 ppb	0.00 0.00 0.00
System Monitoring Compounds 57) Bromofluorobenzene Spiked Amount 1.000	16.45 95 Range 70 - 13		0.82 ppb ry = 82.00	0.00

Target Compounds

Qvalue

21,00 20.00 The composition is a property that we are a second of the composition 19.00 18.00 17.00 2,enesnedotoullomo18 16.00 15.00 14.00 Quant Results File: A405\_1UT.RES 13.00 TIC: AH043012.D MSD #1 Multiplr: 1.00 RJP 12,00 Vial: Operator: C:\HPCHEM\1\METHODS\A405\_1UT.M (RTE Integrator) TO-15 VOA Standards for 5 point calibration Sat Apr 24 10:47:46 2010 Initial Calibration 11,00 Inst 10,00 ,4-difluotobenzene, : C:\HPCHEM\1\DATA2\10APR\AH043012.D : 30 Apr 2010 16:56 : WAC043010F 9.00 8.00 l,enathemorphacmore 7.00 MS Integration Params: RTEINT.P Quant Time: Jun 8 10:22 2010 6.00 : 1UG + 0.25 5.00 4.00 Response via Last Update Data File 3.00 Acq On Sample Method Abundance 105000 Title 15000 10000 100000 95000 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 35000 30000 25000 20000 5000 Misc Time-->

לתמוור המרחמת זוכהמה

(QT Reviewed) Quantitation Report

Data File :  $C:\HPCHEM\1\DATA2\10APR\AH043013.D$ Acg On

: 30 Apr 2010 17:34

Operator: RJP Inst : MSD #1

Vial: 7

: WAC043010G : 1UG + 0.25 Sample Misc

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Apr 30 17:56:35 2010

Quant Results File: A405\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A405\_1UT.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Apr 24 10:47:46 2010
Response via : Initial Calibration
DataAcq Meth : A405\_1UT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane 30) 1,4-difluorobenzene 44) Chlorobenzene-d5	7.70 10.04 14.91	128 114 117	21456 57447 50565	1.00 ppb 1.00 ppb 1.00 ppb	0.00
System Monitoring Compounds 57) Bromofluorobenzene Spiked Amount 1.000	16.45 Range 70	95 - 130	20783 Recovei	0.86 ppb 86 = v	

Target Compounds

Ovalue

21.00 Mary Market British of the Control o 20,00 19.00 18.00 17.00 Bromofluorobenzene,S 16.00 15.00 I,èb-an<del>sznadorold</del>a 14.00 Quant Results File: A405\_1UT.RES 13.00 TIC: AH043013.D : MSD #1 1.00 RJP12.00 Operator: Multiplr: Vial: C:\HPCHEM\1\METHODS\A405\_1UT.M (RTE Integrator) TO-15 VOA Standards for 5 point calibration Sat Apr 24 10:47:46 2010 1.00 Inst 10.00 4-diffuorobenzene,1 C:\HPCHEM\1\DATA2\10APR\AH043013.D 30 Apr 2010 17:34 9.00 8.00 Bromochloromethane,1 Initial Calibration .8 2 MS Integration Params: RTEINT.P Quant Time: Jun 8 10:23 2010 6.00 WAC043010G 10G + 0.252.0 4.00 Response via
Abundance Last Update Data File 3.00 Method Title Acq On Sample 10000 30000 20000 60000 40000 100000 90000 80000 70000 50000 Misc Time-->

MODIFICACION NEDOTA

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\10APR\AH043014.D

Acq On : 30 Apr 2010 18:13

Vial: 8 Operator: RJP

Sample : WAC043010H Inst : MSD #1

Quant Results File: A405\_1UT.RES

Misc : 1UG + 0.25

Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Time: Apr 30 18:35:22 2010

Ouant Method : C:\HPCHEM\1\METHODS\A405\_1UT.M (RTE Integrator)

: TO-15 VOA Standards for 5 point calibration

Last Update : Sat Apr 24 10:47:46 2010

Response via : Initial Calibration

DataAcq Meth : A405\_1UT

Internal Standards	R.T.	QIon	Response	Conc Uni	ts Dev(	Min)
1) Bromochloromethane 30) 1,4-difluorobenzene 44) Chlorobenzene-d5	7.70 10.04 14.90	128 114 117	20259 54833 46750	1.00 p 1.00 p 1.00 p	pb	0.00 0.00 0.00
System Monitoring Compounds 57) Bromofluorobenzene Spiked Amount 1.000	16.45 Range 70	95 - 130	19647 Recover	0.88 p	pb 88.00%	0.00

Target Compounds

Qvalue

21,00 20,00 المواجه المراوات والبائدة والمراوات أوارات والمراوات المواجها المواجه والمداولة والمداولة والمداولة والمداولة والمواجهة 19.00 18,00 17.00 S,eneznedotouflamotB 16.00 15.00 I, 2b-an<del>ssnadorold</del> 14.00 The state of the second of the A405\_1UT.RES 13,00 TIC: AH043014.D MSD #1 Multiplr: 1.00 8 RJP 12,00 Quant Results File: Vial: Operator: C:\HPCHEM\1\METHODS\A405\_1UT.M (RTE Integrator)
TO-15 VOA Standards for 5 point calibration
Sat Apr 24 10:47:46 2010
Initial Calibration 11.00 Inst 10.00 l,enasnadorouflib-4, f C:\HPCHEM\1\DATA2\10APR\AH043014.D 30 Apr 2010 18:13 9.00 8.00 L, snettismoroldsomor B They However Windship with the second 7.80 MS Integration Params: RTEINT.P Quant Time: Jun 8 10:23 2010 9.00 WAC043010H 1UG + 0.25 5.00 Response via Last Update Data File 3.00 Sample Acq On Method Title 70000 65000 60000 55000 50000 45000 40000 35000 30000 25000 20000 15000-10000 5000 95000 90000 85000 80000 75000 Abundance Misc TIMe->

Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA2\10APR\AH043015.D Aca On

: 30 Apr 2010 18:52 : WAC043010I : 1UG + 0.25

Vial: 9 Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Apr 30 19:14:01 2010

Quant Results File: A405\_1UT.RES

Quant Method: C:\HPCHEM\1\METHODS\A405\_1UT.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Apr 24 10:47:46 2010
Response via : Initial Calibration
DataAcq Meth : A405\_1UT

Sample

Misc

Internal Standards	R.T. QIon	Response	Conc Units Dev(Min	1)
1) Bromochloromethane 30) 1,4-difluorobenzene 44) Chlorobenzene-d5	7.70 128 10.04 114 14.91 117	21554 59415 49953	1.00 ppb 0.0 1.00 ppb 0.0 1.00 ppb 0.0	00
System Monitoring Compounds 57) Bromofluorobenzene Spiked Amount 1.000	16.46 95 Range 70 - 130	19228 Recove	0.81 ppb 0.0	00.

Target Compounds

Ovalue

MS Integrat Quant Time: Method					Multiplr	1: 1.00								
Method		RTEINT.P 23 2010	O	Quant Resu	Results File:	A405	_1UT.RES							
Title Last U		M\1\METHODS\ A Standards 24 10:47:46	.A405_1UT.M (F for 5 point 2010		(TE Integrator) calibration	G								
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**Date:** 28-Jun-10

**CLIENT:** GZA GeoEnvironmental of NY

Work Order: C1005021

**Project:** 760 Brooks Ave

# ANALYTICAL QC SUMMARY REPORT

TestCode: 1ugM3\_TO15

Sample ID: MB1UG-051710	SampType: MBLK		de: 1ugM3_TO15 Units: ppbV		Prep Da			RunNo: 353		
Client ID: ZZZZZ	Batch ID: R3538	TestN	No: <b>TO-15</b>		Analysis Da	ite: <b>5/17/2</b>	010	SeqNo: 44	103	
Analyte	Result	PQL	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15								
1,1,2,2-Tetrachloroethane	< 0.15	0.15								
1,1,2-Trichloroethane	< 0.15	0.15								
1,1-Dichloroethane	< 0.15	0.15								
1,1-Dichloroethene	< 0.15	0.15								
1,2,4-Trichlorobenzene	< 0.15	0.15								
1,2,4-Trimethylbenzene	< 0.15	0.15								
1,2-Dibromoethane	< 0.15	0.15								
1,2-Dichlorobenzene	< 0.15	0.15								
1,2-Dichloroethane	< 0.15	0.15								
1,2-Dichloropropane	< 0.15	0.15								
1,3,5-Trimethylbenzene	< 0.15	0.15								
1,3-butadiene	< 0.15	0.15								
1,3-Dichlorobenzene	< 0.15	0.15								
1,4-Dichlorobenzene	< 0.15	0.15								
1,4-Dioxane	< 0.30	0.30								
2,2,4-trimethylpentane	< 0.15	0.15								
4-ethyltoluene	< 0.15	0.15								
Acetone	0.3600	0.30								
Allyl chloride	< 0.15	0.15								
Benzene	< 0.15	0.15								
Benzyl chloride	< 0.15	0.15								
Bromodichloromethane	< 0.15	0.15								
Bromoform	< 0.15	0.15								
Bromomethane	< 0.15	0.15								
Carbon disulfide	< 0.15	0.15								
Carbon tetrachloride	< 0.15	0.15								
Chlorobenzene	< 0.15	0.15								
Chloroethane	< 0.15	0.15								

Qualifiers:

. Results reported are not blank corrected

J Analyte detected at or below quantitation limits

S Spike Recovery outside accepted recovery limits

E Value above quantitation range

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

**Work Order:** C1005021

G1005021

**Project:** 760 Brooks Ave

# ANALYTICAL QC SUMMARY REPORT

TestCode: 1ugM3\_TO15

Sample ID: MB1UG-051710	SampType: MBLK	TestCode: 1ugM3_TO15 Units: ppbV	Prep Date:	RunNo: <b>3538</b>
Client ID: ZZZZZ	Batch ID: R3538	TestNo: TO-15	Analysis Date: 5/17/2010	SeqNo: <b>44103</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Chloroform	< 0.15	0.15		
Chloromethane	< 0.15	0.15		
cis-1,2-Dichloroethene	< 0.15	0.15		
cis-1,3-Dichloropropene	< 0.15	0.15		
Cyclohexane	< 0.15	0.15		
Dibromochloromethane	< 0.15	0.15		
Ethyl acetate	< 0.25	0.25		
Ethylbenzene	< 0.15	0.15		
Freon 11	< 0.15	0.15		
Freon 113	< 0.15	0.15		
Freon 114	< 0.15	0.15		
Freon 12	< 0.15	0.15		
Heptane	< 0.15	0.15		
Hexachloro-1,3-butadiene	< 0.15	0.15		
Hexane	< 0.15	0.15		
Isopropyl alcohol	< 0.15	0.15		
m&p-Xylene	< 0.30	0.30		
Methyl Butyl Ketone	< 0.30	0.30		
Methyl Ethyl Ketone	< 0.30	0.30		
Methyl Isobutyl Ketone	< 0.30	0.30		
Methyl tert-butyl ether	< 0.15	0.15		
Methylene chloride	< 0.15	0.15		
o-Xylene	< 0.15	0.15		
Propylene	< 0.15	0.15		
Styrene	< 0.15	0.15		
Tetrachloroethylene	< 0.15	0.15		
Tetrahydrofuran	< 0.15	0.15		
Toluene	< 0.15	0.15		
trans-1,2-Dichloroethene	< 0.15	0.15		
trans-1,3-Dichloropropene	< 0.15	0.15		
Trichloroethene	< 0.15	0.15		

Qualifiers:

Results reported are not blank corrected

J Analyte detected at or below quantitation limits

S Spike Recovery outside accepted recovery limits

E Value above quantitation range

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

**Work Order:** C1005021

GZA GeoEnvironmental of NY

**Project:** 760 Brooks Ave

# ANALYTICAL QC SUMMARY REPORT

TestCode: 1ugM3\_TO15

Sample ID: MB1UG-051710	SampType: MBLK	TestCo	de: 1ugM3_T0	015 Units: ppbV		Prep Da	te:		RunNo: 353	38	
Client ID: ZZZZZ	Batch ID: R3538	Test	No: <b>TO-15</b>			Analysis Da	te: <b>5/17/2</b> 0	)10	SeqNo: 441	103	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl acetate	< 0.15	0.15									
Vinyl Bromide	< 0.15	0.15									
Vinyl chloride	< 0.15	0.15									
Surr: Bromofluorobenzene	0.9900	0	1	0	99.0	70	130				
Sample ID: LCS1UG-051710	SampType: LCS	TestCo	de: 1ugM3_T0	015 Units: ppbV		Prep Da	te:		RunNo: 353	38	
Client ID: ZZZZZ	Batch ID: R3538	Test	lo: <b>TO-15</b>			Analysis Da	te: <b>5/17/2</b> 0	)10	SeqNo: 441	104	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.090	0.15	1	0	109	70	130				
1,1,2,2-Tetrachloroethane	0.8500	0.15	1	0	85.0	70	130				
1,1,2-Trichloroethane	0.9700	0.15	1	0	97.0	70	130				
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130				
1,1-Dichloroethene	0.8200	0.15	1	0	82.0	70	130				
1,2,4-Trichlorobenzene	0.7500	0.15	1	0	75.0	70	130				
1,2,4-Trimethylbenzene	0.8400	0.15	1	0	84.0	70	130				
1,2-Dibromoethane	0.9000	0.15	1	0	90.0	70	130				
1,2-Dichlorobenzene	0.9100	0.15	1	0	91.0	70	130				
1,2-Dichloroethane	1.050	0.15	1	0	105	70	130				
1,2-Dichloropropane	0.9700	0.15	1	0	97.0	70	130				
1,3,5-Trimethylbenzene	0.8000	0.15	1	0	80.0	70	130				
1,3-butadiene	1.160	0.15	1	0	116	70	130				
1,3-Dichlorobenzene	0.9600	0.15	1	0	96.0	70	130				
1,4-Dichlorobenzene	0.8900	0.15	1	0	89.0	70	130				
1,4-Dioxane	0.7600	0.30	1	0	76.0	70	130				
2,2,4-trimethylpentane	1.060	0.15	1	0	106	70	130				
4-ethyltoluene	0.7500	0.15	1	0	75.0	70	130				
Acetone	1.230	0.30	1	0.36	87.0	70	130				В
Allyl chloride	0.7400	0.15	1	0	74.0	70	130				
Benzene	0.9500	0.15	1	0	95.0	70	130				

Qualifiers:

Results reported are not blank corrected

J Analyte detected at or below quantitation limits

S Spike Recovery outside accepted recovery limits

E Value above quantitation range

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Work Order: C1005021

GZA GeoEnvironmental of N Y

**Project:** 760 Brooks Ave

# ANALYTICAL QC SUMMARY REPORT

TestCode: 1ugM3\_TO15

Sample ID: LCS1UG-051710	SampType: <b>LCS</b>	TestCoo	de: 1ugM3_T	D15 Units: ppbV	·	Prep Da	te:		RunNo: 35	38	-
Client ID: ZZZZZ	Batch ID: R3538	TestN	lo: <b>TO-15</b>			Analysis Da	te: <b>5/17/2</b> 0	10	SeqNo: 44	104	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzyl chloride	0.8100	0.15	1	0	81.0	70	130				
Bromodichloromethane	1.080	0.15	1	0	108	70	130				
Bromoform	0.9400	0.15	1	0	94.0	70	130				
Bromomethane	1.120	0.15	1	0	112	70	130				
Carbon disulfide	1.030	0.15	1	0	103	70	130				
Carbon tetrachloride	1.080	0.15	1	0	108	70	130				
Chlorobenzene	0.8700	0.15	1	0	87.0	70	130				
Chloroethane	1.030	0.15	1	0	103	70	130				
Chloroform	1.020	0.15	1	0	102	70	130				
Chloromethane	1.150	0.15	1	0	115	70	130				
cis-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130				
cis-1,3-Dichloropropene	0.9600	0.15	1	0	96.0	70	130				
Cyclohexane	1.030	0.15	1	0	103	70	130				
Dibromochloromethane	0.9900	0.15	1	0	99.0	70	130				
Ethyl acetate	0.7200	0.25	1	0	72.0	70	130				
Ethylbenzene	0.8600	0.15	1	0	86.0	70	130				
Freon 11	1.150	0.15	1	0	115	70	130				
Freon 113	1.020	0.15	1	0	102	70	130				
Freon 114	1.110	0.15	1	0	111	70	130				
Freon 12	1.050	0.15	1	0	105	70	130				
Heptane	1.030	0.15	1	0	103	70	130				
Hexachloro-1,3-butadiene	0.8000	0.15	1	0	80.0	70	130				
Hexane	0.9800	0.15	1	0	98.0	70	130				
Isopropyl alcohol	0.7900	0.15	1	0	79.0	70	130				
m&p-Xylene	1.650	0.30	2	0	82.5	70	130				
Methyl Butyl Ketone	0.7700	0.30	1	0	77.0	70	130				
Methyl Ethyl Ketone	0.7200	0.30	1	0	72.0	70	130				
Methyl Isobutyl Ketone	0.8200	0.30	1	0	82.0	70	130				
Methyl tert-butyl ether	1.020	0.15	1	0	102	70	130				
Methylene chloride	0.9200	0.15	1	0	92.0	70	130				
o-Xylene	0.8400	0.15	1	0	84.0	70	130				

Qualifiers:

Results reported are not blank corrected

Analyte detected at or below quantitation limits

S Spike Recovery outside accepted recovery limits

E Value above quantitation range

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Work Order: C1005021

**Project:** 760 Brooks Ave

# ANALYTICAL QC SUMMARY REPORT

TestCode: 1ugM3\_TO15

Sample ID: LCS1UG-051710	SampType: LCS	TestCod	de: 1ugM3_T	O15 Units: ppbV		Prep Da	te:		RunNo: <b>3538</b>		
Client ID: ZZZZZ	Batch ID: R3538	TestN	No: <b>TO-15</b>			Analysis Da	te: <b>5/17/20</b>	10	SeqNo: 441	104	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Propylene	1.050	0.15	1	0	105	70	130				
Styrene	0.8300	0.15	1	0	83.0	70	130				
Tetrachloroethylene	0.9600	0.15	1	0	96.0	70	130				
Tetrahydrofuran	0.9300	0.15	1	0	93.0	70	130				
Toluene	1.050	0.15	1	0	105	70	130				
trans-1,2-Dichloroethene	0.9100	0.15	1	0	91.0	70	130				
trans-1,3-Dichloropropene	0.9600	0.15	1	0	96.0	70	130				
Trichloroethene	1.080	0.15	1	0	108	70	130				
Vinyl acetate	0.8900	0.15	1	0	89.0	70	130				
Vinyl Bromide	1.050	0.15	1	0	105	70	130				
Vinyl chloride	1.050	0.15	1	0	105	70	130				
Surr: Bromofluorobenzene	1.130	0	1	0	113	70	130				

Results reported are not blank corrected

J Analyte detected at or below quantitation limits

S Spike Recovery outside accepted recovery limits

E Value above quantitation range

ND Not Detected at the Reporting Limit

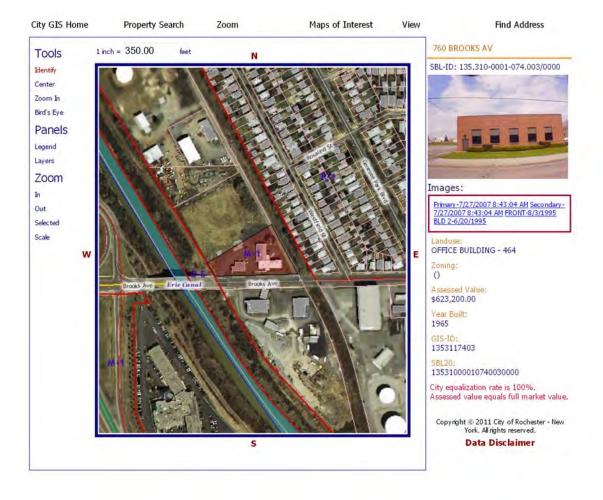
H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# APPENDIX C CITY OF ROCHESTER, NY GIS INFORMATION



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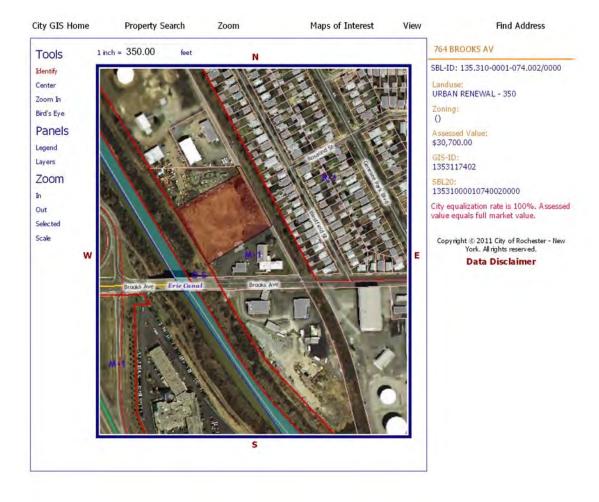
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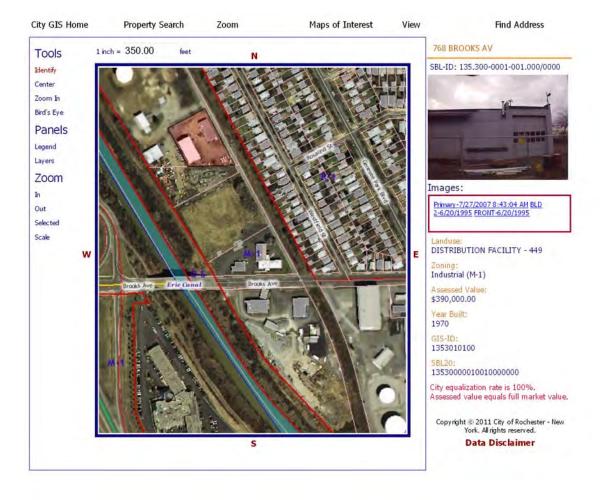
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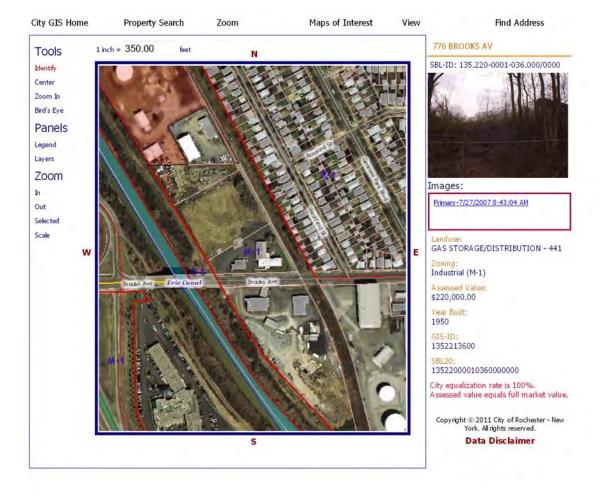
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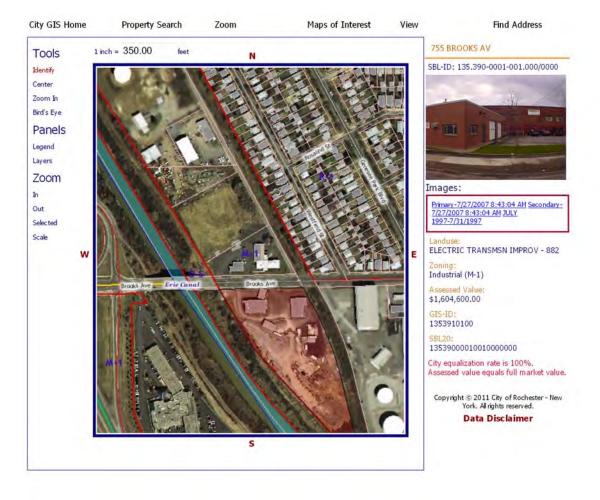
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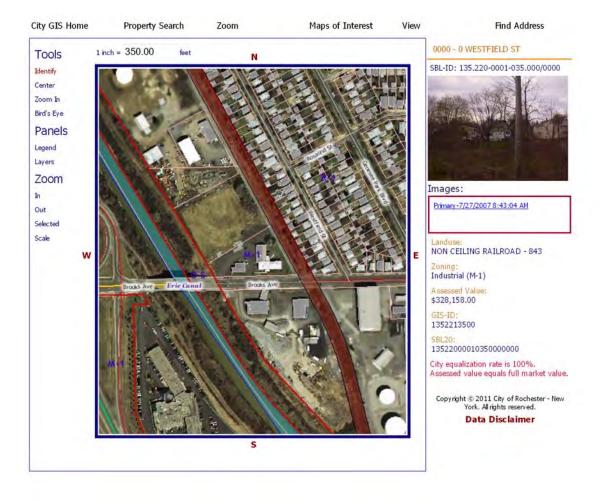
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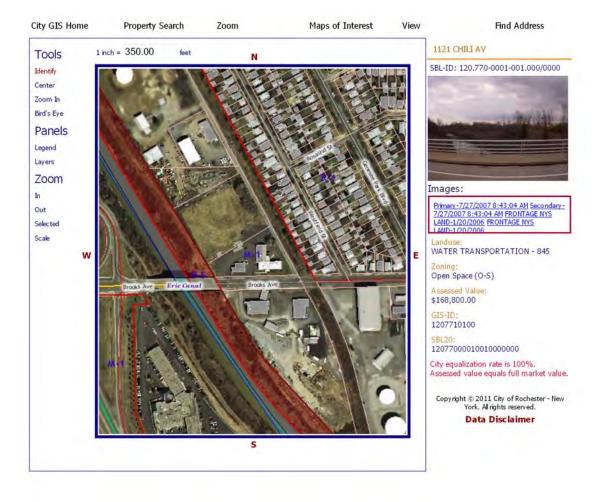
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# SUBSURFACE INVESTIGATION REPORT MATRIX ENVIRONMENTAL TECHNOLOGIES INC. OCTOBER 30, 2012



October 30, 2012



3730 California Road P.O. Box 427 Orchard Park, NY 14127-0427 p: 716.662.0745 f: 716.662.0946 www.matrixbiotech.com

Senior Project Manager

Mr. Peter Miller NYSDEC - Region 8 6274 East Avon-Lima Road Avon, New York 14414-9519

**RE:** Subsurface Investigation Report

Former Sunoco/Griffith Energy Bulk Petroleum Terminal 760 Brooks Avenue Rochester, NY Duns# 0090-5828 NYSDEC Spill #00-05282

Dear Mr. Miller:

Matrix Environmental Technologies Inc. (METI), on behalf of Sunoco, Inc. (R&M) and Superior Plus Energy Services, Inc. completed a subsurface investigation at the above referenced site in June 2012. The investigation was completed in accordance with the work plan submitted to your office on April 27, 2012. Recommendations for additional activities are included.

Please contact METI should you have any questions or require any additional information.

Sincerely,

MATRIX ENVIRONMENTAL TECHNOLOGIES INC.

D. Robert Gill, C.P.G.

Project Manager

Enclosure

cc: Kinyorda Sliwiak, Sunoco, Inc.

Tim DeReamer, Superior Plus Energy Services, Inc.

#### SUBSURFACE INVESTIGATION REPORT

Former Bulk Petroleum Terminal 760 Brooks Avenue Rochester, NY DUNS# 0090-5828 NYSDEC Spill #00-05282 METI Project #11-031

October 30, 2012

Prepared For:



Mrs. Kinyorda D. Sliwiak Sunoco, Inc. (R&M) 1109 Milton Avenue Syracuse, NY 13204

Prepared By:

MATRIX
Environmental Technologies Inc.

3730 California Road Orchard Park, New York 14127 716.662.0745

D. Robert Gill, C.P.G

Project Manager

Craig D/Zink/Q.P.G., P.G.

Senior Project Manager

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Soil Borings (METI 1 and METI 2)

## **APPENDICES**

APPENDIX A Laboratory Analytical Report (copies)

#### 1.0 INTRODUCTION

#### 1.1 Authorization

Matrix Environmental Technologies Inc. (METI) was authorized by Mrs. Kinyorda Sliwiak of Sunoco, Inc. (R&M) and Mr. Tim DeReamer of Superior Plus Energy Services, Inc. to perform a subsurface investigation at the former Bulk Petroleum Terminal, 760 Brooks Avenue, Rochester, New York (Site).

#### 1.2 Objective

The objectives for the investigation:

- define the extent of VOC impacts in soil and overburden groundwater between former petroleum storage areas and the Erie Canal;
- define groundwater flow direction in the shallow bedrock aquifers;
- evaluate LNAPL thickness and recovery in the *shallow* bedrock aguifer;
- evaluate the capacity of the shallow bedrock aquifer and possible hydraulic influence between wells.

The results of the investigation were used to develop future actions for the project with respect to remedial activities and goals for spill inactive status.

#### 1.3 Scope of Work

The subsurface investigation proceeded as detailed below:

- Contacted Dig Safely New York to mark out site utilities. Hand-cleared each soil boring location to a depth of 5-feet below ground surface (bgs).
- Drilled two soil borings and collected continuous soil samples using a drilling rig, hollow stem augers and Marco-core samplers.
- Observed soil samples for evidence of petroleum impact, classified the soil type, screened for volatile organic compounds (VOCs) using an organic vapor meter (OVM), and containerized for potential laboratory analysis.
- Submitted one soil sample from each boring for laboratory analysis for New York State Department of Environmental Conservation (NYSDEC) CP-51<sup>1</sup> list compounds using EPA Method 8260.
- Coordinated and supervised a site survey. Wells and features from the property located south of the Site at 755 Brooks Avenue were tied into the survey.
- Completed a full round of groundwater elevation gauging and sampling of onsite wells screened in overburden soils and shallow bedrock aquifer. Select wells on the

<sup>&</sup>lt;sup>1</sup> NYSDEC Commissioner's Policy CP-51: Soil Cleanup Guidance. October 21, 2010. Page 19, Table 2.



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755 Brooks Avenue property were gauged. Water samples were submitted for VOC and SVOC analysis using EPA Methods 8260 and 8270 STARS, respectively. No samples were collected from the 755 Brooks Avenue property wells.

- Performed a LNAPL bail-down test in well MW5-SB to determine actual LNAPL thickness and recharge rate.
- Performed a short-term pumping test in well MW5-SB to determine well capacity and potential hydraulic connection to nearby wells.
- Prepared a comprehensive subsurface investigation report detailing the methods and results of the investigation.

#### 1.4 Site Description and History

The southern portion of the Site consists of two commercial buildings adjacent to Brooks Ave and a paved parking lot. The northern portion consists of a vacant lot with an uneven sand and gravel surface with weeds and other vegetation throughout. The vacant lot was previously used for petroleum bulk storage. Refer to Figure 1 for a Site map.

The Site is bordered by the following:

North – former petroleum bulk storage terminal

South – Brooks Avenue (County Route 204) and Rochester Gas & Electric facility (755 Brooks Avenue)

East - Residential area

West – Pipeline Right-of-Way, narrow, vacant lot with bushes and steep slope adjacent to the Erie Canal.

Previous subsurface environmental investigations have been completed at the Site by METI and others. The primary contaminants are volatile and semi volatile organic compounds (VOCs, SVOCs) in soil, overburden groundwater and the shallow and deep bedrock aquifers. Light non-aqueous phase liquid (LNAPL) is present in the shallow and deep bedrock aquifers. The LNAPL source has not been determined. LNAPL has also been measured at the RG&E property immediately to the south of the Site.

#### 2.0 METHODS OF INVESTIGATION

#### 2.1 Site Preparation

Prior to drilling, METI personnel field-marked two proposed soil boring locations as METI 1 and METI 2. The borings were located at the western edge of the Site. Dig Safely New York was notified to locate buried utilities. On June 13, 2012, METI personnel used compressed air to clear each proposed boring location to a depth of 5 feet below ground surface (bgs).





#### 2.2 Soil Sampling, Testing, and Analysis

Soil samples were obtained on June 13, 2012, with a CME 85 auger drilling rig provided and operated by Nothnagle Drilling of Scottsville, NY. When the desired depth was attained, the drive rods were removed and a 2.125-inch ID, 4-foot long Macrocore soil sampler with an internal acetate sleeve was inserted in its place. With the tip of the sampler set to the bottom of the borehole, a hydraulically-driven hammer was used to advance the sampler its full length. The sampler was removed and opened, and the acetate liner was removed and cut open to expose the soil sample.

All soil samples were observed for petroleum impact (sheen, discoloration, odor, etc.) and the soil type was classified using the Burmister system. The samples were placed in resealable plastic bags to allow vapors to accumulate in the headspace. The headspace was then screened for VOCs, expressed in parts per million (ppm), using a Thermo Environmental 580B portable OVM. One soil sample from each soil boring was submitted for laboratory analysis for VOCs and volatile aromatic hydrocarbons using EPA Methods 8260 STARS.

#### 2.3 Site Surveying

METI subcontracted TVGA Consultants to complete a licensed survey and drawing of the Site including locating all monitoring wells, soil borings and measuring the top of well casings to a local geodetic marker. The survey was completed on June 12-13, 2012, under the supervision of METI and included the location and top of casing measurements of wells on the adjacent RG&E property.

#### 2.4 Groundwater Elevation Gauging, Sampling, and Analysis

On June 19, 2012, groundwater elevations in select wells were gauged to the nearest 0.01 foot using a Solinst Model 122 water level indicator. Depth to water was measured from the highest marked point of the well riser. Groundwater elevations were determined by subtracting the measured depth from the surveyed riser elevation.

Groundwater samples were collected from all accessible wells screened in overburden soils and the shallow bedrock aquifer. The wells screened in the deep bedrock aquifer were neither gauged nor sampled. Samples were obtained via dedicated bailers or precleaned, stainless-steel bailers. Groundwater samples were poured into appropriate containers, packed on ice, and submitted under chain of custody protocol for VOC and SVOC laboratory analysis using EPA Methods 8260 and 8270 STARS, respectively.

#### 2.5 LNAPL and Aquifer Testing

On June 12, 2012, METI completed an LNAPL recovery test on bedrock well MW5SB. LNAPL was removed with a bailer and fluid levels were measured with a Solinst interface probe during a short-term recovery period. LNAPL thickness in MW3 SB, the other LNAPL-bearing well, was less than 0.1-feet, therefore testing was completed only at MW5SB.





A specific capacity test was completed at MW5SB on June 12, 2012. A bailer was used to remove 10 gallons of groundwater from the well over a period of 29 minutes. Liquid levels were measured during the recovery period to evaluate the capacity of the well in preparation for the pumping test.

A pumping test was completed at MW5SB on June 28, 2012. A Grundfos Ready Flow 2 submersible pump was placed near the bottom of the well at 42 feet below ground surface (bgs). After an initial start-up period, the well was pumped at a constant rate for 6 hours. Liquid levels in surrounding monitoring wells were measured periodically with an interface probe. Groundwater removed from MW5B was placed into a holding tank and later disposed by New York Environmental Technologies, Inc. at Industrial Oil Tank Service Corp. in Oriskany, New York.

#### 3.0 RESULTS

#### 3.1 Soil Quality

On June 13, 2012, a total of 16 samples from two soil borings, designated METI 1 and 2, were collected, characterized, and inspected for evidence of hydrocarbon impacts. Continuous soil sampling was performed from 4 to 34 feet bgs at METI 1 and 4 to 28 feet bgs at METI 2. Groundwater samples could not be collected from either boring due to a lack of saturated soils. A site plan identifying boring locations and soil VOC concentrations is included as **Figure 2**.

No observations of impact were identified while sampling soil in boring METI 1. Hydrocarbon odors and OVM measurements above background were noted in boring METI 2 at depths ranging from 12 to 24 feet bgs. The peak OVM measurement was 1,921 ppm at the 12 to 16 foot bgs sample depth interval. OVM measurements are included in the attached **soil boring logs**.

Soil sample analytical results for total VOCs were below detection limits in boring METI 1 and 47,924 micrograms per kilogram ( $\mu g/kg$ ) in METI 2 (15' - 16'). Exceedences of NYSDEC CP-51 Soil Cleanup Objective values (SCOs) were noted in METI 2 for the following compounds: ethylbenzene, 1,2,4-trimethylbenzene and xylenes. Naphthalene was detected in METI 2 at 1,480  $\mu g/kg$ , which is below the SCO value of 12,000  $\mu g/kg$ . MTBE was not detected in either sample. In comparison to NYSDEC Part 375 residential soil cleanup values, the sample from METI 2 was below the referenced guidance values.

Refer to **Table 1** for a summary of the soil sample analytical results. A copy of the laboratory analytical report is included as **Appendix B**.





#### 3.2 Groundwater Elevations and Quality

#### Overburden Groundwater

Groundwater elevation gauging was completed on June 19, 2012, with the results summarized in **Table 2**. Depth to groundwater in the Site overburden wells ranged from 9.24 (MW-11 O) to 35.80 (MWB) feet bgs. No LNAPL was detected in any of the overburden wells. Wells MW-2 O, MW-15 O, and MW-17 O were dry, and well MWC could not be located. Groundwater elevations varied across the Site with no distinctive flow direction. Depth to groundwater in the offsite overburden wells ranged from 2.05 to 29.43 feet bgs. Refer to Figure 3 for a site map identifying overburden wells, elevations, and contaminant concentrations.

Groundwater samples from the overburden wells were collected and submitted for VOC (**Table 3**) and SVOC (**Table 4**) analyses and the results compared to NYSDEC groundwater Standards. Of the 14 VOC samples, 12 were non detect including sample MW5 O, which contained MTBE only at 11.2  $\mu$ g/L. Both samples MW10 O and MW14 O contained benzene only at 2.7 and 1.0  $\mu$ g/L, respectively. The VOC concentration in sample MW16 O totaled 5,538.8  $\mu$ g/L and contained multiple individual VOCs above Standards. MW16 O is located on the northern end of the Site near well MW8 which was non detect for VOCs.

A total of 13 samples were submitted for SVOC analysis. No sample was submitted from well MWB due to an insufficient water volume at the time of sampling. Sample MW14 O contained seven individual SVOCs above Standards, with a total SVOC concentration of 172.4 µg/L. All other compounds for the remaining samples were non detect.

#### Shallow Bedrock

Depth to groundwater in the Site shallow bedrock ranged from 25.57 (MW-14B) to 40.18 (MW4-SB) feet bgs. Well MW16 SB was dry and well MW2 SB could not be located. LNAPL thicknesses of 0.41 and 0.38 feet were detected in wells MW-3SB and MW-5SB, respectively. Groundwater flow direction is fairly consistent, aside from well MW14 SB, and appears to be northwest. Refer to **Figure 4** for a site map indicating groundwater elevations and flow direction in the shallow bedrock aquifer. An LNAPL thickness of 0.15 feet was detected in offsite wells MW8, which, based on the June 19, 2012 data, is located hydraulically upgradient of the Site.

Due to the presence of LNAPL, groundwater samples were not collected from wells MW-3SB and MW-5SB. No samples were collected from offsite wells. Groundwater VOC analytical results identified naphthalene only in sample MW15 SB at 329  $\mu$ g/L, above the Standard of 10  $\mu$ g/L. Only sample MW14 SB contained detectable SVOCs, with six compounds identified above Standards. The SVOC concentration totaled 59.7  $\mu$ g/L. No SVOCs from the remaining samples were identified above detection limits.





#### 3.3 LNAPL Recovery Test

Results of the LNAPL recovery test are shown in **Table 5** and **Chart 1**. In reference to these data, following the removal of LNAPL, the thickness stabilized between 0.31 to 0.39 feet. This value is representative of the LNAPL thickness in the bedrock fractures and/or bedding planes.

#### 3.4 Aquifer Testing

The specific capacity test indicated the yield of the well was low at 0.44 gallons per minute (gpm) per foot of drawdown. Liquid level readings and calculations are included in **Table 6**.

Based on the results of the specific capacity test, a lower capacity pump was used for the pumping test. To maintain a consistent drawdown level between four and five feet, the pumping rate was adjusted to 0.42 gpm throughout the majority of the pumping test. The pumping level stabilized at approximately 39.9 feet below top of casing amounting to 4.85 feet of drawdown (**Chart 2**). Approximately 110 gallons were removed from the well MW5SB during the test. A summary of the liquid level measurements obtained during the pumping test is presented in **Table 7**.

The change in liquid levels in overburden and shallow bedrock monitoring wells ranged from no change (0.00 feet) to a maximum of 0.05 feet in wells MW6SB and MW10 SB. These wells are located approximately 62 and 128 feet from wells MW5 SB.

#### 4.0 CONCLUSIONS

The additional soil borings completed along the western portion of the site confirm previous findings and complete the delineation of VOC impact to soil. Data suggests that VOC impacts in soil are contained within the property boundaries. Further, the lack of saturated soils in the both borings and large variability in the overburden groundwater elevations confirms a perched condition without a discernible flow pattern. Results of the June 2012 groundwater sampling event confirm the absence of overburden groundwater VOC impacts except in one isolated area (MW16 O).

Dissolved phase hydrocarbon impacts in the shallow bedrock aquifer are limited to low levels of SVOCs in one area (MW14 SB). The June 2012 groundwater elevation data compiled from the recent licensed survey of the Site and neighboring property is consistent with previous findings. Groundwater flow direction in the shallow bedrock is to the northwest. The occurrence of LNAPL is isolated to two wells and of marginal thickness. LNAPL was confirmed in a shallow bedrock well at the upgradient property (755 Brooks Ave.), again, at a marginal thickness.

Based on the results of the pumping test, the shallow bedrock aquifer has minimal yield, and little connectivity through fracture flow. Although hydraulic influence was measured





in two nearby wells, the amount of influence was minimal and there was no pattern with respect to orientation or distance.

Although a short term pumping test did not identify immediate hydraulic influence in the shallow bedrock aquifer, the migration of LNAPL from an upgradient source would likely take multiple years based on the poor yield of the aquifer.

No additional soil or groundwater investigation is necessary in the overburden, shallow or deep bedrock aquifers. Further, an evaluation of site data using NYSDEC CP-51 guidelines indicates that remediation of overburden soil is not necessary (as reported by METI, Remedial Action Plan, February 2011).

#### 5.0 **RECOMMENDATIONS**

Since overburden soil and groundwater impacts are defined and considered stable, and dissolved phase VOC impacts in the shallow bedrock are minimal, a Remedial Action Plan should be developed that focuses solely on LNAPL recovery from wells MW3 SB and MW5 SB. Considerations for the remedial design should incorporate aquifer characteristics such as low yield, lack of fracture connectivity, and isolated locations of LNAPL impacts.

#### 6.0 LIMITATIONS

This report is based on a limited number of soil and groundwater samples and chemical analyses. The conclusions presented in this report are based only on the observations made during this investigation and data provided by others. The report presents a description of the subsurface conditions observed at each boring location during this investigation. Subsurface conditions may very significantly with time, particularly with respect groundwater elevations and quality. Conclusions and recommendations set forth are applicable only to the facts and conditions at the time of this investigation.

In performing professional services, METI uses the degree of care and skill exercised under similar circumstances by members of the environmental profession practicing in the same or similar locality under similar conditions.

The standard of care shall be judged exclusively as of the time these services are rendered and not according to later standards. METI makes no express or implied warranty beyond its conformance to this standard. METI shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed for this report. METI believes that all information contained in this report is factual; however no guarantee is made or implied.





# SOIL VOC CONCENTRATIONS EPA METHOD 8260 STARS (µG/kg) FORMER TERMINAL 760 BROOKS AVENUE ROCHESTER, NY

June 13, 2012

Compound	NYSDEC CP-51 SCG	375 RESIDENTIAL	METI 1 10'-12'	METI 2 15'-16'
Benzene	60	2,900	ND	ND
n-Butylbenzene	12,000	NA	ND	673
sec-Butylbenzene	11,000	100,000	ND	400
tert-Butylbenzene	5,900	100,000	ND	ND
Ethylbenzene	1,000	30,000	ND	1,460
Isopropylbenzene	3,900	100,000	ND	729
p-Isopropyltoluene	2,300	NA	ND	ND
n-Propylbenzene	10,000	NA	ND	3,500
Toluene	700	100,000	ND	ND
1,2,4-Trimethylbenzene	3,600	47,000	ND	20,100
1,3,5-Trimethylbenzene	8,400	47,000	ND	6,300
m,p-Xylene	-	-	ND	6,980
o-Xylene	-	-	ND	402
Xylene (total)	260	100,000	ND	7,380
TOTAL STARS VOCs	-	NA	ND	47,924

MTBE	930	62,000	ND	ND
Naphthalene	12,000	NA	ND	1,480

Table 2

## Groundwater Elevation Data Summary Former Terminal 760 Brooks Avenue Rochester, New York

#### June 19, 2012

TYPE	Well ID	Well Elevation (ft)	Depth to LNAPL	Depth to Water	LNAPL Thickness	Adj. Depth to Groundwater	Groundwater Elevations
L	3 6337 A	` /			Timeliness		
	MWA	549.60		28.27		28.27	521.33
	MWB	551.10		35.80	<u> </u>	35.80	515.30
ILS	MWC	740.00		could no	t be located	227	5511
SO	MW-2 O	548.28	DRY			DRY	DRY
WELLS SCREENED IN OVERBURDEN SOILS	MW-3 O	548.64		21.40		21.40	527.24
RD	MW-4 O	553.16		11.72		11.72	541.44
BU	MW-5 O	551.67		9.25		9.25	542.42
ÆR	MW-6 O	550.90		10.85		10.85	540.05
б	MW-8 O	550.51		12.79		12.79	537.72
∥ Z	MW-9 O	551.34		11.64		11.64	539.70
	MW-10 O	551.22		11.21		11.21	540.01
EE	MW-11 O	548.56		9.24		9.24	539.32
CRI	MW-12 O	550.02		10.91		10.91	539.11
S S	MW-13 O	548.73		10.1		10.10	538.63
ET	MW-14 O	548.89		19.94		19.94	528.95
>	MW-15 O	550.63		DRY		DRY	DRY
	MW-16 O	547.05		10.91		10.91	536.14
	MW-17 O	546.80		DRY		23.64	523.16
	MW-2 B			could no	t be located	•	
	MW-3 SB	548.79	28.21	28.62	0.41	28.29	520.50
	MW-4 SB	553.33		40.18		40.18	513.15
×	MW-5 SB	551.75	34.82	35.20	0.38	34.90	516.85
SHALLOW BEDROCK	MW-6 SB	550.66		34.12		34.12	516.54
EDF	MW-8 SB	549.75		37.99		37.99	511.76
/ B	MW-9 SB	551.02		38.8		38.80	512.22
l õ	MW-10 SB	550.38		37.71		37.71	512.67
MLL	MW-11 SB	548.04		29.94		29.94	518.10
SH	MW-14 SB	549.15		25.57		25.57	523.58
	MW-15 SB	550.09		38.78		38.78	511.31
	MW-16 SB	548.12		DRY		DRY	DRY
	MW-17 SB	546.63		35.19		35.19	511.44
Š	MW-3 DB	548.42		NG		NG	NG
DEEP BEDROCK	MW-4 DB	553.26		NG		NG	NG
P BEI	MW-5 DB	552.05		NG		NG	NG
DEE	MW-6 DB	551.11		NG		NG	NG

#### Table 2

### Groundwater Elevation Data Summary Former Terminal 760 Brooks Avenue Rochester, New York

#### June 19, 2012

TYPE	Well ID	Well Elevation (ft)	Depth to LNAPL	Depth to Water	LNAPL Thickness	Adj. Depth to Groundwater	Groundwater Elevations
	OFFSITE WELI	LS					
Z	MW1	551.97		21.99		21.99	529.98
RDEN	MW4	554.96		29.43		29.43	525.53
	MW5	551.61		3.98		3.98	547.63
VER	MW6S	549.59		2.05		2.05	547.54
Ó	MW7S	550.02		2.70		2.70	547.32
BR	MW6D	549.70		37.95		37.95	511.75
В	MW8	554.50	27.75	27.90	0.15	27.78	526.72

O = groundwater monitoring well screened in overburden soil (includes wells MWA, MWB, MWC)

SB = groundwater monitoring well screened in sahllow bedrock

DB = groundwater monitoring well screened in deep bedrock

# GROUNDWATER VOC CONCENTRATION SUMMARY EPA METHOD 8260 STARS (µg/L) FORMER TERMINAL 760 BROOKS AVENUE ROCHESTER, NY

				OVERBURI	DEN WELLS		
Compound	Standards	MWA	MWB	MW3 O	MW4 O	MW5 O	MW6 O
Benzene	1	ND	ND	ND	ND	ND	ND
n-Butylbenzene	5	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	5	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	5	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	5	ND	ND	ND	ND	ND	ND
n-Propylbenzene	5	ND	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND
m,p-Xylene	5	ND	ND	ND	ND	ND	ND
o-Xylene	5	ND	ND	ND	ND	ND	ND
Xylene (total)	5	ND	ND	ND	ND	ND	ND
TOTAL STARS VOCs	-	ND	ND	ND	ND	ND	ND
MTBE	10	ND	ND	ND	ND	11.2	ND
Naphthalene	10	ND	ND	ND	ND	ND	ND

# GROUNDWATER VOC CONCENTRATION SUMMARY EPA METHOD 8260 STARS (µg/L) FORMER TERMINAL 760 BROOKS AVENUE ROCHESTER, NY

					OVERBURI	DEN WELLS			
Compound	Standards	MW8 O	MW9 O	MW10 O	MW11 0	MW12 O	MW13 O	MW14 O	MW16 O
Benzene	1	ND	ND	2.70	ND	ND	ND	1.00	2.0
n-Butylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	821.0
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	ND	44.9
p-Isopropyltoluene	5	ND	ND	ND	ND	ND	ND	ND	18.7
n-Propylbenzene	5	ND	ND	ND	ND	ND	ND	ND	87.1
Toluene	5	ND	ND	ND	ND	ND	ND	ND	4.7
1,2,4-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	1,210.0
1,3,5-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	357.0
m,p-Xylene	5	ND	ND	ND	ND	ND	ND	ND	1,460.0
o-Xylene	5	ND	ND	ND	ND	ND	ND	ND	33.4
Xylene (total)	5	ND	ND	ND	ND	ND	ND	ND	1,500.0
TOTAL STARS VOCs	-	ND	ND	2.70	ND	ND	ND	1.00	5,538.8
			·		·	·		·	·
MTBE	10	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	ND	ND	ND	ND	ND	ND	ND	ND

# GROUNDWATER VOC CONCENTRATION SUMMARY EPA METHOD 8260 STARS (µg/L) FORMER TERMINAL 760 BROOKS AVENUE ROCHESTER, NY

			SHALLOW BEDROCK							
Compound	Standards	MW4 SB	MW6 SB	MW8 SB	MW9 SB	MW10 SB	MW11 SB	MW14 SB	MW15 SB	MW17 SB
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL STARS VOCs	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	10	ND	ND	ND	ND	ND	ND	ND	1.10	ND
Naphthalene	10	ND	ND	ND	ND	ND	ND	ND	329	ND

# GROUNDWATER SVOC CONCENTRATION SUMMARY EPA METHOD 8270 STARS (μg/L) FORMER TERMINAL 760 BROOKS AVENUE ROCHESTER, NY

				OVE	RBURDEN W	ELLS		
Compound	Standards	MWA	MWB	MW3 O	MW4 O	MW5 O	MW6 O	MW8 O
Acenaphthene	20	ND	NA	ND	ND	ND	ND	ND
Acenaphthylene		ND	NA	ND	ND	ND	ND	ND
Anthracene	50	ND	NA	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.002	ND	NA	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.002	ND	NA	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	0.002	ND	NA	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	5	ND	NA	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	0.002	ND	NA	ND	ND	ND	ND	ND
Chrysene	0.002	ND	NA	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	50	ND	NA	ND	ND	ND	ND	ND
Fluoranthene	50	ND	NA	ND	ND	ND	ND	ND
Fluorene	50	ND	NA	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.002	ND	NA	ND	ND	ND	ND	ND
Naphthalene	10	ND	NA	ND	ND	ND	ND	ND
Phenanthrene	50	ND	NA	ND	ND	ND	ND	ND
Pyrene	50	ND	NA	ND	ND	ND	ND	ND
TOTAL STARS SVOCs	-	ND	NA	ND	ND	ND	ND	ND

# GROUNDWATER SVOC CONCENTRATION SUMMARY EPA METHOD 8270 STARS (μg/L) FORMER TERMINAL 760 BROOKS AVENUE ROCHESTER, NY

				OVE	RBURDEN W	ELLS		
Compound	Standards	MW9 O	MW10 O	MW11 0	MW12 O	MW13 O	MW14 O	MW16 O
Acenaphthene	20	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND	ND	ND	ND
Anthracene	50	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.002	ND	ND	ND	ND	ND	6.1	ND
Benzo(a)pyrene	0.002	ND	ND	ND	ND	ND	4.7	ND
Benzo(b)fluoranthene	0.002	ND	ND	ND	ND	ND	7.5	ND
Benzo(g,h,i)perylene	5	ND	ND	ND	ND	ND	3.0	ND
Benzo(k)fluoranthene	0.002	ND	ND	ND	ND	ND	2.2	ND
Chrysene	0.002	ND	ND	ND	ND	ND	6.0	ND
Dibenzo(a,h)anthracene	50	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	50	ND	ND	ND	ND	ND	17.8	ND
Fluorene	50	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.002	ND	ND	ND	ND	ND	2.5	ND
Naphthalene	10	ND	ND	ND	ND	ND	ND	-
Phenanthrene	50	ND	ND	ND	ND	ND	110.0	ND
Pyrene	50	ND	ND	ND	ND	ND	12.6	ND
TOTAL STARS SVOCs	-	ND	ND	ND	ND	ND	172.40	ND

# GROUNDWATER SVOC CONCENTRATION SUMMARY EPA METHOD 8270 STARS (μg/L) FORMER TERMINAL 760 BROOKS AVENUE ROCHESTER, NY

					SH	ALLOW BEDRO	ОСК			
Compound	Standards	MW4 SB	MW6 SB	MW8 SB	MW9 SB	MW10 SB	MW11 SB	MW14 SB	MW15 SB	MW17 SB
Acenaphthene	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	50	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.002	ND	ND	ND	ND	ND	ND	4.7	ND	ND
Benzo(a)pyrene	0.002	ND	ND	ND	ND	ND	ND	5.8	ND	ND
Benzo(b)fluoranthene	0.002	ND	ND	ND	ND	ND	ND	7.6	ND	ND
Benzo(g,h,i)perylene	5	ND	ND	ND	ND	ND	ND	4.6	ND	ND
Benzo(k)fluoranthene	0.002	ND	ND	ND	ND	ND	ND	3.3	ND	ND
Chrysene	0.002	ND	ND	ND	ND	ND	ND	5.1	ND	ND
Dibenzo(a,h)anthracene	50	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	50	ND	ND	ND	ND	ND	ND	9.5	ND	ND
Fluorene	50	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.002	ND	ND	ND	ND	ND	ND	3.7	ND	ND
Naphthalene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50	ND	ND	ND	ND	ND	ND	8.3	ND	ND
Pyrene	50	ND	ND	ND	ND	ND	ND	7.1	ND	ND
TOTAL STARS SVOCs	-	ND	ND	ND	ND	ND	ND	59.70	ND	ND

### Table 5 LNAPL Recovery Test (MW5 SB)

Former Bulk Petroleum Terminal 760 Brooks Ave. Rochester, NY

June 13, 2012

Time	Elapsed Time (min.)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Adj. Depth to Water (ft)	Adj. Groundwater Elevation (ft) ^
8:15	0	34.68	39.92	5.24	35.73	516.59
8:26	11	35.35	35.51	0.16	35.38	516.94
8:32	17	34.97	35.05	0.08	34.99	517.33
8:47	32	34.88	35.19	0.31	34.94	517.38
9:06	51	34.86	35.18	0.32	34.92	517.40
9:36	81	34.85	35.18	0.33	34.92	517.40
11:20	185	34.82	35.21	0.39	34.90	517.42
14:05	350	34.82	35.21	0.39	34.90	517.42

<sup>^ -</sup> determined by subtracting the adjusted deoth to water measurement from the casing elevation of 552.32 feet.

### Table 6 Specific Capacity Test at Well MW5SB

Former Bulk Petroleum Terminal 760 Brooks Ave. Rochester, NY

Time	Elapsed Time (min.)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Comments
					Static level (approx. 6 hours after LNAPL
2:05	0:00	34.82	35.21	0.39	recovery test)
2:13	0:08				Removed 5 gallons from the well with a bailer
2:24	0:19	nd	36.01	0.0	
2:26	0:13	nd	35.37	0.0	
2:27	0:22	nd	35.24	0.0	
2:29	0:24				Removed an additional 5 gallons with a bailer
2:42	0:37	nd	35.70	0.0	
2:43	0:38	nd	35.44	0.0	
2:46	0:41	nd	35.16	0.0	
2:49	0:44	nd	35.10	0.0	
2:51	0:46	nd	35.05	0.0	
2:53	0:48	35.00	35.00	film	
2:56	0:51	34.96	34.99	0.03	
2:59	0:54	34.94	34.96	0.02	test completed

nd - not detected

Specific Capacity = flow rate per foot of drawdown = Q/s

Q = gallons per minute, s = drawdown in feet

Q = 10 gallons in 29 minutes = 0.34 gpm adjusted static water level factoring out influence from LNAPL= 35.21 - 34.82 = 0.39 x 0.75 (LNAPL factor) = 0.29, 35.21-0.29 = 34.92

s = 35.70 - 34.92 = 0.78 feet

Specific Capacity = 0.34/0.78 = 0.44 gpm/foot of drawdown

### Table 7 Pumping Test Fluids Gauging Data

Former Terminal 760 Brooks Avenue Rochester, NY

June 28, 2012

			20, 2012	Changain	LNAPL
Well ID	Time	DTP	DTW^	Change in Head	Thickness
MW3 SB	9:45	28.23	28.33	0.00	0.41
	1:52	28.20	28.29	-0.04	0.35
	3:57	28.20	28.30	-0.03	0.39
	5:00	28.20	28.30	-0.03	0.39
	6:53	28.18	28.28	-0.05	0.40
MW3 O	9:42		21.41	0.00	
	1:53		21.40	-0.01	
	4:00		21.41	0.00	
	5:37		21.40	-0.01	
MW4 SB	9:13		40.09	0.00	
	1:34		40.08	-0.01	
	3:48		40.09	0.00	
	5:26		40.08	-0.01	
MW4 O	9:55		41.93	0.00	
	1:35		41.93	0.00	
	3:48		41.94	0.01	
			41.94	0.01	
MW-5 SB	9:00	34.93	35.50		0.57
MW5 O	9:52		9.95	0.00	
	1:21		9.95	0.00	
	3:50		9.98	0.03	
	5:50		9.98	0.03	
MW6 SB	9:24		33.35	0.00	
	1:26		33.37	0.02	
	3:33		33.39	0.04	
	5:11		33.40	0.05	
	6:47		33.40	0.05	

### Table 7 Pumping Test Fluids Gauging Data

Former Terminal 760 Brooks Avenue Rochester, NY

June 28, 2012

Well ID	Time	DTP	DTW^	Change in Head	LNAPL Thickness
MW6 O	10:03		11.01	0.00	
	1:25		11.03	0.02	
	3:32		11.01	0.00	
	5:10		11.02	0.01	
	6:45		11.02	0.01	
MW7 O	10:15		3.35	0.00	
offsite	2:58		3.36	0.01	
	3:22		3.36	0.01	
MW7 SB	10:16	25.70	26.18	0.00	0.48
offsite	3:03	25.68	26.15	-0.03	0.47
OTISIC	3:24	25.66	26.13	-0.05	0.47
MW8 SB	9:20		38.17	0.00	
	1:28		38.17	0.00	
	3:36		38.17	0.00	
	5:13		38.17	0.00	
MW8 O	10:03		12.88	0.00	
	1:30		12.88	0.00	
	3:37		12.88	0.00	
	5:14		12.88	0.00	
MW9 SB	9:15		38.83	0.00	
WWySB	1:44		38.83	0.00	
	3:46		38.84	0.00	
	5:24		38.84	0.01	
) WYO O	1.45		11.06	0.00	
MW9 O	1:45		11.86	0.00	
	3:57		11.86	0.00	
	5:25		11.86	0.00	
MW10 SB	9:18		37.75	0.00	
	1:37		37.75	0.00	
	3:40		37.78	0.03	
	5:18		37.80	0.05	
	6:49		37.80	0.05	

### Table 7 Pumping Test Fluids Gauging Data

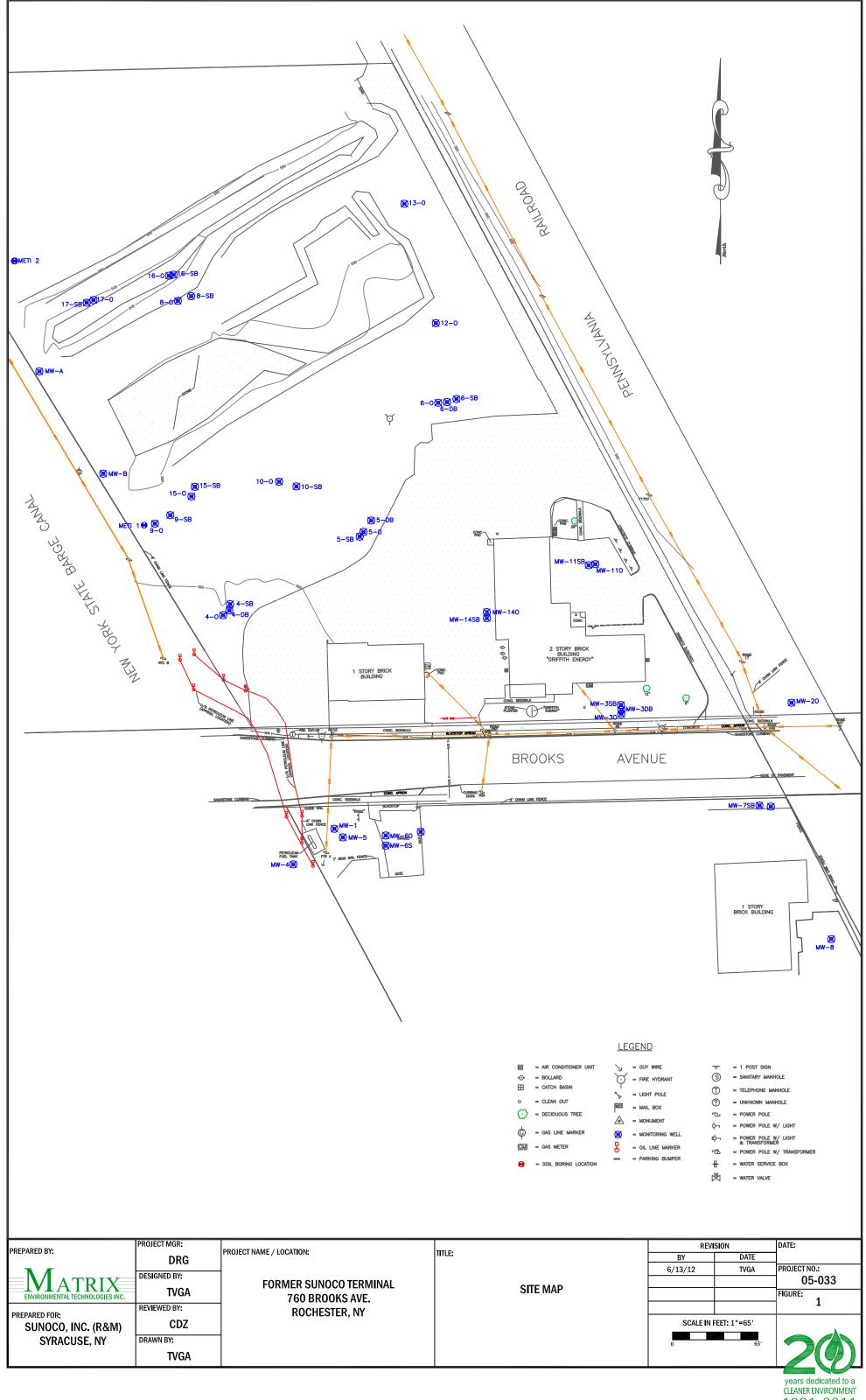
Former Terminal 760 Brooks Avenue Rochester, NY

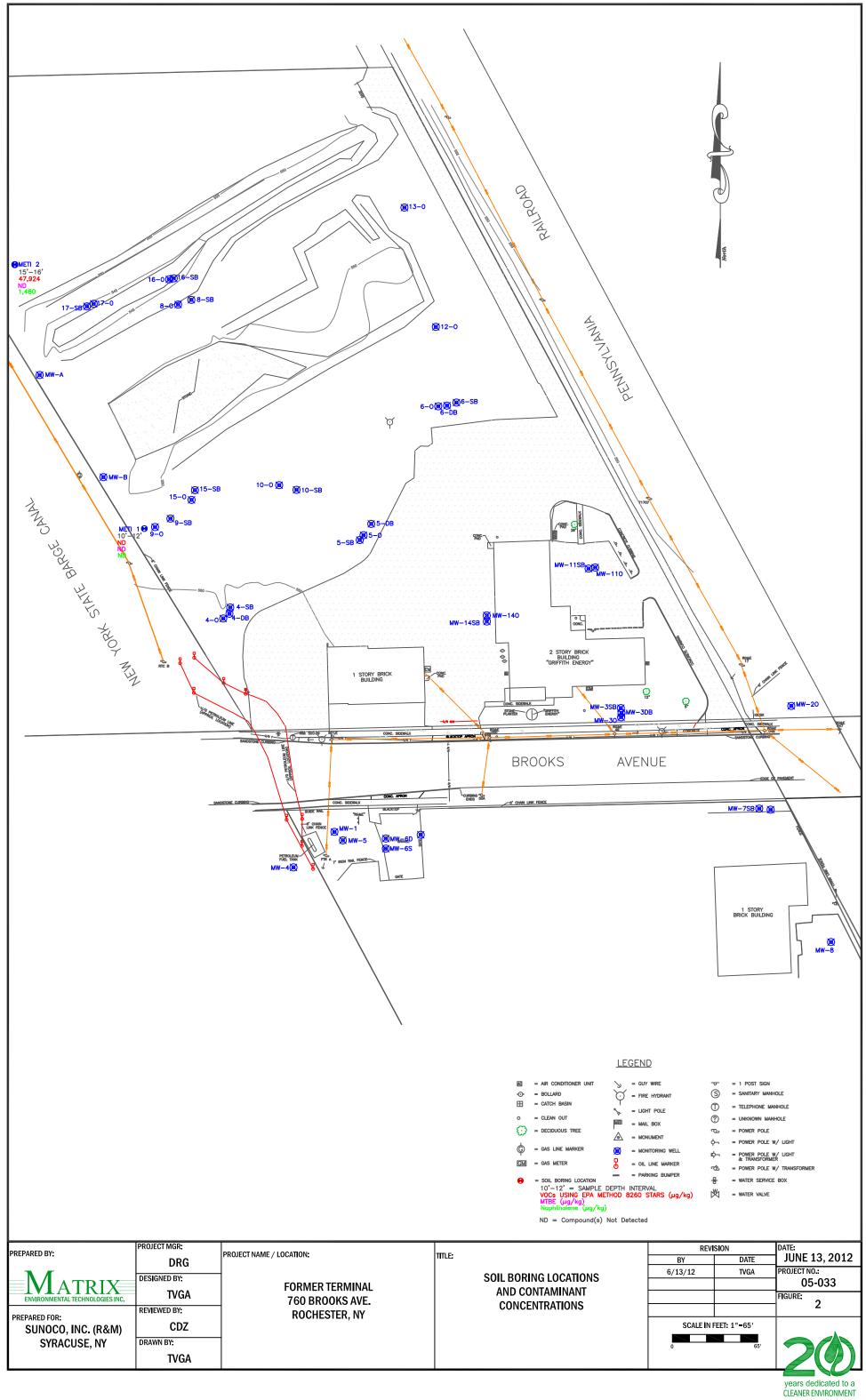
June 28, 2012

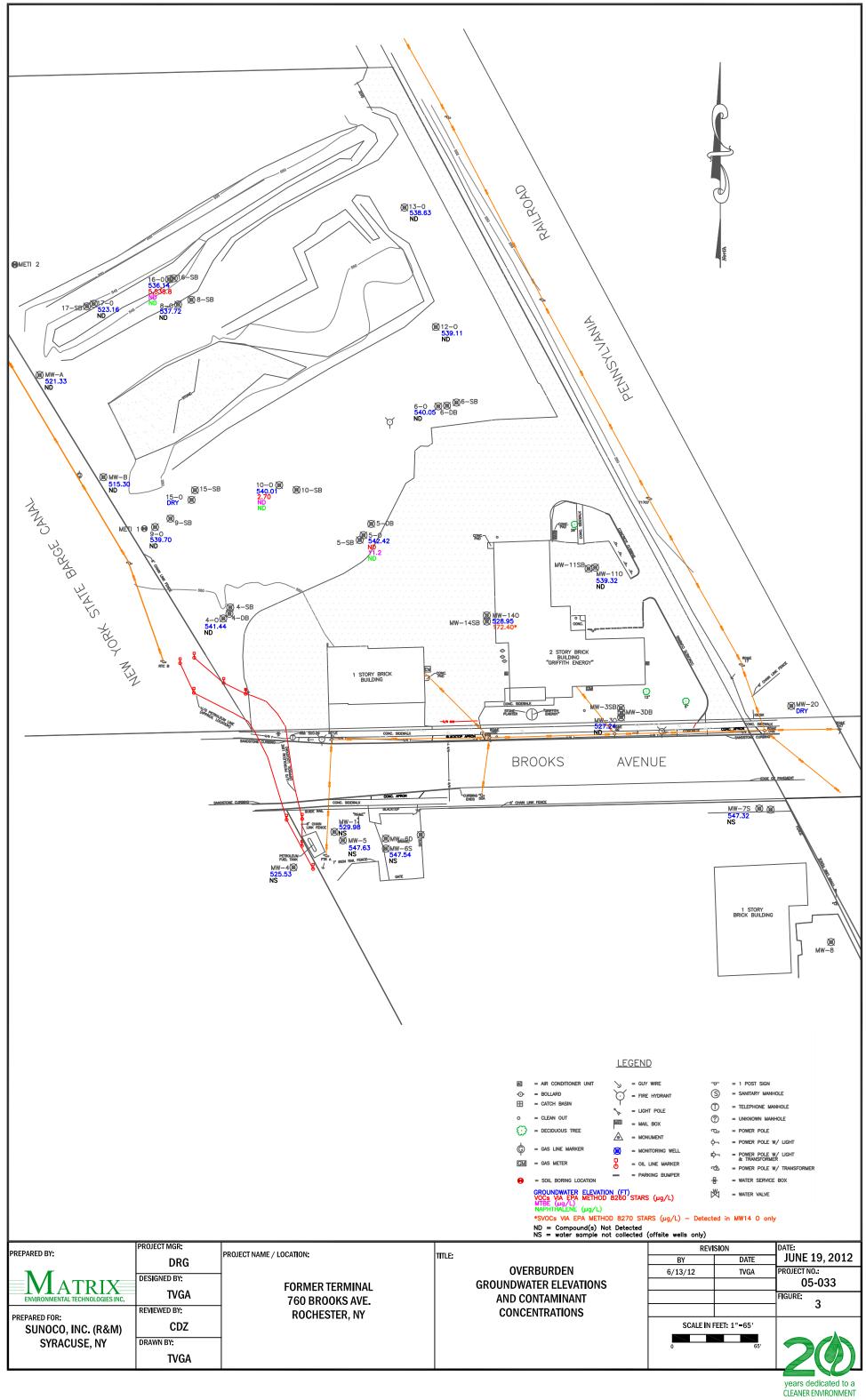
	Julie 26, 2012										
Well ID	Time	DTP	DTW^	Change in Head	LNAPL Thickness						
MW10 O	1:37		11.28	0.00							
	3:41		11.28	0.00							
	5:19		11.27	-0.01							
MW11 SB	9:50		30.19	0.00							
	1:57		30.18	-0.01							
	4:04		30.20	0.01							
	5:45		30.21	0.02							
MW11 O	9:46		9.48	0.00							
	1:55		9.46	-0.02							
	4:01		9:46	-0.02							
	5:43		9:46	-0.02							
MW14 SB	9:40		25.91	0.00							
W 14 SD	1:48		25.88	-0.03							
	3:53		25.88	-0.03							
	5:34		25.88								
	3.34		\	-0.03							
MW14 O	9:42		19.89	0.00							
	1:49		19.89	0.00							
	3:54		19.89	0.00							
	5:35		19.89	0.00							
MW45 CD	0.57		20.02	0.00							
MW15 SB	9:57		38.82	0.00							
	1:32		38.81	-0.01							
	3:43		38.84	0.02							
	5:22		38.83	0.01							
MW15 O	9:56		Dry @ 32.85								
	1:33		Dry @ 32.85								
MW17 SB	10:00		35.26	0.00							
	1:31		35.26	0.00							
	3:38		35.26	0.00							
	5:15		35.25	-0.01							
MW17 O	9:58		23.63	-							
Λ	. I NIADI (IL'.1		1:1.1								

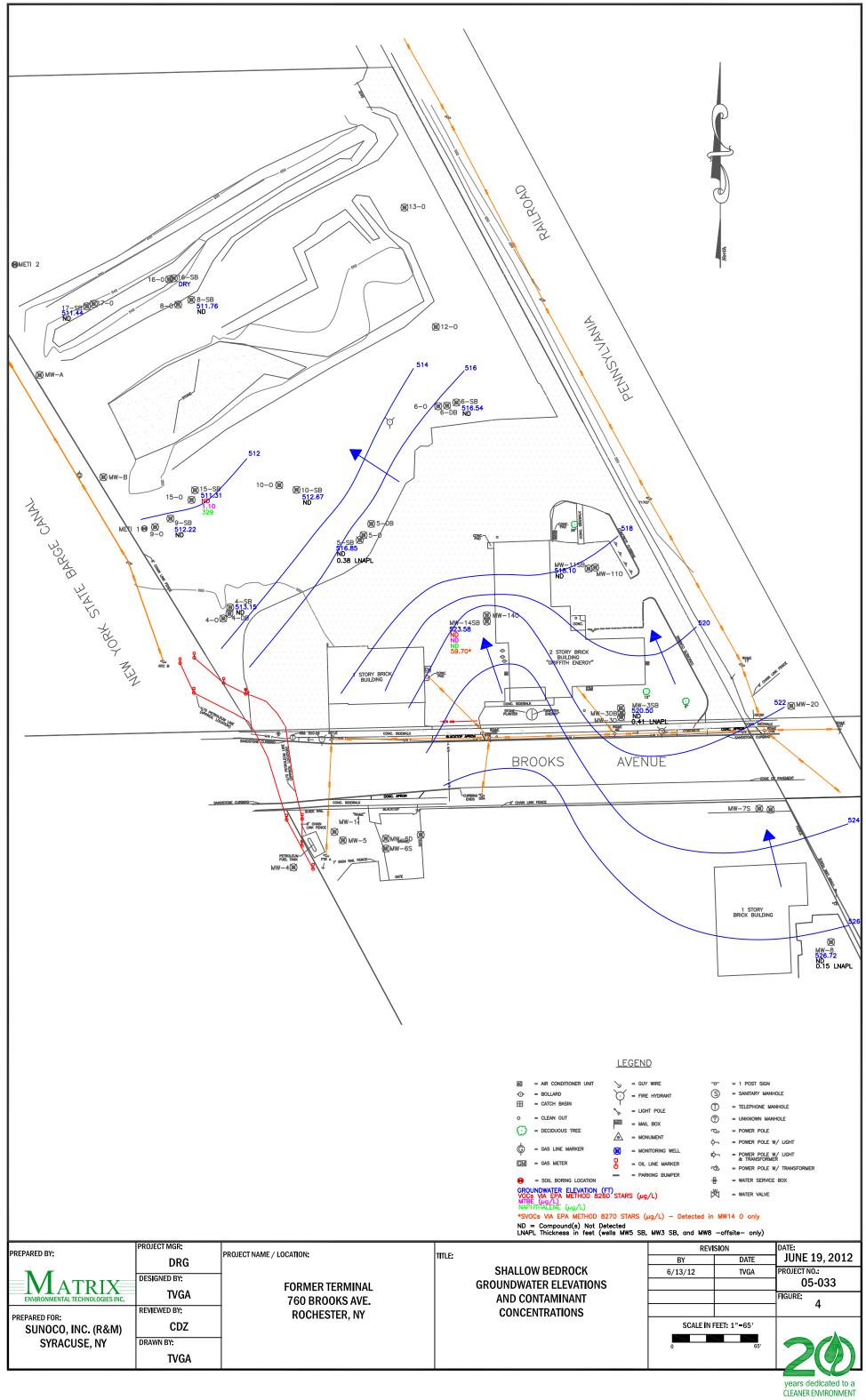
<sup>^ -</sup> adjusted for LNAPL thickness whan applicable

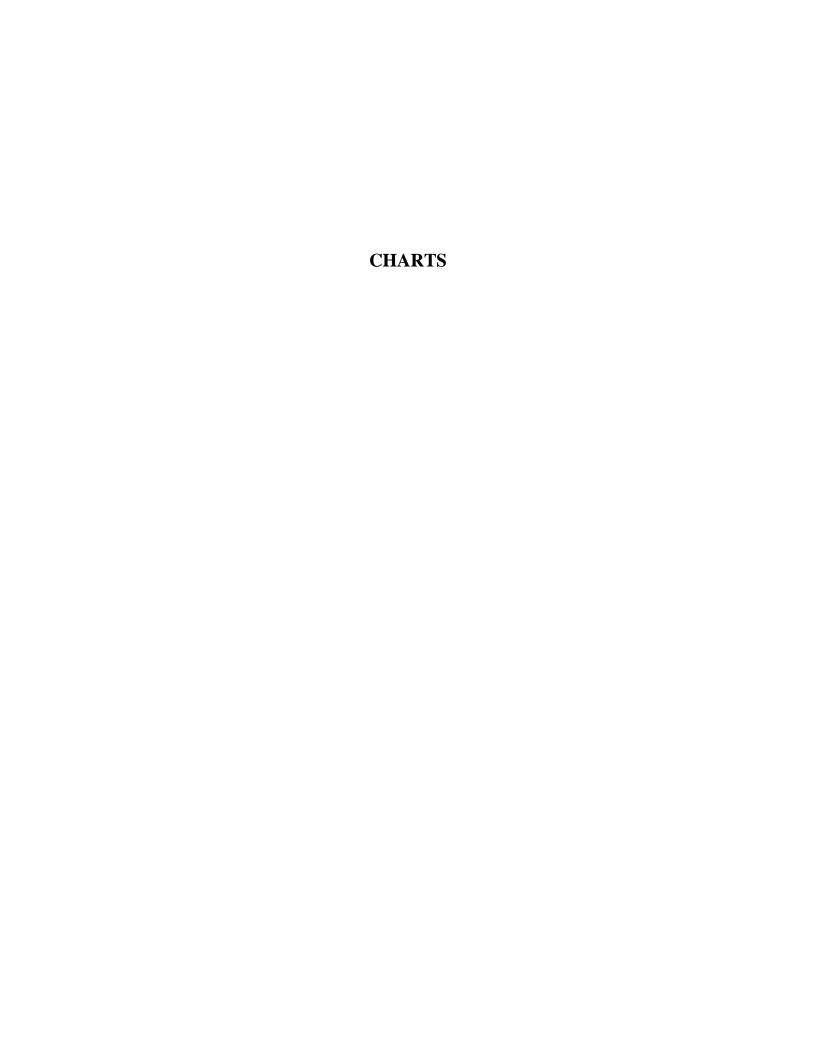
#### **FIGURES**



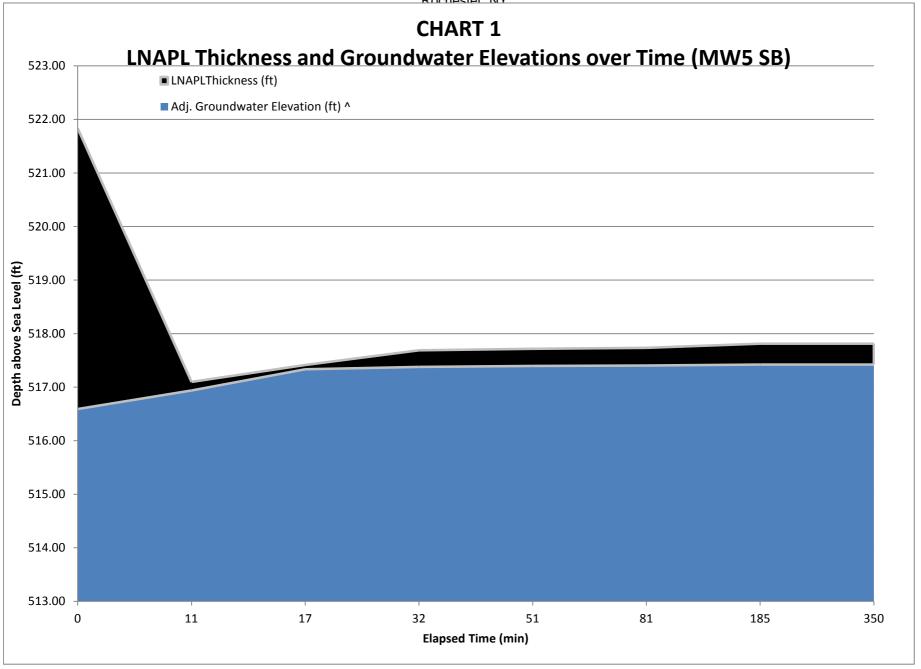


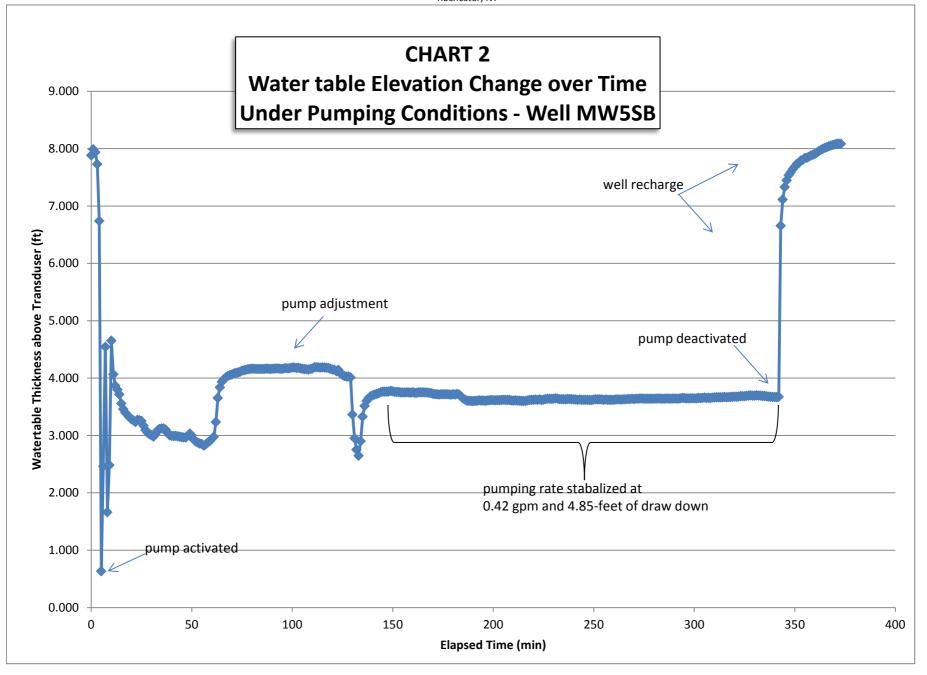


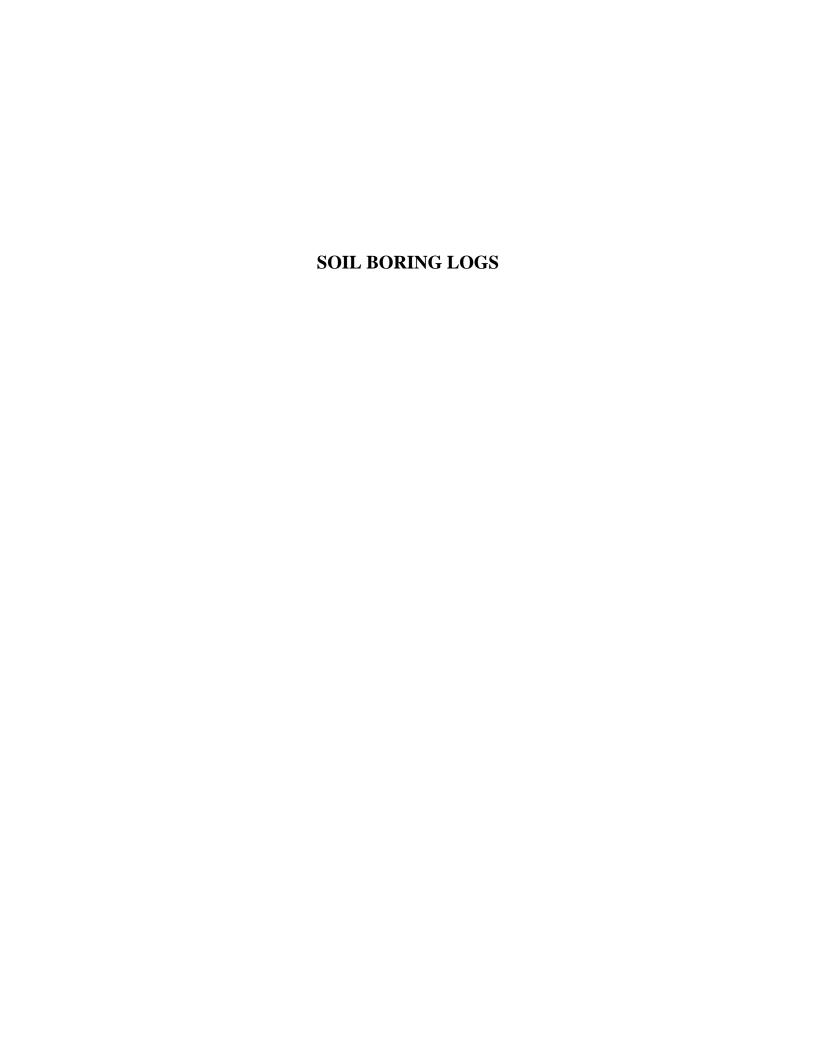




Former Terminal 760 Brooks Ave. Rochester NY







Mat	rix E	nviro	onme	ntal	Te	chnc	ologies Inc. SUBSURFACE LOG
	& LOCATI	ON:	Former Terr		) Brooks	s Avenue, Ro	
CLIENT: START DA	ATE:		Sunoco, Inc. 6/13/2012		OMPI F	TION DATE:	WELL/BORING ID:         METI 1 (1 of 2)           6/13/2012         RECORDED BY:         D. Robert Gill
		PTH WHILI	E DRILLING:			11.5'	GROUNDWATER DEPTH AFTER COMPLETION: NA
WEATHER			MS 75° F		DRIL		RACTOR/DRILLERS: Nothnagle Drilling
DRILL RIG	i:		CME 85			DRILL SI	ZE & TYPE:         4.5" Nominal OD HAS         HAMMER Type:         Hydraulic           Sampler Type:         Macrocore (MC)
							Material Classification
Sample	Sample	Sample Interval	OVM Reading	Blows/	N	Recovery	trace – 1-10% little – 11-20% some – 21-35% and – 36-50%
Depth (ft)	No.	(feet)	(ppm)	6"		(inches)	1000 11000 11100 11 2000 21 0000 4110 00 0000
							f-fine m-medium c-coarse  Location hand-cleared to 5' bgs on June 13, 2012. Black SILT some WOOD/ASH/GLASS. Dry,
-			0				no impacts observed. No OVM response from cuttings.
1							
2							
-							
3							
4							Samples obtained beginning at 4' bgs.
4	1	4-8	0	nr	nr	22	Black SILT some WOOD/ASH/GLASS. Dry. No impacts observed.
5							
-							Brown SILT little f GRAVEL trace CLAY. Dry. No impacts.
6							
7							
7							
8							
-	2	8-10	0			20	Brown f SAND some SILT. Moist. No impacts.
9							
10							
10	3	10-12	0			20	
11							grades to brown f SAND and SILT some CLAY little f GRAVEL
40							Brown SILT some f SAND some CLAY. Wet. No impacts.
12	4	12-16	0			22	Brown SILT some f SAND little CLAY little f GRAVEL. Wet. No impacts.
13-							
-							
14							
15							
16	5	16-18	0			24	Brown SILT some f SAND. Wet. No impacts.
17		.0 10					
"[							
18	6	18-20	0			24	CLAY. Dry. No impacts
40	U	10-20				<u></u>	Grades to Brown SILT some f SAND some f GRAVEL. Wet
19							
20		00.00				2.1	Grades to tan/gray f SAND little SILT. Wet. No impacts.
}	7	20-22	0			24	similar
21							grades to brown SILT some f SAND little CLAY little f GRAVEL. Wet. No impacts.
22							
-	8	22-24	0			24	similar. No impacts.
23							
24							
	8	24-28	0			48	similar (continued)
МС	C - Geopr	obe Macro	ocore	SS	- Split	Spoon	SH - Shelby Tube C - Bedrock Core ND - Non-detect

Mat	rix E	nviro	nme	ntal	Te	chnc	ologies In	IC.	SUBSUF	RFACE LO	OG
	& LOCATI		Former Terr Sunoco, Inc	ninal, 760						PROJECT No	05-033 <b>METI 1</b> (2 of 2)
GROUNDWATER DEPTH WHILE WEATHER:		6/13/2012	_ C		11.5' LING CONTI	6/13/2012 		S HAMMER Type Sampler Type:	RECORDED BY:  FTER COMPLETION:  e: <u>Hydraulic</u> Macrocore	D. Robert Gill NA	
Sample Depth (ft)	Sample No.	Sample Interval (feet)	OVM Reading (ppm)	Blows/ 6"	N	Recovery (inches)	tr	ace – 1-10%	Material Classification little – 11-20% some – 21 f-fine m-medium c-coa	-35% and – 36-50%	
25											
26											
27											
28	9	28-32	0			23	CLAY (sticky)				
29							<del> </del>	SAND some fm	GRAVEL trace SILT. We	t. No impacts.	
30											
31											
32 33	10	32-34	0			18	grades to brown f	SAND and fm	GRAVEL little SILT. Wet.	No impacts.	
34							REFUSAL				
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
46											
47											
48 Notes: Sa	mple from t	he 10-12' int	erval was sul	omitted for	or labora	tory VOC an	d SVOC analysis usin	g EPA Methods 83	260 and 8270 STARS.		
						, . <u></u>					
М	C - Geopr	obe Macro	ocore	SS	- Split	Spoon	SH - Shelby	Tube	C - Bedrock Core	ND - Non-detec	t

Mat	rix E	nviro	onme	ntal	Te	chnc	ologies Inc. SUBSURFACE LOG
	& LOCATI	ON:	Former Terr		) Brooks	s Avenue, Ro	
CLIENT: START DA	ΔTF·		Sunoco, Inc 6/13/2012		OWDI E.	TION DATE:	WELL/BORING ID:         METI 2 (1 of 2)           6/13/2012         RECORDED BY:         D. Robert Gill
		PTH WHIL	E DRILLING:		OIVII LE	9'	GROUNDWATER DEPTH AFTER COMPLETION: NA
WEATHE			MS 75° F		DRIL		RACTOR/DRILLERS: Nothnagle Drilling
DRILL RIG	<b>3</b> :		CME 85			DRILL SI	ZE & TYPE: 4.5" Nominal OD HAS HAMMER Type: Hydraulic Sampler Type: Macrocore (MC)
							Material Classification
Sample	Sample	Sample Interval	OVM Reading	Blows/	N	Recovery	trace – 1-10% little – 11-20% some – 21-35% and – 36-50%
Depth (ft)	No.	(feet)	(ppm)	6"		(inches)	add 1 1070 mae 11 2070 doine 21 0070 and 00 0070
			_				f-fine m-medium c-coarse  Location hand-cleared to 5' bgs on June 13, 2012. Brown f SAND. Dry, no impacts observed.
-			0				No OVM response from cuttings.
1							
2							
-							
3							
							Samples obtained beginning at 4' bgs.
4	1	4-8	0	nr	nr	33	Brown f SAND. Dry. No impacts
5							
6							
_							
7							
8							
	2	8-12	0			27	
9							
10							grades to tam/gray SILT and CLAY. Wet. No impacts
10							
11							
4.0							grades to WOOD FRAGMENTS
12	3	12-16	1,921			28	grades to tan/gray SILT some CLAY.
13							
							grades to brown SILT. Saturated. Hydrocarbon odor detected.
14							grade to 510mm 612m. Gataratea. Tryarocarbon deciratea.
15							grades to black mf SAND. Wet. Hydrocarbon odor detected.
16	4	16-20	22			48	Brown CLAY and SILT. Moist. Hydrocarbon odor detected.
17							
-						-	
18							
19							
13							
20	5	20-24	23			18	Gray SILT and CLAY. Wet and sticky. Hydrocarbon odor detected.
24	J	20-24	23			10	Shay Sherr and Section 3 shoky. Trydrocarbon odor detected.
21							
22						-	
-							
23							
24							
	6	24-28	2			48	similar
MC	C - Geopr	obe Macro	ocore	SS	- Split	Spoon	SH - Shelby Tube C - Bedrock Core ND - Non-detect

Mat	rix E	nviro	onme	ntal	Te	chnc	ologies Inc.	SUBSURF	ACE LOG
CLIENT: START D	WATER DE R:		Former Terr Sunoco, Inc. 6/13/2012 E DRILLING: MS 75° F CME 85	. (R&M) C	OMPLE	TION DATE: 9 LING CONTI	6/13/2012		PROJECT No. 05-033  ELL/BORING ID: METI 2 (2 of 2)  RECORDED BY: D. Robert Gill  R COMPLETION: NA  Hydraulic  Macrocore (MC)
Sample Depth (ft)	Sample No.	Sample Interval (feet)	OVM Reading (ppm)	Blows/ 6"	N	Recovery (inches)		Material Classification  2 – 11-20% some – 21-35' ine m-medium c-coarse	% and – 36-50%
25									
26							Grades to CLAY some SILT.		
27									
28							grades to TILL and ROCK PIECES.	Dry. No impacts. REFUS	6AL
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48 Notes: Sa	mple from th	ne 12-16' int	erval was suit	bmitted fo	or labora	tory VOC an	d SVOC analysis using EPA Methods 8260 a	and 8270 STARS	
	F.5 5 ti					, 100 di	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
M	C - Geopre	obe Macro	ocore	SS	s - Split	Spoon	SH - Shelby Tube C	- Bedrock Core	ND - Non-detect

## APPENDIX A LABORATORY ANALYTICAL REPORT



07/02/12



#### **Technical Report for**

Sunoco

MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

05-033 PO#92

**Accutest Job Number: MC11513** 

**Sampling Date: 06/13/12** 

#### Report to:

Matrix Environmetal Tech.

mostrander@matrixbiotech.com

**ATTN: Margaret Ostrander** 

Total number of pages in report: 11



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Lab Director

Client Service contact: Matthew Morrell 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235) This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

### **Sections:**

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### -1-

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<b>2.2:</b> MC11513-2: MET1 2 15-16'	7
Section 3: Misc. Forms	9
3.1: Chain of Custody	10





### **Sample Summary**

Sunoco

**Job No:** MC11513

MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

Project No: 05-033 PO#92

Sample	Collected			Matr	ix	Client
Number	Date	Time By	Received	Code	Type	Sample ID
MC11513-1	06/13/12	11:00 RG	06/16/12	SO	Soil	MET1 1 10-12'
MC11513-2	06/13/12	14:00 RG	06/16/12	so	Soil	MET1 2 15-16'





Sample Results	
Report of Analysis	



Page 1 of 1

Client Sample ID: MET1 1 10-12' Lab Sample ID: MC11513-1 **Date Sampled:** 06/13/12 Matrix: SO - Soil **Date Received:** 06/16/12 Method: SW846 8260B Percent Solids: 89.1

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY **Project:** 

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 E61468.D 1 06/25/12 JS MSE2377 n/an/a Run #2

**Initial Weight Final Volume Methanol Aliquot** Run #1 10.0 ml 100 ul 11.5 g Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	27	ug/kg
104-51-8	n-Butylbenzene	ND	270	ug/kg
135-98-8	sec-Butylbenzene	ND	270	ug/kg
98-06-6	tert-Butylbenzene	ND	270	ug/kg
100-41-4	Ethylbenzene	ND	110	ug/kg
98-82-8	Isopropylbenzene	ND	270	ug/kg
99-87-6	p-Isopropyltoluene	ND	270	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	110	ug/kg
91-20-3	Naphthalene	ND	270	ug/kg
103-65-1	n-Propylbenzene	ND	270	ug/kg
108-88-3	Toluene	ND	270	ug/kg
95-63-6	1,2,4-Trimethylbenzene	ND	270	ug/kg
108-67-8	1,3,5-Trimethylbenzene	ND	270	ug/kg
	m,p-Xylene	ND	110	ug/kg
95-47-6	o-Xylene	ND	110	ug/kg
1330-20-7	Xylene (total)	ND	110	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		70-130%
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	105%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: MET1 1 10-12'

 Lab Sample ID:
 MC11513-1
 Date Sampled:
 06/13/12

 Matrix:
 SO - Soil
 Date Received:
 06/16/12

 Method:
 SW846 8270C
 SW846 3546
 Percent Solids:
 89.1

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 W2308.D 1 06/20/12 KR 06/18/12 OP29301 MSW108

Run #2

Initial Weight Final Volume

Run #1 20.3 g 1.0 ml

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	110	ug/kg
208-96-8	Acenaphthylene	ND	110	ug/kg
120-12-7	Anthracene	ND	110	ug/kg
56-55-3	Benzo(a)anthracene	ND	110	ug/kg
50-32-8	Benzo(a)pyrene	ND	110	ug/kg
205-99-2	Benzo(b)fluoranthene	ND	110	ug/kg
191-24-2	Benzo(g,h,i)perylene	ND	110	ug/kg
207-08-9	Benzo(k)fluoranthene	ND	110	ug/kg
218-01-9	Chrysene	ND	110	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	110	ug/kg
206-44-0	Fluoranthene	ND	110	ug/kg
86-73-7	Fluorene	ND	110	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	110	ug/kg
91-20-3	Naphthalene	ND	110	ug/kg
85-01-8	Phenanthrene	ND	110	ug/kg
129-00-0	Pyrene	ND	110	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	60%		30-130%
321-60-8	2-Fluorobiphenyl	62%		30-130%
1718-51-0	Terphenyl-d14	118%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: MET1 2 15-16'

Lab Sample ID: MC11513-2 **Date Sampled:** 06/13/12 Matrix: SO - Soil **Date Received:** 06/16/12 Method: SW846 8260B Percent Solids: 80.1

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY **Project:** 

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 E61469.D 1 06/25/12 JS n/a MSE2377 n/aRun #2

**Final Volume Methanol Aliquot Initial Weight** Run #1 10.0 ml 100 ul 10.1 g

Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	37	ug/kg
104-51-8	n-Butylbenzene	673	370	ug/kg
135-98-8	sec-Butylbenzene	400	370	ug/kg
98-06-6	tert-Butylbenzene	ND	370	ug/kg
100-41-4	Ethylbenzene	1460	150	ug/kg
98-82-8	Isopropylbenzene	729	370	ug/kg
99-87-6	p-Isopropyltoluene	ND	370	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	150	ug/kg
91-20-3	Naphthalene	1480	370	ug/kg
103-65-1	n-Propylbenzene	3500	370	ug/kg
108-88-3	Toluene	ND	370	ug/kg
95-63-6	1,2,4-Trimethylbenzene	20100	370	ug/kg
108-67-8	1,3,5-Trimethylbenzene	6300	370	ug/kg
	m,p-Xylene	6980	150	ug/kg
95-47-6	o-Xylene	402	150	ug/kg
1330-20-7	Xylene (total)	7380	150	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	81%		70-130%
2037-26-5	Toluene-D8	101%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: MET1 2 15-16'

Lab Sample ID: MC11513-2 **Date Sampled:** 06/13/12 Matrix: SO - Soil **Date Received:** 06/16/12 Method: SW846 8270C SW846 3546 Percent Solids: 80.1

**Project:** MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** MSW108 Run #1 W2309.D 1 06/20/12 KR 06/18/12 OP29301

Run #2

**Final Volume Initial Weight** 

Run #1 1.0 ml 20.4 g

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	120	ug/kg
208-96-8	Acenaphthylene	ND	120	ug/kg ug/kg
120-12-7	Anthracene	ND	120	ug/kg
56-55-3	Benzo(a)anthracene	ND	120	ug/kg
50-32-8	Benzo(a)pyrene	ND	120	ug/kg
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg
218-01-9	Chrysene	ND	120	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg
206-44-0	Fluoranthene	ND	120	ug/kg
86-73-7	Fluorene	ND	120	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg
91-20-3	Naphthalene	233	120	ug/kg
85-01-8	Phenanthrene	ND	120	ug/kg
129-00-0	Pyrene	ND	120	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	49%		30-130%
321-60-8	2-Fluorobiphenyl	53%		30-130%
1718-51-0	Terphenyl-d14	125%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank





Misc. Forms	
Custody Documents and Other Forms	

Includes the following where applicable:

• Chain of Custody



### CHAIN OF CUSTODY

Accutest Laboratories of New England 495 Technology Center West, Building One TEL. 508-481-6200 FAX: 508-481-7753

PAGE	OF	:

Bottle Order Control #

FED-EX Tracking #

			wy	ww.acci	itest.c	om							Accore	ist Quore	•				Accide	<b>)</b> W 1000 14	MC	1.1	5	13
Client / Reporting Information			Proj	ect Info	rmati	on								Rec	uested	Anai	ysis (	see T	EST (					Matrix Codes
Company Name  NCT  Street Address  GA	IStreet:	60 BR		P37775293	æ																			DW - Drinking Water G:V - Ground Water
Street Address 2730 (ALL FORN A PD Size Size XP NORTHARD DECK NY 1407	City:	beloks Hester	<u>Aue</u>	Bi	illing In Iny Nam	formatic e	on ( If	differ	ent	from	Repo	rt to)												WW - Water SW - Surface Water SO - Soil SL- Sludge
Project Contact Project Contact  Project		033	<u> </u>	Street	Address								2	1 0										SED-Sediment OI - Oil LIQ - Other Liquid AIR - Air
City State Zp  PCCHARD FARK NY 14127  Project Contact  Pr	Client PO#	#92		City				State	PC		Zip		STA	STAR										SOL - Olher Solid WP - Wipe FB-Field Blank E8- Equipment Blank
Sampler(s) Name(s)	Project Manager	614	Collection	DU	<u>ر</u> کر	45	00		>-	-5 8 preserv			و	1										RB- Rinse Blank TB-Trip Blank
Accusest Sample Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of boilie	무		7	T T	MEOH	ENCORE	826	100										LAB USE ONLY
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Turnaround Time ( Business days)  ☑ Std. 10 Business Days  ☐ Std. 5 Business Days (By Contract only)	Approved By (Acc	utest PM): / Date:		□ c	ommerc	ial "A" (L ial "B" ( L Level 3+	Leve! 1 Leve! 2	1)			NYAS NYAS	P Catego P Catego Forms												
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MC11513: Chain of Custody Page 1 of 2







#### **Accutest Laboratories Sample Receipt Summary**

Accutest Job Number: MC11	513	Client: METI		Immediate Client Servi	No			
Date / Time Received: 6/16/2012 Delive			ery Method:	Client Service Actio	n Required	No		
Project: 760 BROOKS AVE			oolers:	1 Airbill #'s:				
Cooler Security Y	or N		Y or N	Sample Integrity - Documentation	Υ	or	N	
1. Custody Seals Present:  2. Custody Seals Intact:	□ □ 4.	3. COC Present: Smpl Dates/Time OK	<b>y</b>	Sample labels present on bottles:     Container labeling complete:	<b>✓</b>			
Cooler Temperature	Y or N	_		3. Sample container label / COC agree:	✓			
Temp criteria achieved:     Cooler temp verification:	✓ □ Infared g	-		Sample Integrity - Condition		or	N	
3. Cooler media:	Ice (bag			1. Sample recvd within HT:	<b>.</b>			
Quality Control Preservatio	Y or N	N/A		All containers accounted for:     Condition of sample:	<b>∠</b> I	ntact		
1. Trip Blank present / cooler:		<b>.</b>		Sample Integrity - Instructions	<u>Y</u>	or	N	N/A
2. Trip Blank listed on COC:				1. Analysis requested is clear:	<b>✓</b>	[		
3. Samples preserved properly:	<b>✓</b>	]		2. Bottles received for unspecified tests		[	<b>✓</b>	
4. VOCs headspace free:		✓		Sufficient volume recvd for analysis:     Compositing instructions clear:	<b>✓</b>			<b>v</b>
				5. Filtering instructions clear:		[		•
Comments								
Accutest Laboratories V:508.481.6200				enter West, Bldg One 481.7753				borough, MA v/accutest.com

MC11513: Chain of Custody Page 2 of 2





07/06/12



### Technical Report for

Sunoco

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

05-033 PO#95

Accutest Job Number: MC11639

Sampling Date: 06/19/12

#### Report to:

Matrix Environmental 3730 California Road Orchard Park, NY 14127 rgill@matrixbiotech.com

ATTN: Rob Gill

Total number of pages in report: 54



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Matthew Morrell 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235) This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

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ACCUTEST

Lab Director

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### **Sample Summary**

Sunoco

Job No:

MC11639

MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY Project No: 05-033 PO#95

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
MC11639-1	06/19/12	08:30 DK	06/21/12	AQ	Ground Water	MWA
MC11639-2	06/19/12	08:40 DK	06/21/12	AQ	Ground Water	MWB
MC11639-3	06/19/12	09:00 DK	06/21/12	AQ	Ground Water	MW3 O
MC11639-4	06/19/12	09:08 DK	06/21/12	AQ	Ground Water	MW4 O
MC11639-5	06/19/12	09:15 DK	06/21/12	AQ	Ground Water	MW4 SB
MC11639-6	06/19/12	09:30 DK	06/21/12	AQ	Ground Water	MW5 O
MC11639-7	06/19/12	09:40 DK	06/21/12	AQ	Ground Water	MW6 O
MC11639-8	06/19/12	09:55 DK	06/21/12	AQ	Ground Water	MW6 SB
MC11639-9	06/19/12	10:10 DK	06/21/12	AQ	Ground Water	MW8 O
MC11639-10	06/19/12	10:25 DK	06/21/12	AQ	Ground Water	MW8 SB
MC11639-11	06/19/12	10:45 DK	06/21/12	AQ	Ground Water	MW9 O
MC11639-12	06/19/12	11:00 DK	06/21/12	AQ	Ground Water	MW9 SB
MC11639-13	06/19/12	11:10 DK	06/21/12	AQ	Ground Water	MW10 O





# Sample Summary (continued)

Sunoco

Job No: MC11639

MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY Project No: 05-033 PO#95

Sample Number	Collected Date	Time By	Received	Matr Code		Client Sample ID
MC11639-14	06/19/12	11:20 DK	06/21/12	AQ	Ground Water	MW10 SB
MC11639-15	06/19/12	11:35 DK	06/21/12	AQ	Ground Water	MW11 O
MC11639-16	06/19/12	11:45 DK	06/21/12	AQ	Ground Water	MW11 SB
MC11639-17	06/19/12	12:00 DK	06/21/12	AQ	Ground Water	MW12 O
MC11639-18	06/19/12	12:10 DK	06/21/12	AQ	Ground Water	MW13 O
MC11639-19	06/19/12	12:20 DK	06/21/12	AQ	Ground Water	MW14 O
MC11639-20	06/19/12	12:35 DK	06/21/12	AQ	Ground Water	MW14 SB
MC11639-21	06/19/12	12:50 DK	06/21/12	AQ	Ground Water	MW15 SB
MC11639-22	06/19/12	13:00 DK	06/21/12	AQ	Ground Water	MW16 O
MC11639-23	06/19/12	13:20 DK	06/21/12	AQ	Ground Water	MW17 SB





Sample Results	
Report of Analysis	



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Client Sample ID: MWA

Lab Sample ID: MC11639-1 **Date Sampled:** 06/19/12 Matrix: **Date Received:** 06/21/12 AQ - Ground Water Method: SW846 8260B **Percent Solids:** n/a

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY **Project:** 

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	G117735.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

**Purge Volume** Run #1 5.0 ml

Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-130%
2037-26-5	Toluene-D8	106%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

**Client Sample ID:** MWA

Lab Sample ID: MC11639-1 **Date Sampled:** 06/19/12 Matrix: AQ - Ground Water **Date Received:** 06/21/12 Method: SW846 8270C SW846 3510C Percent Solids: n/a

**Project:** MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

**Analytical Batch** File ID DF Analyzed By **Prep Date Prep Batch** Run #1 W2420.D 1 06/22/12 KR 06/22/12 OP29340 MSW118

Run #2

**Final Volume Initial Volume** 

Run #1 1000 ml 1.0 ml

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		30-130%
321-60-8	2-Fluorobiphenyl	60%		30-130%
1718-51-0	Terphenyl-d14	49%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



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Client Sample ID: MWB

Lab Sample ID: MC11639-2 **Date Sampled:** 06/19/12 Matrix: **Date Received:** 06/21/12 AQ - Ground Water Method: SW846 8260B **Percent Solids:** n/a

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY **Project:** 

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	G117736.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

**Purge Volume** Run #1 5.0 ml

Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
				-
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
2037-26-5	Toluene-D8	106%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: MW3 O Lab Sample ID: MC11639-3 **Date Sampled:** 06/19/12 Matrix: **Date Received:** 06/21/12 AQ - Ground Water Method: SW846 8260B **Percent Solids:** n/a

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY **Project:** 

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	G117737.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

**Purge Volume** Run #1 5.0 mlRun #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		70-130%
2037-26-5	Toluene-D8	105%		70-130%
460-00-4	4-Bromofluorobenzene	109%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



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 Client Sample ID:
 MW3 O

 Lab Sample ID:
 MC11639-3
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	W2421.D	1	06/22/12	KR	06/22/12	OP29340	MSW118
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	71%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



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Client Sample ID: MW4 O Lab Sample ID: MC11639-4 **Date Sampled:** 06/19/12 Matrix: **Date Received:** 06/21/12 AQ - Ground Water Method: SW846 8260B **Percent Solids:** n/a

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY **Project:** 

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	G117738.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

**Purge Volume** Run #1 5.0 ml Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8		ND	5.0	-
	n-Butylbenzene			ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	106%		70-130%
460-00-4	4-Bromofluorobenzene	109%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: MW4 O Lab Sample ID: MC11639-4 **Date Sampled:** 06/19/12 Matrix: AQ - Ground Water **Date Received:** 06/21/12 Method: SW846 8270C SW846 3510C Percent Solids: n/a

**Project:** MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

DF **Analytical Batch** File ID Analyzed By **Prep Date Prep Batch** Run #1 W2422.D 1 06/22/12 KR 06/22/12 OP29340 MSW118 Run #2

**Final Volume Initial Volume** Run #1 1000 ml 1.0 ml

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	-	ND	2.0	_
	Acenaphthylene			ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	75%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

**Client Sample ID:** MW4 SB

Lab Sample ID: MC11639-5 **Date Sampled:** 06/19/12 Matrix: **Date Received:** 06/21/12 AQ - Ground Water Method: SW846 8260B **Percent Solids:** n/a

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY **Project:** 

	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
Run #1	G117739.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

**Purge Volume** Run #1 5.0 ml

Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		70-130%
2037-26-5	Toluene-D8	105%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



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Client Sample ID: MW4 SB

 Lab Sample ID:
 MC11639-5
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 F55679.D 1 06/22/12 KR 06/22/12 OP29351 MSF2660

Run #2

Initial Volume Final Volume

Run #1 1000 ml 1.0 ml

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-33-3	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	-
191-24-2	* /	ND ND		ug/l
	Benzo(g,h,i)perylene		2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	77%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



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Client Sample ID: MW5 O

 Lab Sample ID:
 MC11639-6
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	G117740.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

Purge Volume
Run #1 5.0 ml
Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	11.2	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: MW5 O

 Lab Sample ID:
 MC11639-6
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 F55680.D 1 06/22/12 KR 06/22/12 OP29351 MSF2660

Run #2

Initial Volume Final Volume

Run #1 1000 ml 1.0 ml

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	91%		30-130%
1718-51-0	Terphenyl-d14	48%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: MW6 O Lab Sample ID: MC11639-7 **Date Sampled:** 06/19/12 Matrix: **Date Received:** 06/21/12 AQ - Ground Water Method: SW846 8260B **Percent Solids:** n/a

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY **Project:** 

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	G117741.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

**Purge Volume** Run #1 5.0 mlRun #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-130%
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



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 Client Sample ID:
 MW6 O

 Lab Sample ID:
 MC11639-7
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 F55681.D 1 06/22/12 KR 06/22/12 OP29351 MSF2660 Run #2

Run #1 1000 ml Final Volume
1.0 ml

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	-	ND ND	2.0	-
	Acenaphthylene			ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	75%		30-130%
1718-51-0	Terphenyl-d14	36%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: MW6 SB

Lab Sample ID: MC11639-8 **Date Sampled:** 06/19/12 Matrix: AQ - Ground Water **Date Received:** 06/21/12 Method: **Percent Solids:** SW846 8260B n/a

**Project:** MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

Result

	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
Run #1	G117742.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

RL

1.0

ug/1

Units

Q

**Purge Volume** Run #1 5.0 ml Run #2

Compound

Xylene (total)

**VOA STARS List** 

CAS No.

1330-20-7

71-43-2	Benzene	ND	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	

tert-Butylbenzene	ND	5.0	ug/I
Ethylbenzene	ND	1.0	ug/l
Isopropylbenzene	ND	5.0	ug/l
p-Isopropyltoluene	ND	5.0	ug/l
Methyl Tert Butyl Ether	ND	1.0	ug/l
Naphthalene	ND	5.0	ug/l
n-Propylbenzene	ND	5.0	ug/l
Toluene	ND	1.0	ug/l
1,2,4-Trimethylbenzene	ND	5.0	ug/l
1,3,5-Trimethylbenzene	ND	5.0	ug/l
m,p-Xylene	ND	1.0	ug/l
o-Xylene	ND	1.0	ug/l
	Ethylbenzene Isopropylbenzene p-Isopropyltoluene Methyl Tert Butyl Ether Naphthalene n-Propylbenzene Toluene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene m,p-Xylene	Ethylbenzene ND Isopropylbenzene ND p-Isopropyltoluene ND Methyl Tert Butyl Ether ND Naphthalene ND n-Propylbenzene ND Toluene ND 1,2,4-Trimethylbenzene ND 1,3,5-Trimethylbenzene ND m,p-Xylene ND	Ethylbenzene ND 1.0 Isopropylbenzene ND 5.0 p-Isopropyltoluene ND 5.0 Methyl Tert Butyl Ether ND 1.0 Naphthalene ND 5.0 n-Propylbenzene ND 5.0 Toluene ND 1.0 1,2,4-Trimethylbenzene ND 5.0 1,3,5-Trimethylbenzene ND 5.0 m,p-Xylene ND 1.0

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-130%
2037-26-5	Toluene-D8	103%		70-130%
460-00-4	4-Bromofluorobenzene	109%		70-130%

ND

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



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Client Sample ID: MW6 SB

 Lab Sample ID:
 MC11639-8
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 F55682.D 1 06/22/12 KR 06/22/12 OP29351 MSF2660

Run #2

Initial Volume Final Volume

Run #1 1000 ml 1.0 ml

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
92 22 0	A comombéhou o	ND	2.0	n ~ /1
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	74%		30-130%
1718-51-0	Terphenyl-d14	51%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

 Client Sample ID:
 MW8 O

 Lab Sample ID:
 MC11639-9
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	G117743.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

Purge Volume
Run #1 5.0 ml
Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
2037-26-5	Toluene-D8	103%		70-130%
460-00-4	4-Bromofluorobenzene	110%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

 Client Sample ID:
 MW8 O

 Lab Sample ID:
 MC11639-9
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
Run #1	F55683.D	1	06/22/12	KR	06/22/12	OP29351	MSF2660
Run #2							

Run #1 1000 ml 1.0 ml Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	80%		30-130%
1718-51-0	Terphenyl-d14	41%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



 Client Sample ID:
 MW8 SB

 Lab Sample ID:
 MC11639-10
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>	
Run #1	G117744.D	1	06/27/12	DFT	n/a	n/a	MSG4719	
Run #2								

Run #1 5.0 ml Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
<b>51.10.0</b>	_	MD	0.50	
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	105%		70-130%
460-00-4	4-Bromofluorobenzene	110%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



 Client Sample ID:
 MW8 SB

 Lab Sample ID:
 MC11639-10
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
Run #1	F55684.D	1	06/22/12	KR	06/22/12	OP29351	MSF2660
Run #2							

Run #1 1000 ml 1.0 ml
Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		30-130%
321-60-8	2-Fluorobiphenyl	79%		30-130%
1718-51-0	Terphenyl-d14	46%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

 Client Sample ID:
 MW9 O

 Lab Sample ID:
 MC11639-11
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	G117745.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

Purge Volume
Run #1 5.0 ml
Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		70-130%
2037-26-5	Toluene-D8	105%		70-130%
460-00-4	4-Bromofluorobenzene	110%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

 Client Sample ID:
 MW9 O

 Lab Sample ID:
 MC11639-11
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

**Analytical Batch** File ID DF Analyzed By **Prep Date Prep Batch** Run #1 F55685.D 1 06/22/12 KR 06/22/12 OP29351 MSF2660 Run #2

Run #1 1000 ml 1.0 ml
Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	52%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

 Client Sample ID:
 MW9 SB

 Lab Sample ID:
 MC11639-12
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
Run #1	G117746.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

Purge Volume
Run #1 5.0 ml
Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ng/1
				ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
2037-26-5	Toluene-D8	105%		70-130%
460-00-4	4-Bromofluorobenzene	110%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



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Client Sample ID: MW9 SB

 Lab Sample ID:
 MC11639-12
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

 File ID
 DF
 Analyzed
 By
 Prep Date
 Prep Batch
 Analytical Batch

 Run #1
 F55686.D
 1
 06/22/12
 KR
 06/22/12
 OP29351
 MSF2660

Run #2

Initial Volume Final Volume

Run #1 1000 ml 1.0 ml

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	49%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

 Client Sample ID:
 MW10 O

 Lab Sample ID:
 MC11639-13
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>	
Run #1	G117747.D	1	06/27/12	DFT	n/a	n/a	MSG4719	
Run #2								

Purge Volume
Run #1 5.0 ml
Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	2.7	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
				-
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		70-130%
2037-26-5	Toluene-D8	104%		70-130%
460-00-4	4-Bromofluorobenzene	112%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: MW10 O

Lab Sample ID: MC11639-13 **Date Sampled:** 06/19/12 **Matrix:** AQ - Ground Water **Date Received:** 06/21/12 Method: SW846 8270C SW846 3510C Percent Solids: n/a

**Project:** MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

**Analytical Batch** File ID DF Analyzed By **Prep Date Prep Batch** Run #1 F55687.D 1 06/22/12 KR 06/22/12 OP29351 MSF2660

Run #2

**Final Volume Initial Volume** 

Run #1 1000 ml 1.0 ml

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
G 1 G 37		D #4	D // 0	<del>.</del> ,
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	88%		30-130%
321-60-8	2-Fluorobiphenyl	94%		30-130%
1718-51-0	Terphenyl-d14	82%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



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Client Sample ID: MW10 SB

 Lab Sample ID:
 MC11639-14
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 G117748.D 1 06/27/12 DFT MSG4719 n/an/a Run #2

Purge Volume

Run #1 5.0 ml

Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ng/1
				ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		70-130%
2037-26-5	Toluene-D8	105%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: MW10 SB

 Lab Sample ID:
 MC11639-14
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

File ID **Analytical Batch** DF Analyzed By **Prep Date Prep Batch** Run #1 F55688.D 1 06/22/12 KR 06/22/12 OP29351 MSF2660 Run #2

Initial Volume Final Volume

1.0 ml

1000 ml

Run #1 Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	66%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: MW11 O Lab Sample ID: MC11639-15 **Date Sampled:** 06/19/12 Matrix: **Date Received:** 06/21/12 AQ - Ground Water Method: SW846 8260B **Percent Solids:** n/a

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY **Project:** 

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	G117749.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

**Purge Volume** Run #1 5.0 mlRun #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		70-130%
2037-26-5	Toluene-D8	105%		70-130%
460-00-4	4-Bromofluorobenzene	110%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

 Client Sample ID:
 MW11 O

 Lab Sample ID:
 MC11639-15
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

File ID **Analytical Batch** DF Analyzed By **Prep Date Prep Batch** Run #1 F55689.D 1 06/22/12 KR 06/22/12 OP29351 MSF2660 Run #2

Run #1 1000 ml 1.0 ml Run #2

l .

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	80%		30-130%
1718-51-0	Terphenyl-d14	85%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: MW11 SB

Lab Sample ID: MC11639-16 **Date Sampled:** 06/19/12 Matrix: AQ - Ground Water **Date Received:** 06/21/12 Method: SW846 8260B Percent Solids: n/a

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY **Project:** 

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 G117750.D 1 06/27/12 DFT MSG4719 n/an/a

Run #2

**Purge Volume** 

Run #1 5.0 ml

Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	113%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: MW11 SB

Lab Sample ID: MC11639-16 **Date Sampled:** 06/19/12 **Matrix:** AQ - Ground Water **Date Received:** 06/21/12 Percent Solids: n/a Method: SW846 8270C SW846 3510C

**Project:** MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

File ID **Analytical Batch** DF Analyzed By **Prep Date Prep Batch** Run #1 F55690.D 1 06/22/12 KR 06/22/12 OP29351 MSF2660

Run #2

**Final Volume Initial Volume** 

Run #1 1000 ml 1.0 ml

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	52%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

**Date Sampled:** 06/19/12

Client Sample ID: MW12 O Lab Sample ID: MC11639-17

**Matrix:** AQ - Ground Water **Date Received:** 06/21/12 Method: SW846 8260B Percent Solids: n/a

MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY **Project:** 

DF **Analytical Batch** File ID Analyzed By **Prep Date Prep Batch** Run #1 G117751.D 1 06/27/12 DFT MSG4719 n/an/aRun #2

Run #1 5.0 ml

**Purge Volume** 

Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-130%
2037-26-5	Toluene-D8	106%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



 Client Sample ID:
 MW12 O

 Lab Sample ID:
 MC11639-17
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	F55691.D	1	06/22/12	KR	06/22/12	OP29351	MSF2660
Run #2							

Run #1 1000 ml 1.0 ml
Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q	
92 22 0	A comombab on o	ND	2.0	~/1	
83-32-9	Acenaphthene			ug/l	
208-96-8	Acenaphthylene	ND	2.0	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits	
4165-60-0	Nitrobenzene-d5	72%		30-130%	
321-60-8	2-Fluorobiphenyl	73%		30-130%	
1718-51-0	Terphenyl-d14	83%	30-130%		

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



 Client Sample ID:
 MW13 O

 Lab Sample ID:
 MC11639-18
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	G117752.D	1	06/27/12	DFT	n/a	n/a	MSG4719
Run #2							

Run #1 5.0 ml Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	103%		70-130%
460-00-4	4-Bromofluorobenzene	109%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

 Client Sample ID:
 MW13 O

 Lab Sample ID:
 MC11639-18
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
Run #1	F55692.D	1	06/22/12	KR	06/22/12	OP29351	MSF2660
Run #2							

Initial Volume Final Volume
Run #1 1000 ml 1.0 ml
Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	84%		30-130%
321-60-8	2-Fluorobiphenyl	80%		30-130%
1718-51-0	Terphenyl-d14	88%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Client Sample ID: MW14 O

 Lab Sample ID:
 MC11639-19
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1 a	G117772.D	1	06/28/12	DFT	n/a	n/a	MSG4720
Dun #2							

Purge Volume
Run #1 5.0 ml

Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	1.0	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	107%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

<sup>(</sup>a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



Page 1 of 1

 Client Sample ID:
 MW14 O

 Lab Sample ID:
 MC11639-19
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	F55693.D	1	06/23/12	KR	06/22/12	OP29351	MSF2660
Run #2 a	F55835.D	1	07/06/12	KR	06/22/12	OP29351	MSF2666

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2	900 ml	1.0 ml

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.2	ug/l
208-96-8	Acenaphthylene	ND	2.2	ug/l
120-12-7	Anthracene	ND	2.2	ug/l
56-55-3	Benzo(a)anthracene	6.1	2.2	ug/l
50-32-8	Benzo(a)pyrene	4.7	2.2	ug/l
205-99-2	Benzo(b)fluoranthene	7.5	2.2	ug/l
191-24-2	Benzo(g,h,i)perylene	3.0	2.2	ug/l
207-08-9	Benzo(k)fluoranthene	2.2	2.2	ug/l
218-01-9	Chrysene	6.0	2.2	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.2	ug/l
206-44-0	Fluoranthene	17.8	2.2	ug/l
86-73-7	Fluorene	ND	2.2	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	2.5	2.2	ug/l
91-20-3	Naphthalene	ND	2.2	ug/l
85-01-8	Phenanthrene	110	2.2	ug/l
129-00-0	Pyrene	12.6	2.2	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	122%	123%	30-130%
321-60-8	2-Fluorobiphenyl	63%	75%	30-130%
1718-51-0	Terphenyl-d14	25%	22%	30-130%

(a) Confirmation run for surrogate recoveries.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: MW14 SB

 Lab Sample ID:
 MC11639-20
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

**Analytical Batch** File ID DF Analyzed By **Prep Date Prep Batch** Run #1 a G117773.D 1 06/28/12 DFT MSG4720 n/an/aRun #2

Purge Volume

Run #1 5.0 ml

Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	105%		70-130%
460-00-4	4-Bromofluorobenzene	110%		70-130%

<sup>(</sup>a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



Page 1 of 1

Client Sample ID: MW14 SB

880 ml

 Lab Sample ID:
 MC11639-20
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

**Analytical Batch** File ID DF Analyzed By **Prep Date Prep Batch** Run #1 F55694.D 1 06/23/12 KR 06/22/12 OP29351 MSF2660 Run #2

Initial Volume Final Volume

1.0 ml

Run #1 Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.3	ug/l
208-96-8	Acenaphthylene	ND	2.3	ug/l
120-12-7	Anthracene	ND	2.3	ug/l
56-55-3	Benzo(a)anthracene	4.7	2.3	ug/l
50-32-8	Benzo(a)pyrene	5.8	2.3	ug/l
205-99-2	Benzo(b)fluoranthene	7.6	2.3	ug/l
191-24-2	Benzo(g,h,i)perylene	4.6	2.3	ug/l
207-08-9	Benzo(k)fluoranthene	3.3	2.3	ug/l
218-01-9	Chrysene	5.1	2.3	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.3	ug/l
206-44-0	Fluoranthene	9.5	2.3	ug/l
86-73-7	Fluorene	ND	2.3	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	3.7	2.3	ug/l
91-20-3	Naphthalene	ND	2.3	ug/l
85-01-8	Phenanthrene	8.3	2.3	ug/l
129-00-0	Pyrene	7.1	2.3	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	70%		30-130%
321-60-8	2-Fluorobiphenyl	63%		30-130%
1718-51-0	Terphenyl-d14	31%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: MW15 SB

 Lab Sample ID:
 MC11639-21
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

DF **Analytical Batch** File ID Analyzed By **Prep Date Prep Batch** Run #1 G117774.D 1 06/28/12 DFT MSG4720 n/an/a Run #2

Purge Volume

Run #1 5.0 ml

Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8		ND	5.0	<u> </u>
	n-Butylbenzene			ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	1.1	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
2037-26-5	Toluene-D8	103%		70-130%
460-00-4	4-Bromofluorobenzene	109%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: MW15 SB Lab Sample ID: MC11639-21

**Date Sampled:** 06/19/12 **Matrix:** AQ - Ground Water **Date Received:** 06/21/12 Method: SW846 8270C SW846 3510C Percent Solids: n/a

**Project:** MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

**Analytical Batch** File ID DF Analyzed By **Prep Date Prep Batch** Run #1 F55695.D 1 06/23/12 KR 06/22/12 OP29351 MSF2660

Run #2

**Final Volume Initial Volume** 

Run #1 1000 ml 1.0 ml

Run #2

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
91-20-3	Naphthalene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	70%		30-130%
321-60-8	2-Fluorobiphenyl	77%		30-130%
1718-51-0	Terphenyl-d14	57%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

 Client Sample ID:
 MW16 O

 Lab Sample ID:
 MC11639-22
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	G117775.D	1	06/28/12	DFT	n/a	n/a	MSG4720
Run #2	G117786.D	5	06/28/12	DFT	n/a	n/a	MSG4721

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	2.0	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	821 <sup>a</sup>	5.0	ug/l
98-82-8	Isopropylbenzene	44.9	5.0	ug/l
99-87-6	p-Isopropyltoluene	18.7	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	329	5.0	ug/l
103-65-1	n-Propylbenzene	87.1	5.0	ug/l
108-88-3	Toluene	4.7	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	1210 a	25	ug/l
108-67-8	1,3,5-Trimethylbenzene	357	5.0	ug/l
	m,p-Xylene	1460 a	5.0	ug/l
95-47-6	o-Xylene	33.4	1.0	ug/l
1330-20-7	Xylene (total)	1500 a	5.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%	105%	70-130%
2037-26-5	Toluene-D8	108%	107%	70-130%
460-00-4	4-Bromofluorobenzene	113%	112%	70-130%

(a) Result is from Run# 2

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



Page 1 of 1

Client Sample ID: MW16 O Lab Sample ID: MC11639-22 **Date Sampled:** 06/19/12 Matrix: **Date Received:** 06/21/12 AQ - Ground Water SW846 8270C SW846 3510C Method: Percent Solids: n/a

**Project:** MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	F55696.D	1	06/23/12	KR	06/22/12	OP29351	MSF2660
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

#### **BN STARS List**

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	2.0	ug/l
208-96-8	Acenaphthylene	ND	2.0	ug/l
120-12-7	Anthracene	ND	2.0	ug/l
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l
218-01-9	Chrysene	ND	2.0	ug/l
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l
206-44-0	Fluoranthene	ND	2.0	ug/l
86-73-7	Fluorene	ND	2.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
85-01-8	Phenanthrene	ND	2.0	ug/l
129-00-0	Pyrene	ND	2.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		30-130%
321-60-8	2-Fluorobiphenyl	80%		30-130%
1718-51-0	Terphenyl-d14	69%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: MW17 SB

 Lab Sample ID:
 MC11639-23
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8260B
 Percent Solids:
 n/a

Project: MATNYOP: DUNS#00905828, 760 Brooks Avenue, Rochester, NY

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	G117790.D	1	06/28/12	DFT	n/a	n/a	MSG4721
Run #2							

Purge Volume
Run #1 5.0 ml
Run #2

#### **VOA STARS List**

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	0.50	ug/l
104-51-8	n-Butylbenzene	ND	5.0	ug/l
135-98-8	sec-Butylbenzene	ND	5.0	ug/l
98-06-6	tert-Butylbenzene	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
98-82-8	Isopropylbenzene	ND	5.0	ug/l
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
103-65-1	n-Propylbenzene	ND	5.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l
	m,p-Xylene	ND	1.0	ug/l
95-47-6	o-Xylene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	1.0	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		70-130%
2037-26-5	Toluene-D8	104%		70-130%
460-00-4	4-Bromofluorobenzene	110%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Client Sample ID: MW17 SB

 Lab Sample ID:
 MC11639-23
 Date Sampled:
 06/19/12

 Matrix:
 AQ - Ground Water
 Date Received:
 06/21/12

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 n/a

Project: MATNYOP:DUNS#00905828, 760 Brooks Avenue, Rochester, NY

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch Run #1 F55697.D 1 06/23/12 KR 06/22/12 OP29351 MSF2660

Run #2

Initial Volume Final Volume

Run #1 1000 ml 1.0 ml

Run #2

#### **BN STARS List**

Compound	Result	RL	Units Q
Acenaphthene	ND	2.0	ug/l
Acenaphthylene	ND	2.0	ug/l
Anthracene	ND	2.0	ug/l
Benzo(a)anthracene	ND	2.0	ug/l
Benzo(a)pyrene	ND	2.0	ug/l
Benzo(b)fluoranthene	ND	2.0	ug/l
Benzo(g,h,i)perylene	ND	2.0	ug/l
Benzo(k)fluoranthene	ND	2.0	ug/l
Chrysene	ND	2.0	ug/l
Dibenzo(a,h)anthracene	ND	2.0	ug/l
Fluoranthene	ND	2.0	ug/l
Fluorene	ND	2.0	ug/l
Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l
Naphthalene	ND	2.0	ug/l
Phenanthrene	ND	2.0	ug/l
Pyrene	ND	2.0	ug/l
G ( )	D // 1	D // 0	Ŧ• •/
Surrogate Recoveries	Run# 1	Run# 2	Limits
Nitrobenzene-d5	65%		30-130%
2-Fluorobiphenyl	73%		30-130%
Terphenyl-d14	63%		30-130%
	Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenzo(a,h)anthracene Fluoranthene Fluorene Indeno(1,2,3-cd)pyrene Naphthalene Phenanthrene Pyrene  Surrogate Recoveries  Nitrobenzene-d5 2-Fluorobiphenyl	Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenzo(a,h)anthracene Fluoranthene ND Fluorene Indeno(1,2,3-cd)pyrene ND Naphthalene Phenanthrene Pyrene  Surrogate Recoveries  ND ND ND Naphthalene ND ND Naphthalene ND	Acenaphthene Acenaphthylene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene ND Chrysene Dibenzo(a,h)anthracene Fluoranthene ND Fluorene Indeno(1,2,3-cd)pyrene ND ND Naphthalene Phenanthrene ND

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value





Misc. Forms
Custody Documents and Other Forms
Includes the following where applicable:

· Chain of Custody



FED-EX Tracking #

, C. W. C. P. T. V. C. P. P. C. C. C. P. C. C. C. P. C.		I-6200 FAX: 508-481-7753 www.accutest.com	Accutest Quote #	Accules Job " MC11639	<del>1</del>
Client / Reporting Information		ject Information	Requested Analysis ( see	TEST CODE sheet)	Matrix Codes
Mutrix Envil, Tah	Project Name Scn - 760	Brooks Aire	80		DW - Drinking Wate
3730 California Rd	Street:	Billing Information ( If different from Report to)	# 1		WW - Water SW - Surface Water SO - Soil
OPNY 14/27 Project Sorfact	Roth. NY	Street Address	99		SL-Sludge SED-Sediment OI - Oil
Rob Gill	05 03 3 Client PO#	City Policy State 20	M		LIQ - Other Liquid AIR - Air SOL - Other Solid
716-662-0745	Project Manager	Attention: PO#	73		WP - Wipe F8-Field Blank EB- Equipment Blan
Dandkreigh eden	KOB6111		4 4		RB- Rinse Blank TB-Trip Blank
Accures	Collection	Sampled by Matrix # of bottles 19 HOON IN HARD SAMPLES BRIGHT BROWN IN HOON IN HARD SAMPLES BRIGHT BROWN IN HOON IN HOUSE BRIGHT BROWN IN HOON IN HOUSE IN HOON IN HOO	D. J.		······································
Sample # Field ID / Point of Collection	MEOH/DI Vial # Date Time				LAB USE ONLY
-1 MWA -2 MWB	6-19-12 8:30	OK GW 5 3 2	X X		
		1 3 2 1 3 3 2 1 3 1 2 1 1 1 1 1 1 1 1 1		+	
-3 MW 30 -4 MW 40	9:00				<u></u>
-5 MW45B	915				
	93.				
-6 MW50 -7 MW60	9.40				
-8 MW6 SB	9:55	<del>                                     </del>			18A 5B4
-9 min 80	10:10		XX		585
-10 MWR CR	10:25		XX		7
-11 mw90	1 10:45				
-12 MW9 SR	1/200		XX		
Turnaround Time ( Business days)	Approved By (Accutest PM): / Date:	Data Deliverable Information  Commercial "A" (Level 1) NYASP Category		nents / Special Instructions	
Std. 10 Business Days	Approved by (Sucules) Pm). I bate.	Commercial "B" (Level 2) NYASP Category		00905828	
Std. 5 Business Days (By Contract only)  5 Day RUSH	w	FULLT1 (Level 3+4) State Forms CT RCP EDD Format			
3 Day EMERGENCY		MA MCP Other		,	
2 Day EMERGENCY 1 Day EMERGENCY		Commercial "A" ≃ Results Only  Commercial "B" ≈ Results + QC Summary			
Emergency & Rush T/A data available VIA Lablink				syracise SC	
		nented below each time samples change possession, incl Relinguished By	uding courier delivery.		
Relinquished b Sampler:	Time: Received By: Why	2 FEDEX	Date Tyrie: 4/20/	2	
Relinquished by Sampler. Date	Time: Received By:	Relinquished By EOX	0ate Time: 170 6-21-12	Received By: 4 May May	e e
Relinquished by: Date		п.	Intact Preserved where applicable		Temp.
5	5		Not folact	1.9, 2.6, 4.1,	7 IR

MC11639: Chain of Custody Page 1 of 3



# CHAIN OF CUSTODY Accutest Laboratorics of New England 495 Technology Center West, Building One

PAGE 2 OF 2

LABORATO	A ! E &	TEL. 508-48	1-6200 FAX: 508-	481-7753	Acquiext Qu	ole #	Accutest Job #	
			/ww.accutest.com				mc1	1639
Client / Reporting Information	1 Project Name		eject Information			Requested Analysis	( see TEST CODE sheet)	Matrix Codes
Matris Faring	max/	Ciro.	760 Bros	oks due.	، ایار	(M)		DW - Drinking Water GW - Ground Water
3730 Californiak	d Br	OOKS Airno	Billing Informat	ion ( If different from Rep	ort to)	<b>A</b>		Wi∀ - Water SW - Surface Water
Street Address 3730 Cali Formias City State On chard Park, NYI Project Contact	19137 City.	Cochesten N	Company Name		12			SO - Soil SL- Studge SED-Sediment
Project Contact  Rob Gill rgilloma  Phone #  Phone #	Trix biot ech co	n 05-035	Street Address City	O Box 42 7	00			OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid
7(6 - 66) - 0745 Sampler(s) Name(s) Phone	-	95	Attention:	PO#		9		WP - Wipe FB-Field Blank EB- Equipment Blank
DavidKreinhea	Project Manag		Paul III III II	1 20	7 3	\$		RB- Rinse Blank TB-Trip Blank
	No.	Collection	<del>,  </del>	Number of preserved Bo	mes III (	4   1		
Sample # Field ID / Point of Collection	MEOH/DI Vial	# Date Time	Sampled Matrix # of bott	HCI HNO3 HZSO HZSO DI We	Bisurfe	Ψ		LAB USE ONLY
-13 mw100		6-19-12/11/10	DK 64 5	3 2	X	X		
-14 MW/05F	?	11:20						
-15 mw/10		11:35						
-16 MW115R		11:45						
-17 mw/20	-	12:00	$\Box$					
-18 mw 13 0	>	12/10						
-19 min/40		12:20		<del></del>				
-20 MW/4 SI		1235	1-11-11-1		+++++			
21 MW/55		12:50		<del></del>				
22 MW/6	2	13:00	NX/X/	<u> </u>	k / k	<del>}</del>		
-23 MW/7	58	13:20	MAA	$+\mathbf{W}++\mathbf{W}+$	AA	4		
			Dai	la Deliverable Information			Comments / Special Instruct	(ons
Turnaround Time ( Business day	s) Approved By (Ad	cutest PM): / Date:	Commercial "A"		P Category A	1	t 0090 58.	10
Std. 10 Business Days Std. 5 Business Days (By Contract o	nly)		Commercial "B" (		P Category B Forms	WINT		£0
5 Day RUSH 3 Day EMERGENCY			CT RCP	·	Format	-		
2 Day EMERGENCY			MA MCP Comme	Other		Su	muse SC	
1 Day EMERGENCY			Comme	rcial "B" = Results + QC Summ	ary	I		
Emergency & Rush T/A data available V/A Lablis	Sa	imple Custody must be docur	l nented below each time		ion, including cou			
Relinquished to Sample.	Date Time: 6/4/2/4/	Received By:	,	Relinquished By: FE	ex	1706	120   Received By:	
Relinquished by Sampler:	Date Time:	Received By:		Relinquished By:	٧-	Date Time:	975 Received By: 2002	200
Relinquished by:	Date Time:	Received By:		Custody Seal #	Inlact	Preserved where applic	able On Ico	Cooler Temp.
5		5			Not intact		Ø	3,6

MC11639: Chain of Custody

Page 2 of 3





# ACCUTEST. LABORATORIES

V:508.481.6200

#### **Accutest Laboratories Sample Receipt Summary**

Accutest Job Number: MC11639 Client: MATRIX ENV Immediate Client Services Action Required: No Client Service Action Required at Login: Date / Time Received: 6/21/2012 **Delivery Method:** Nο Project: SUN 760 BROOKS No. Coolers: Airbill #'s: 5 Y or N Sample Integrity - Documentation **Cooler Security** Y or N Y or N V П 3. COC Present: **✓** 1. Custody Seals Present: ✓ 1. Sample labels present on bottles: ✓ 4. Smpl Dates/Time OK **√** 2. Custody Seals Intact: ✓ 2. Container labeling complete: 3. Sample container label / COC agree: ✓ Cooler Temperature Y or N 1. Temp criteria achieved: Υ or N Sample Integrity - Condition 2. Cooler temp verification: Infared gun 1 1. Sample recvd within HT: 3. Cooler media: Ice (bag) 2. All containers accounted for: 1 **Quality Control Preservatio** Y or N N/A 3. Condition of sample: Intact 1. Trip Blank present / cooler: **√** Sample Integrity - Instructions or N N/A ✓ 2. Trip Blank listed on COC: 1 1. Analysis requested is clear: 3. Samples preserved properly: ✓ 2. Bottles received for unspecified tests ✓ 4. VOCs headspace free: 3. Sufficient volume recvd for analysis: **✓ ✓** 4. Compositing instructions clear: ✓ 5. Filtering instructions clear: ✓ Comments 495 Technology Center West, Bldg One Accutest Laboratories Marlborough, MA

F: 508.481.7753

MC11639: Chain of Custody

Page 3 of 3



# SEMI-ANNUAL 2015 SITE STATUS REPORT (JANUARY-JUNE 2015) MATRIX ENVIRONMENTAL TECHNOLOGIES INC. JULY 16, 2015





July 16, 2015

Mr. Peter R. Miller Engineering Geologist II Division of Environmental Remediation New York State Department of Environmental Conservation 6274 East Avon-Lima Road Avon, New York 14414-9519 3730 California Road P.O. Box 427 Orchard Park, NY 14127-0427 p: 716.662.0745 f: 716.662.0946 www.matrixbiotech.com

**RE:** Semi-Annual Quarter 2015 Site Status Report (January-June 2015)

Former Terminal 760 Brooks Avenue Rochester, New York METI Project #05-033 NYSDEC Spill #9301027

Mr. Miller:

Matrix Environmental Technologies Inc., on behalf of Evergreen Resources Group, LLC and Superior Plus Energy Services, Inc., is pleased to submit this site status report for the reference site. The report summarizes data obtained during site visits completed in January through June 2015.

In accordance with the approved work plan, all site wells (aside from remediation wells MW3-SB and MW5-SB) were decommissioned during the week of February 9, 2015. The work was completed, in part, to accommodate the construction of a building on the 762 Brooks Avenue property. However, due to ground frost and difficult Site conditions, not all the decommissioned well casings were removed at that time. METI personnel returned to the site on May 1, 2015 to remove all remaining decommissioned wellheads. While onsite, METI noticed that the Vapor Extraction System (VES) was operational, but no vacuum was detected in well MW5-SB. Upon inspection it was realized that the installation of the building footer destroyed the portion of the vacuum lines from well MW5-SB. The VES was deactivated. The lines were scheduled to be replaced in June 2015 and the VES reactivated.

METI visited the site on June 10, 2015 to evaluate the construction progress on the Site. While onsite it was discovered that well MW5-SB was gone. The area of and surrounding MW5-SB had recently been graded without notice to METI, Sunoco, or Superior Plus Energy Services, and it appeared that the well was removed inadvertently during grading. Additional inspection of the area was completed on June 15, 2015 using metal detection and hand tools, but to no avail.

The VES operated at 100% up-time during site visits completed in January, February, March, and April 2015 and was manually deactivated on May 1, 2015 for reasons mentioned above. VES exhaust measurements for the period are reported in Table 2, attached. No LNAPL was detected in well MW3-SB during the period discussed and, moreover, MW3-SB has been free of LNAPL since January 2014 (16 months). LNAPL thicknesses of 0.41 and 1.25 feet were detected in well MW5-SB in April and May 2015, respectively.

Although LNAPL had been detected intermittently in well MW5-SB, it was previously demonstrated that shallow bedrock wells nearby and downgradient of well MW5-SB were free of LNAPL impacts and those wells were subsequently decommissioned. The localization of

LNAPL in well MW5-SB suggests that the LNAPL is likely trapped in bedrock fractures and vesicles, with the thickness of the LNAPL layer fluctuating with groundwater elevation. Thirteen (13) LNAPL thickness and groundwater elevation gauging events have been completed on a monthly basis since February 27, 2014 (through May 1, 2015).

Well MW5-SB has been destroyed, unintentionally, and cannot be located. The LNAPL detected in MW5SB appears to be localized with little, if any, migration. Although the well could be replaced, the uncertainty of installing the well in the correct location and that further useful information could be gathered does not seem reasonable to pursue. This considered, combined with the prolonged absence of LNAPL in well MW3-SB, METI, on behalf of Sunoco and Superior, respectfully request that spill inactive status be assigned to NYSDEC Spill #9301027.

If you have any questions, please contact METI at 716-662-0745.

Sincerely,

Matrix Environmental Technologies Inc.

D. Robert Gill, C.P.G.

Sr. Geologist

Craig D/Zink, P.G., C.P.G.

Sr. Project Manager / Geologist

Enclosure

cc: Ms. Kinyorda Sliwiak - Evergreen Resources Group, LLC

Mr. Dan Stowell – Superior Plus Energy Products

Mr. Evan Dumrese, E.I.T., CHMM - Superior Plus Energy Products

Mr. Mike Saunders – Saunders Management





#### SITE STATUS REPORT

January 2015 through June 2015

Former Terminal 760 Brooks Avenue Rochester, New York

Matrix Env. Project #05-033 NYSDEC Spill #89-7656
Matrix Env. Project Manager: D. Robert Gill NYSDEC Contact: Peter Miller

#### **REMEDIATION INFORMATION:**

# **LNAPL and VAPOR RECOVERY SYSTEM SPECIFICATIONS:**

#### **Vapor Extraction System (VES)**

System activation date:

System temp. deactivation date:

System reactivation date:

System reactivation date:

System deactivation date:

May 1, 2015

Equipment specifications: 5 hp regenerative blower – explosion proof Extraction Well specifications: MW-3 SB (3.8" bedrock core 26' to 41.2'b.g.)

and MW-5 SB (3.8" bedrock core 22' to 42')

Method of air treatment: None - discharge directly to atmosphere – 25' stack

Soil Vapor Extraction Performance Summary							
	January-15	February-15	March-15				
Extraction points operational	MW-3 SB & MW-5 SB	MW-3 SB & MW-5 SB	MW-3 SB & MW-5 SB				
Operation efficiency	100%	100%	100%				
Average air flow (standard cubic feet per minute)	152	175	173				
Average applied vacuum (inches H <sub>2</sub> 0)	78	70	70				
Peak effluent VOC concentration (ppm)	0	0	20				

Soil Vapor Extraction Performance Summary							
	April-15	May-15	June-15				
Extraction points operational	MW-3 SB & MW-5 SB	MW-3 SB & MW-5 SB	MW-3 SB & MW-5 SB				
Operation efficiency	100%	Deactivated	-				
Average air flow (standard cubic feet per minute)	212	-	-				
Average applied vacuum (inches H <sub>2</sub> 0)	50	-	=				
Peak effluent VOC concentration (ppm)	11.3	-	-				

#### VAPOR EXTRACTION SYSTEM PERFORMANCE DATA

The VES blower operated at 100% up time from January through deactivation on May 1, 2015. The system was deactivated due to the destruction of the vacuum lines from well MW5-SB.





#### **VES DESCRIPTION & PERFORMANCE**

Light non-aqueous phase liquid (LNAPL) of varying thicknesses have been identified in the shallow bedrock (SB) aquifer in wells MW-3 SB and MW-5 SB. Drop tubes have been installed in each well and connected to a vapor extraction blower. The objective of the remediation is to eliminate LNAPL via LNAPL agitation and vapor extraction. Historically, dissolved-phase groundwater VOC and SVOC concentrations have been low to below laboratory detection limits. Therefore, remediation of groundwater is not required.

The VES operated at 100% up-time during site visits completed in January, February, March, and April 2015 and was manually deactivated on May 1, 2015 due to destruction of the vacuum lines from well MW5-SB. VES exhaust measurements for the period are reported in Table 2. No LNAPL was detected in well MW3-SB during the period discussed and, moreover, MW3-SB has been free of LNAPL since January 2014 (16 months). LNAPL thicknesses of 0.41 and 1.25 feet were detected in well MW5-SB in April and May 2015, respectively.

#### SITE ACTIVITIES COMPLETED DURING PERIOD

<u>Date</u>	Activities Completed
1/14/15	VES inspection. VES operational upon arrival. Adjusted system and recorded data. Gauged wells MW-3 SB and MW-5 SB.
2/9-13/15	VES inspection. VES operational upon arrival. Adjusted system and recorded data. Gauged wells MW-3 SB and MW-5 SB. Decommissioned all site groundwater monitoring wells per the NYSDEC-approved work plan.
3/5/15	VES inspection. VES operational upon arrival. Adjusted system and recorded data. Gauged wells MW-3 SB and MW-5 SB.
4/16/15	VES inspection. VES operational upon arrival. Adjusted system and recorded data. Gauged wells MW-3 SB and MW-5 SB. Removed well MW3-SB from the VES due to absence of LNAPL.
5/1/15	Site visit to remove any remaining decommissioned well casings. Observed that vacuum line from MW5-SB were destroyed. Deactivated VES.
6/10/15	Site visit. MW5-SB was destroyed and removed during recent site grading activities.
6/15/15	Site visit. Attempted to locate well MW5-SB using metal detector and hand tools. The well could not be located.

#### **SITE HISTORY**

This property had been associated with petroleum storage from 1928 (then owned by Sun Oil Company) through the late 1980s. Information provided in a Phase I Environmental Audit Report completed for W.W. Griffith Oil Co., Inc. by DAY Engineering dated April 10, 1989 states that petroleum storage at the Site consisted of five above-ground tanks (ASTs) with a total capacity of 2.6 million gallons. However, the spill containment area (tank farm) appeared to be





about 20 feet below grade and appeared to have been excavated, which is confirmed in photographs and evident on a topographic map of the property.

Seven (7) spills were identified for 760 Brooks Avenue. The spill history began in March 1978 when the property was owned by Sunoco. In June 1985, a release of 8,000 gallons of gasoline occurred during a fuel transfer from a pipeline to the ASTs (Spill #8500903). The spill and cleanup is well documented in the DAY Engineering report and suggests that gasoline did not breach the clay liner of the tank farm floor. Remedial measures included the recovery of 4,000 gallons of gasoline and also 4,000 gallons of water, foam, and gas for disposal. Results of a subsequent soil and groundwater investigation indicated the spill response measures were successful. Permeability testing (August and September 1985) of the tank farm floor (clay) was included as an attachment in the DAY Engineering report. Permeability results of the floor ranged from 0.00 to 5.05 X 10<sup>-6</sup> cm/sec; however, permeability of the walls could not be completed due to presence of unconsolidated material. The report describes the AST storage area as a former landfill which was likely excavated until stable soil was encountered to support the ASTs. The walls consisted of sandy soil, broken glass, rusty metal and decomposed vegetable matter. The spill was closed in June 1986.

Correspondence between Griffith Oil and the NYSDEC regarding NYSDEC Spill #8902275 indicates that Griffith aerated petroleum-impacted soil throughout the summer of 1989 to an acceptable level to where the NYSDEC required no additional action.

Of the remaining spills, only spill #9301027, generated in April 1993 remains active. Although no specific spill report sheet was provided, it is understood that the spill generated as a result of soil and groundwater impacts discovered as a result of a subsurface investigation (six borings and five test pits) performed in December 1992 by Van Der Horst Engineering. The investigation was completed for engineering purposes (proposed building of a hotel) and has limited environmental information. However, petroleum odors were noted in soil from boring 1, 2, 4, 5, and 6; however, odors were not identified in the soil intervals just above the bedrock interface.

In June 1993, Griffith Oil Company filed a Source Owner Soil Vent Permit with the NYSDEC to vent petroleum impacted soil in the vicinity of the former tank farm. Impacted soil in the area of the proposed hotel was excavated and staged. No further information regarding the soil venting was available.

Subsequently, over 70 soil borings have been completed at the site during multiple investigations from May 2008 to June 2012 and have resulted in the analysis of nearly 80 soil samples for VOC and SVOC concentrations, numerous groundwater gauging and sampling events, and plume delineation. A comprehensive evaluation of the soil and groundwater results was completed by METI per NYSDEC CP-51 Soil guidelines for determination of potential remediation (February 2011). No areas of SVOC impacts in soil or groundwater were identified, however, results identified four areas of VOC impacts in soil above regulatory limits and SPH in shallow bedrock wells MW-5SB and MW-3SB.

Based on the CP-51 guidelines, no remediation of soil would be necessary at the Site. Remedial Action to address the SPH impacts in bedrock wells MW-3SB and MW-5SB began in January 2014 via vapor extraction.

Results of a groundwater elevation gauging event completed in April 2010 indicate that shallow groundwater flow is to the north-northwest in the overburden and to the northwest in both the



shallow and deep bedrock aquifers. The hydraulic gradients are moderate in each water-bearing zone. The vertical gradients are downward from overburden to shallow bedrock and from shallow bedrock to deep bedrock. Light non-aqueous phase liquid (LNAPL) thicknesses of 0.10 and 2.48 feet were detected in shallow bedrock wells MW-3SB and MW-5SB, and of 0.03 feet in deep bedrock well MW-3DB (April 2010). The source of the LNAPL is currently not known, but appears to be unrelated to the petroleum impacts detected in soil based on the following;

- LNAPL impacts are located hydraulically upgradient of soil impacts; MW-3SB is located on the up-gradient portion of the Site, along the southeastern property limit;
- · Shallow and deep bedrock wells nearer the soil areas are free of LNAPL impacts;
- Silt and clay soil with low permeability overlies the shallow bedrock appears to limit the vertical migration of petroleum impacts from overburden to bedrock.

#### **FUTURE ACTIVITIES**

Spill inactive status requested.

#### **EXPOSURE ASSESSMENT**

#### **Potential Receptors:**

Utility trenches as preferential pathways and commercial basements.

# Water Supply:

· Water is supplied by a municipal source.





#### GENERAL GEOLOGY

The property lies at an approximate elevation of 551 feet above mean sea level. The topography of the site and surrounding neighborhood is considered relatively flat; however, the overall region slopes north towards the City of Rochester. Nearby bodies of water include the Erie Canal, located approximately 100 feet due west of the site, and the Genesee River, which is located approximately 4,700 feet southeast of the site and flows north.

Surficial geology in the area is described as lacustrine silt and clay (Cadwell, 1987); however, soil boring data indicate miscellaneous fill material generally extending from the ground surface to depths between 7 and 14 feet across the site. The fill material is generally comprised of sands and silts intermixed with gravel, ash, bricks, ceramic, cinders, coal, cobbles, concrete, glass, crushed limestone, metals, organics, slag fragments, and wood. Beneath the fill material lies a thin deposit/layer of organic silts (buried topsoil) followed by indigenous silty and gravelly sand, silt, clayey silt, and silty clay. Generally, there is an upper silty-clay interbedded complex located between the fill and lower stratum of granular silty and gravelly sand soils, which in turn overlie bedrock.

The New York State Geological Survey (New York State Museum Map and Chart Series No. 15, 1970; Geologic Map of New York State—Finger Lakes Sheet compiled by Lawrence V. Rickard and Donald W. Fisher) identifies area as underlain by the Lockport Dolostone Formation. In general, the rock beds have a slight dip to the south. Results of a groundwater elevation gauging event completed in April 2010 indicate that shallow groundwater flow is to the north-northwest in the overburden and to the northwest in both the shallow and deep bedrock aquifers. The hydraulic gradients are moderate in each water-bearing zone. The vertical gradients are downward from overburden to shallow bedrock and from shallow bedrock to deep bedrock. Light non-aqueous phase liquid (LNAPL) thicknesses of 0.10 and 2.48 feet were detected in shallow bedrock wells MW-3SB and MW-5SB, and also 0.03 feet in deep bedrock well MW-3 DB (April 2010). The source of the LNAPL is currently not known, but appears to be unrelated to the petroleum impacts detected in soil based on the following;

- LNAPL impacts are located hydraulically upgradient of soil impacts; MW-3SB is located on the up-gradient portion of the Site, along the southeastern property limit;
- Shallow and deep bedrock wells nearer the soil-impacted areas are free of LNAPL impacts;
- Silt and clay soil with low permeability overlies the shallow bedrock and appears to limit the vertical migration of petroleum impacts from overburden to bedrock.





## **MONITORING**

Well Specification: MW-3 SB, MW-5 SB: 2-inch steel casing socketed into

bedrock. Open-hole bedrock well, 3.8" nominal core.

Gauging Frequency: Bi-weekly

Groundwater Sampling Frequency

and Analytical Method: NA

Laboratory Used: NA

Vapor Sampling Frequency

and Analytical Method: Quarterly, BTEX by EPA Method TO-3

Laboratory Used: Pace Analytical (NELAC #10888)

## **PERMIT/LEGAL INFORMATION**

NYSDEC Region 9 Stipulation Agreement





# **LIST OF ATTACHMENTS**

· Figure 1 Groundwater Elevations and LNAPL Thickness

Table 1 Historical Groundwater Elevation and LNAPL Summary
 Table 2: VES Exhaust Vapor OVM Concentration (ppm) over

Time Data Summary

· Charts VES Exhaust Vapor OVM Concentration (ppm) over Time

· Laboratory Analytical Results

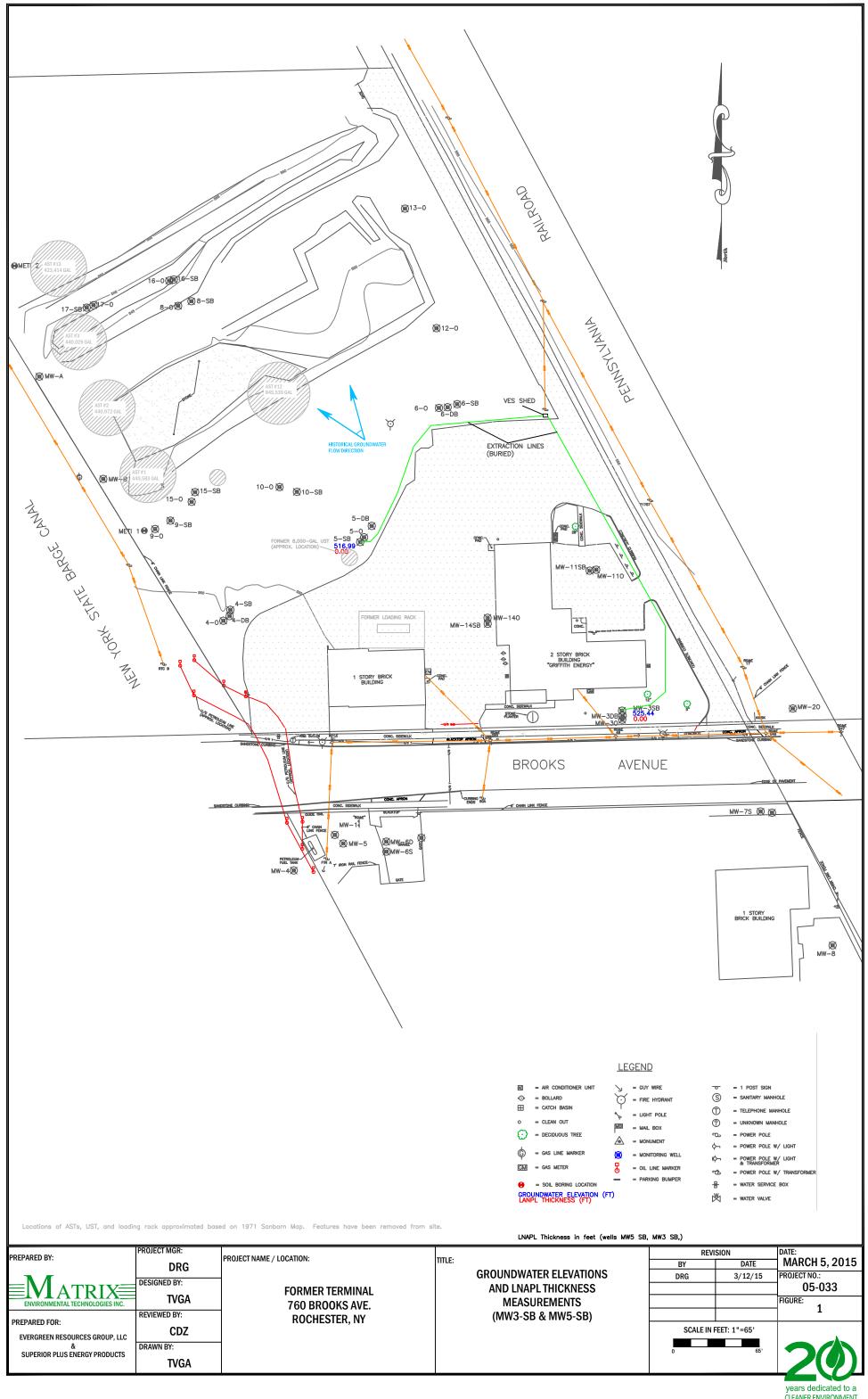




# **FIGURES**







# **TABLES**





Table 1

Groundwater Data Summary
Former Fuel Terminal
760 Brooks Ave
Rochester, NY

Well No. & Casing Elevation	Date	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thinckness (ft)	Adj. Depth to Water (ft)	Water Elevation (ft)
MW3-SB	4/9/2010	29.76	29.86	0.10	29.78	519.01
548.79	6/19/2012	28.21	28.62	0.41	28.29	520.50
	1/30/2014	28.99	29.21	0.22	29.03	519.76
	2/27/2014	-	22.94	0.00	22.94	525.85
	3/6/2014	-	24.81	0.00	24.81	523.98
	3/25/2014	-	25.32	0.00	25.32	523.47
	4/3/2014	-	19.45	0.00	19.45	529.34
	5/29/2014	-	24.32	0.00	24.32	524.47
	6/18/2014	-	24.51	0.00	24.51	524.28
	8/5/2014	-	25.29	0.00	25.29	523.50
	9/17/2014	-	25.29	0.00	25.29	523.50
	10/23/2014	-	20.52	0.00	20.52	528.27
	11/10/2014	-	26.30	0.00	26.30	522.49
	12/15/2014	-	22.25	0.00	22.25	526.54
	1/14/2015	-	25.29	0.00	25.29	523.50
	2/10/2015	-	25.84	0.00	25.84	522.95
	3/5/2015	-	23.35	0.00	23.35	525.44
	4/16/2015	-	24.45	0.00	24.45	524.34
	5/1/2015	-	25.67	0.00	25.67	523.12

Table 1

Groundwater Data Summary
Former Fuel Terminal
760 Brooks Ave
Rochester, NY

Well No. & Casing Elevation	Date	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thinckness (ft)	Adj. Depth to Water (ft)	Water Elevation (ft)
MW5-SB	4/9/2010	34.97	37.45	2.48	35.47	513.32
551.75	6/19/2012	34.82	35.20	0.38	34.90	513.89
	1/30/2014	NG	NG	NG	NG	NG
	2/27/2014	35.00	36.85	1.85	35.37	513.42
	3/6/2014	35.30	35.55	0.25	35.35	513.44
	3/25/2014	-	35.20	0.00	35.20	513.59
	4/3/2014	-	34.90	0.00	34.90	513.89
	5/29/2014	32.14	32.99	0.85	32.31	516.48
	6/18/2014	32.23	32.23	0.00	32.23	516.56
	8/5/2014	32.08	33.22	1.14	32.31	516.48
	9/17/2014	32.27	32.51	0.24	32.32	516.47
	1/14/2015	-	32.25	0.00	32.25	516.54
	2/10/2015	-	32.39	0.00	32.39	516.40
	3/5/2015	-	31.80	0.00	31.80	516.99
	4/16/2015	32.09	32.50	0.41	32.17	516.62
	5/1/2015	31.93	33.18	1.25	32.18	516.61

NG = Not Gauged, inaccessible

# VES Exhaust Vapor OVM Concentration (ppm) over Time Data Summary

Table 2

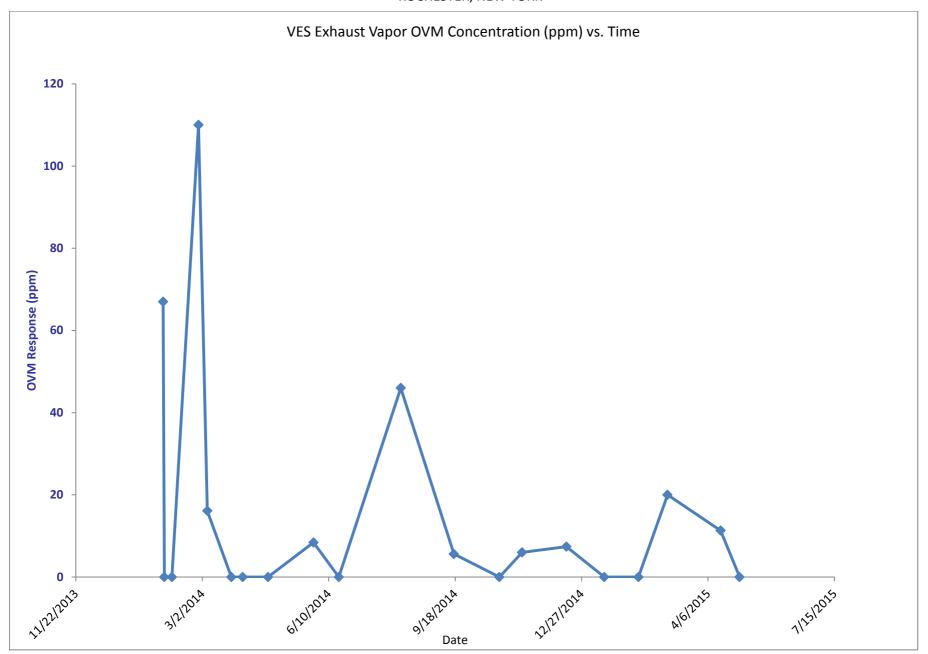
# Former Fuel Terminal 760 Brooks Avenue Rochester, New York

Period Ending	OVM
1/30/2014	67
1/31/2014	0
2/6/2014	0
2/27/2014	110
3/6/2014	16.1
3/25/2014	0
4/3/2014	0
4/23/2014	1
5/29/2014	8.4
6/18/2014	0
8/6/2014	46
9/17/2014	5.6
10/23/2014	0
11/10/2014	6
12/15/2014	7.4
1/14/2015	0
2/10/2015	0
3/5/2015	20
4/16/2015	11.3
5/1/2015	0

# **CHARTS**







# LABORATORY ANALYTICAL REPORTS (copy)



