
REMEDIAL ACTION WORK PLAN

for

**1676 THIRD AVENUE
New York, New York**

NYSDEC BCP Site No. C231079

Prepared For:

**Bevin Associates, LLC
c/o KLM Construction
155 East 56th Street, 6th Floor
New York, New York 10022**

Prepared By:

**Langan Engineering, Environmental, Surveying
and Landscape Architecture, D.P.C
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, New York 10001
NJ Certificate of Authorization No: 24GA27996400**

**Joel B. Landes
Professional Engineer License No. 076348-1**

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

**May 8, 2013
170206301**

CERTIFICATION

I, Joel B. Landes, P.E., certify that I am currently a NYS registered professional engineer and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).



TABLE OF CONTENTS

	<u>PAGE</u>
CERTIFICATION	I
1.0 INTRODUCTION	1
1.1 General.....	1
1.2 Site Description	1
1.3 Site Geology and Hydrology.....	2
1.4 Site History	3
1.5 Previous Reports	3
1.5.1 Phase I Environmental Site Assessment, April 2011.....	4
1.5.2 Phase II Environmental Site Investigation, July 2007	4
1.5.3 Soil Sample Analysis Report, February 2012.....	5
1.5.4 Soil & Groundwater Sample Analysis Report, April 2012	5
1.5.5 Remedial Investigation Report, December 2012.....	6
1.6 Summary of Identified Area of Concern (AOC)	7
1.6.1 Known Petroleum Release: Findings Summary	7
1.6.2 Known Petroleum Release: Conclusions	8
1.7 Proposed Development.....	8
1.8 Fate and Transport and Human Exposure Potential	8
1.8.1 Nature and Extent of Contamination.....	9
1.8.2 Receptor Populations.....	10
1.8.3 Exposure Pathways	10
1.8.4 Human Health Exposure Assessment	12
2.0 REMEDIAL ACTION ALTERNATIVES ANALYSIS.....	15
2.1 Standards, Criteria and Guidance (SCGs) and Remedial Action Objectives (RAOs).....	15
2.2 Technical Description of Alternative I.....	17
2.2.1 Summary of Alternative I – Track 1 Remedy.....	17
2.2.2 Soil Removal.....	17
2.2.3 Dewatering and Groundwater Treatment	18
2.2.4 Confirmation Soil Sampling.....	18
2.2.5 In-Situ Groundwater Treatment	18
2.2.6 Excavation Backfill.....	19
2.2.7 Post-Remediation Groundwater Monitoring.....	19
2.2.8 On-Site Worker, Public Health, and Environmental Protection	19

2.3	Technical Description of Alternative II.....	19
2.3.1	Summary of Alternative II – Track 4 Remedy.....	19
2.3.2	Soil Removal.....	20
2.3.3	Endpoint Soil Sampling.....	20
2.3.4	Excavation Backfill.....	21
2.3.5	In-Situ Groundwater Treatment.....	21
2.3.6	Composite Cover System.....	25
2.3.7	Post-Remediation Groundwater Monitoring.....	25
2.3.8	Worker, Public Health, and Environmental Protection.....	25
2.3.9	Institutional Controls.....	25
2.4	Evaluation of the Proposed Remedy.....	26
2.4.1	Overall Protection of Public Health and the Environment.....	26
2.4.2	Standards, Criteria, and Guidance (SCG).....	27
2.4.3	Short-Term Effectiveness and Permanence.....	27
2.4.4	Long-Term Effectiveness and Permanence.....	28
2.4.5	Reduction of Toxicity, Mobility, and Volume.....	28
2.4.6	Implementability.....	29
2.4.7	Cost Effectiveness.....	29
2.4.8	Community Acceptance.....	30
2.4.9	Land Use.....	30
2.5	Recommended Remedial Alternative Selection.....	32
3.0	TECHNICAL PLANS FOR THE PROPOSED REMEDY	33
3.1	General.....	33
3.2	Pre-Construction Meeting with NYSDEC.....	33
3.3	Emergency Contact Information.....	33
3.4	Remedial Action Costs.....	33
3.5	Remedial Facilities.....	33
3.5.1	Utility Marker and Easements Layout.....	34
3.5.2	Site Fencing.....	34
3.6	Waste Characterization.....	34
3.7	Soil and Sediment Erosion Plan.....	35
3.8	Dust, Odor, and Vapor Control/Monitoring Plan.....	35
3.9	Protective Measure Plan.....	36
3.10	Health and Safety Plan.....	36
3.11	Quality Assurance Project Plan.....	37

3.12	Field Sampling Plan	37
3.13	Citizen Participation Plan.....	37
4.0	SCHEDULE.....	39
5.0	ENGINEERING CONTROLS.....	40
5.1	Composite Cover System	40
5.2	Treatment Systems	40
5.3	Soil Vapor Mitigation System.....	40
6.0	ENGINEERING CONTROL SYSTEMS	42
6.1	Criteria for Completion of Remediation/Termination of Remedial Systems	42
6.1.1	Composite Cover System	42
6.1.2	Groundwater Treatment	42
7.0	INSTITUTIONAL CONTROLS	43
7.1	Environmental Easement.....	43
7.2	Site Management Plan	45
8.0	REPORTING	47
8.1	Progress Reporting	47
8.2	Final Engineering Report.....	47
8.3	Site Management Plan and Environmental Easement	49
9.0	PROJECT ORGANIZATION	51
9.1	NYSDEC	51
9.2	Owner/Developer/Volunteer	51
9.3	Remedial Engineer	51
9.4	Analytical Laboratory and Data Validation Contractor	51
9.5	Off-Site Disposal Facilities	52

LIST OF TABLES

Table 1	Alternative I Remedial Cost Estimate
Table 2	Alternative II Remedial Cost Estimate
Table 3	Emergency Contact Sheet

LIST OF FIGURES

Figure 1	Site Location Map
Figure 2	Site Layout Map
Figure 3	Proposed Chemical Oxidation Injection Well Location Map

LIST OF APPENDICES

Appendix A	Previous Environmental Reports
Appendix B	Site Sign Requirements
Appendix C	Health and Safety Plan
Appendix D	Community Air Monitoring Plan
Appendix E	Quality Assurance Project Plan
Appendix F	Field Sampling Plan
Appendix G	Remediation Schedule
Appendix H	Vapor Membrane and Sub-Membrane Depressurization System Design

1.0 INTRODUCTION

1.1 General

This Remedial Action Work Plan (RAWP) is for the approximately 930 square-foot property located at 1676 Third Avenue in New York, New York (the Site). Bevin Associates LLC (the owner) entered the Site into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP), as a Volunteer, on October 25, 2012. BCP Site No. C231079 was assigned to the Site by NYSDEC.

This RAWP summarizes the nature and extent of contamination at the Site, as determined from data gathered during previous investigations, and describes remedial activities to be implemented in coordination with the NYSDEC and in conjunction with site development.

1.2 Site Description

The Site is located at 1676 Third Avenue in New York, New York and is identified as Block 1522, Lot 40 on the New York City Tax Map. The Site is approximately 930 square feet and is located on the city block bordered by 94th Street to the north, Third Avenue to the east, 93rd Street to the south, and Lexington Avenue to the west. A Site Location Map is provided as Figure 1 and a Site Layout Map is provided as Figure 2.

The superstructure for a new five-story plus penthouse townhouse building is constructed, but construction stopped before completing core and shell work. Excavation for the basement extends to approximately 10 to 12 feet below grade surface (ft bgs); there is presently no basement slab in place.

The Site is located in an urban setting that is characterized by residential and commercial buildings and parks. Adjoining properties include:

- A five-story residential building with ground floor retail space to the southwest;
- A two-story residential building attached to a three-story residential building with ground floor retail space to the northwest;
- East 94th Street, on the other side of which is a four-story residential building with ground floor retail to the northeast;
- The intersection of East 94th Street and Third Avenue, on the other side of which is a five-story residential building with ground floor retail space the east; and
- Third Avenue, on the other side of which is an approximately 30-story residential building with ground floor retail space to the southeast.

According to the New York City Planning Commission Zoning Map 6b, the Site is located in a C2-8 commercial district and is not E-Designated. District C2-8 is defined as a commercial district that is predominantly residential in character and is typical of areas mapped along major thoroughfares in medium- and higher-density areas of the city. Land use within a half-mile radius of the Site includes cross streets, subway tunnels, parkland, and school facilities.

The Site is generally level, with surface elevations ranging from $\pm 56^1$ feet (ft) to 58 ft. The topography and surrounding area slopes to the east towards the East River, located approximately 1,500 feet east of the Site.

1.3 Site Geology and Hydrology

Geological surface features (e.g., rock outcroppings) have not been observed at the Site. Based on the July 2007 Phase II ESI prepared by D&B, the generalized stratigraphy underlying the Site was previously composed of historic urban fill material predominately characterized as gray silt and clay with brick fragments in the approximate upper 10 feet, underlain by native fine sand with trace fine gravel from approximately 10 to 20 ft bgs, underlain by weathered schistose bedrock. Excavation for the site-wide basement of the new building extends to approximately 10 to 12 ft bgs. The basement subgrade is within native sand.

Groundwater underlying the Site ranged from approximately 11.09 to 12.45 ft bgs (el 44.71 ft to el 46.16 ft), based on the September 25, 2012 gauging of on- and off-site wells. Groundwater is estimated to be 1 to 2 feet below the current basement grade. Groundwater at the Site flows from west to east towards the East River.

According to Federal Emergency Management Agency (FEMA) flood maps, the Site is not located within a flood plain. However, a Special Flood Hazard Area subject to inundation by the 1% Annual Chance Flood is located approximately 1,100 feet east of the Site. Wetlands on or near the Site were evaluated by reviewing the National Wetlands Inventory and NYDEC regulated wetlands. There are no wetlands on or adjacent to the Site. The nearest wetland to the Site is the East River, approximately 1,500 feet east of the Site.

1: Borough of Manhattan Datum (BMD), which is 2.75 feet above the Mean Sea Level at Sandy Hook, New Jersey, 1929 U.S. Geological Survey National Geodetic Vertical Datum (NGVD, 1929).

1.4 Site History

The Site was developed as early as 1939 with a gasoline filling station. NYSDEC records indicate that seven USTs for gasoline were present up until early 1990, at which time the tanks were pumped out and removed. Based on a review of the NYSDEC database, the tanks were administratively closed in September 1996. The Volunteer purchased the property in December 2006 and shortly thereafter engaged consultants to prepare geotechnical and environmental investigations in advance of site redevelopment activities. The environmental investigations were documented in the April 2007 Phase I Environmental Site Assessment (ESA) Report and July 2007 Phase II Environmental Site Investigation (ESI) Report prepared by Dvirka and Bartilucci Consulting Engineers (D&B).

Excavation at the Site for development of the new five-story townhouse with penthouse and full basement began in October 2011. On October 17, 2011, petroleum-contaminated soil was encountered during excavation and NYSDEC Spill No. 11-08991 was reported. In January 2012, during site development excavation activities, an approximately 215-gallon tank was discovered in the northwestern corner of the Site. The tank contained no dispensing line. The tank did not leak its contents and the soils beneath and surrounding the tank were not impacted by petroleum constituents. This tank was not one of the seven 550-gallon gasoline USTs that was closed prior to Volunteer's purchase of the property. The superstructure for a new five-story townhouse is constructed, however construction stopped before completing core and shell work. Excavation for the basement extends to approximately 10 to 12 feet below grade surface (ft bgs); there is presently no basement slab in place. Construction activities at the Site are currently halted.

1.5 Previous Reports

Environmental reports prepared for the Site include the following. Copies of the previous reports are provided in Appendix A:

- Phase I ESA Report, dated April 2007, prepared by D&B;
- Phase II ESI Report, dated July 2, 2007, prepared by D&B;
- Soil Sample Analysis Report (SAR), dated February 20, 2012, prepared by Environmental Maintenance Contractors (EMC);
- Soil & Groundwater SAR, dated April 24, 2012, prepared by EMC; and
- Remedial Investigation Report (RIR), dated December 2012, prepared by Langan.

Below is a summary of each report:

1.5.1 Phase I Environmental Site Assessment, April 2011

The Phase I ESA provides an evaluation of potential environmental concerns relating to hazardous materials and wastes at the Site and surrounding properties. The Phase I ESA was conducted in general accordance with the ASTM Standard (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process). The Phase I ESA included a site inspection; interviews with the owner and building superintendent of the adjoining properties; a review of historical information sources (i.e., Sanborn fire insurance maps, aerial photographs, topographic maps); and a review of local, tribal, state and federal environmental databases. The Phase I ESA identified the following on- off-site recognized environmental conditions (RECs):

- The Site was historically used as a gasoline station between the 1930s and 1980s. NYSDEC records indicate that seven gasoline USTs were present on the Site and administratively closed in 1996.
- The adjoining properties to the northwest and southwest of the Site were previously used as, or were occupied by, dry cleaning facilities.

1.5.2 Phase II Environmental Site Investigation, July 2007

The Phase II ESI was completed to evaluate potential impacts from the RECs identified by the Phase I ESA. D&B implemented the Phase II Investigation on May 11, 2007 and included a geophysical survey, installation of three soil borings ranging from 16 to 37 ft bgs, and collection of 3 grab soil samples collected at depths ranging from 4 to 11 ft bgs. The soil samples were analyzed for volatile organic compounds (VOC), semivolatile organic compounds (SVOC) and metals by Spectrum Analytical, Inc. (Spectrum) (formerly Mitkem Corporation); a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory located in Warwick, Rhode Island. Results were compared to NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Recommended Soil Cleanup Objectives (RSCO), the applicable standard at the time. The Phase II findings included the following:

- The subsurface soil profile generally consisted of historic urban fill material predominately characterized as gray silt and clay with brick fragments in the approximate upper 10 feet, underlain by fine sand with trace fine gravel from approximately 10 to 20 ft bgs, underlain by weathered schistose bedrock. Groundwater was not encountered.
- The geophysical survey did not identify significant anomalies to indicate the presence of USTs at the Site. A few minor anomalies, low response intensities in areas less than one square foot, were detected in the northeast corner of the Site.

- Strong petroleum odors, as well as occasional black-stained zones, were encountered in the material above the weathered bedrock in the soil borings.
- RSCO exceedances of VOCs, including benzene, toluene, ethylbenzene and total xylenes (BTEX), were detected in the samples. One SVOC, naphthalene, exceeded the RSCO in the westernmost boring sample. Four metals (copper, iron, nickel, and zinc) exceeded the RSCOs.

1.5.3 Soil Sample Analysis Report, February 2012

The Soil SAR was completed to summarize the results of the endpoint soil samples collected at the base of the site-wide cellar excavation. Six endpoint soil samples were collected at depths ranging from approximately 10 to 12 ft bgs and analyzed for VOCs and SVOCs by Phoenix Environmental Laboratories, Inc. (Phoenix), a NYSDOH ELAP-certified laboratory located in Manchester, Connecticut. Soil analytical data was compared with NYSDEC TAGM RSCOs. Report findings were as follows:

- SVOCs were not detected in endpoint soil samples at concentrations exceeding the RSCOs.
- Elevated concentrations of VOCs, including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, n-propyl benzene, sec-butylbenzene, toluene, and total xylenes were detected at concentrations above the TAGM RSCOs in soil samples collected from five of the six endpoint soil samples.

1.5.4 Soil & Groundwater Sample Analysis Report, April 2012

The Soil & Groundwater SAR was completed to characterize soil and groundwater at the Site. The field investigation included the installation of one soil boring and one groundwater monitoring well within the basement of the Site and three soil borings and three groundwater monitoring wells along the Site sidewalks. A total of 11 grab soil samples and four groundwater samples were collected and analyzed for VOCs and SVOCs by Phoenix. Soil samples were collected from shallow fill material and from the groundwater interface. Soil analytical data was compared with New York Codes, Rules and Regulations (NYCRR) Title 6 Part 375 (6 NYCRR Part 375) Unrestricted Use Soil Cleanup Objectives (SCO) and groundwater analytical data was compared to NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA Ambient Water Quality Standards (AWQS). Report findings and conclusions were as follows:

- VOCs and SVOCs were not detected at concentrations exceeding the SCOs for the soil samples collected from the basement soil boring.

- Elevated concentrations of VOCs, including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, naphthalene, n-propyl benzene, toluene, and total xylenes were detected at concentrations above the SCOs in soil samples collected from the sidewalk soil borings (depths ranging from 8 to 15 ft bgs). One SVOC, naphthalene, was detected above its SCO in sidewalk soil boring SB-3 (depth of 8 to 10 ft bgs).
- Elevated concentrations of VOCs, including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, isopropylbenzene, naphthalene, n-butylbenzene, n-propylbenzene, p-isopropyltoluene, sec-butylbenzene, toluene, and total xylenes were detected at concentrations above the AWQS in the groundwater samples. One SVOC, naphthalene, was also detected above its AWQS in the groundwater samples.

1.5.5 Remedial Investigation Report, December 2012

The Remedial Investigation (RI) Report prepared by Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. (Langan), dated December 20, 2012, presents environmental data and findings from the previous environmental reports prepared by D&B and EMC, and data obtained by Langan. RI findings and conclusions were as follows:

- Stratigraphy: Excavation for the basement of a new five-story plus penthouse townhouse building which covers the entire footprint of the Site was completed in February 2012 and extended to approximately 10 to 12 ft bgs. The current basement subgrade extends into native sand. Based on the July 2007 Phase II ESI prepared by D&B, the generalized stratigraphy underlying the Site was previously composed of historic urban fill material predominately characterized as gray silt and clay with brick fragments in the approximate upper 10 feet, underlain by fine sand with trace fine gravel from approximately 10 to 20 ft bgs, underlain by weathered schistose bedrock.
- Groundwater underlying the Site ranged from approximately 11.09 to 12.45 ft bgs (el 44.71ft to el 46.16ft) based on gauging of on- and off-site wells on September 25, 2012. Groundwater at the Site flows from west to east towards the East River. Groundwater is approximately 1 to 2 feet below the current basement sub-grade.
- Petroleum-Impacted Soil: Site soil has been impacted by a petroleum release related to former use as a gasoline filling station as evidenced by analytical data exceedances and observation of petroleum staining and odor. The majority of petroleum-impacted material on the Site was removed during excavation for the development basement to a depth of 10 to 12 feet below sidewalk grade. Residual soil impacts on the Site are estimated to extend from basement grade to approximately 15 ft bgs. Off-site soil impacts extend down-gradient to the east.

- Groundwater Impacts: Petroleum-related VOCs and SVOCs (naphthalene) were identified in groundwater at MW-B located within the basement of the Site. To a higher extent, petroleum-related VOCs and SVOCs (naphthalene) were also identified in the three down-gradient monitoring wells located along the sidewalk adjacent to the Site.
- Soil Vapor Impacts: Petroleum-related VOCs are assumed to be present in the unsaturated subsurface as a result of the VOCs found in the soil and groundwater.
- Sufficient analytical data has been gathered to establish site-specific soil cleanup levels and to develop a remedy for the Site. The remedy will be described and evaluated in a Remedial Action Work Plan (RAWP) prepared in accordance with NYS BCP guidelines. The remedy for the Site will need to address petroleum-impacted soil, the potential for soil vapor intrusion, and groundwater impacted with VOCs and SVOCs.

1.6 Summary of Identified Area of Concern (AOC)

Based on site observations, development history, and the findings of the previous environmental reports, the known petroleum release was identified as an AOC and is discussed in the following section.

1.6.1 Known Petroleum Release: Findings Summary

Site soil, soil vapor and groundwater have been impacted by a petroleum release related to former use of the Site as a gasoline filling station, as evidenced by analytical data exceedances and observation of petroleum staining and odor. Investigation locations associated with the petroleum release include:

Phase II ESI

- On-Site – Three soil borings (B1, B2, and B3).

Soil SAR

- On-Site – Six endpoint soil samples (BS-1 through BS-6).

Soil & Groundwater SAR

- On-Site – One soil boring (SB-B) and the installation of one monitoring well (MW-B).
- Off-Site – Three soil borings (SB-1 through SB-3) and the installation of three groundwater monitoring wells (MW-1 through MW-3).

A summary of findings in relation to the AOC is presented below:

Soil

Petroleum-impacted soil was found at investigation locations B1, B2, B3, BS-1, BS-2, BS-4, BS-5, BS-6, SB-B, SB-1, SB-2, and SB-3. Excavation for the townhouse building basement covered the entire footprint of the Site and extended to approximately 10 to 12 ft bgs. Based on field observations and analytical results for on- and off-soil samples, petroleum impacts at the Site may extend to as deep as approximately 15 ft bgs (approximately 3 to 5 ft below basement grade). The petroleum-impacted material had VOC and SVOC (naphthalene) exceedances of Unrestricted Use SCOs. Two soil samples collected at the Site at depths of 16 to 18 ft bgs and 20 to 22 ft bgs did not contain exceedances of Unrestricted Use SCOs.

Groundwater

Groundwater in the on- and off-site monitoring wells (MW-B, MW-1, MW-2, and MW-3) had dissolved phase petroleum-related VOCs and/or SVOCs (naphthalene) that exceeded the NYSDEC TOGS 1.1.1 AWQS. No free petroleum product was identified.

1.6.2 Known Petroleum Release: Conclusions

Site soil and groundwater have been impacted by a petroleum release related to former use as a gasoline filling station, as evidenced by analytical data exceedances and observation of petroleum staining and odor. Based on the presence of VOCs in both media, soil vapor is assumed to be impacted. Soil petroleum impacts appear to span the entire footprint of the Site from basement grade to approximately 15 ft bgs. Petroleum impacts have migrated off-site.

1.7 Proposed Development

The proposed development will include the completion of the townhouse residential building with a finished basement. The development has frontages on Third Avenue and East 94th Street. The basement will be used for mechanical rooms and tenant storage. Each floor will contain residential units and the penthouse will likely include a terrace. A continuous concrete slab will be installed across the entire building footprint.

1.8 Fate and Transport and Human Exposure Potential

To evaluate contaminant fate and transport and potential human exposure on the Site, this section discusses the nature and extent of contamination, identifies receptor populations and exposure pathways, and provides a human health exposure assessment. A qualitative human health exposure assessment for the Site was initially presented in the December 2012 RI Report.

1.8.1 Nature and Extent of Contamination

The RI Report identified contamination in Site soil, soil vapor and groundwater. Provided below are the contaminants identified in each media and the nature and extent of contaminants of concern (COCs).

Soil

The following contaminants were identified during previous investigation in excess of NYSDEC Part 375 Unrestricted Use SCOs:

VOCs

• 1,2,4-trimethylbenzene	• 1,3,5-trimethylbenzene	• benzene
• ethylbenzene	• n-propylbenzene	• sec-butylbenzene
• toluene	• total xylenes	

SVOCs

- naphthalene

VOC exceedances were encountered throughout the Site. One SVOC, naphthalene, was detected at a concentration of 18 milligrams per kilogram (mg/kg) (exceeding its SCO of 12 mg/kg) in the soil sample collected from boring B1 at a depth of 4 to 6 ft bgs. However, the material represented by this soil sample was removed as part of site development activities. No metal exceedances were identified.

Groundwater

The following contaminants were identified during previous site investigations in excess of NYSDEC TOGS 1.1.1 AWQS for Class GA groundwater in on- and off-site monitoring wells:

VOCs

• 1,2,4-trimethylbenzene	• 1,3,5-trimethylbenzene	• benzene
• ethylbenzene	• isopropylbenzene	• naphthalene
• n-butylbenzene	• n-propylbenzene	• p-isopropyltoluene
• sec-butylbenzene	• toluene	• total xylenes

SVOCs

- naphthalene

Petroleum-related VOCs were identified in groundwater at MW-B, MW-1, MW-2, and MW-3. The majority of the petroleum-related VOCs were also identified in soil samples collected from the Site; therefore, it is likely that petroleum impacts to groundwater are related to historic use of the Site as a gasoline filling station.

Soil Vapor

No soil vapor data has been collected at the Site; however, for the purposes of this RAWP soil vapor is assumed to be impacted by the same VOCs identified in the Site soil and groundwater.

1.8.2 Receptor Populations

The receptors identified under the proposed remedy include:

- On-site workers: adult (remediation and construction workers);
- Temporary workers: adult (utility worker/inspector, subcontractors, sampler/remediation inspector); and
- Authorized guests.

The receptors identified under the proposed remedy and future site use as a residential development include:

- Adult and child residents of the apartment units;
- On-site workers: adult maintenance workers; and
- Temporary workers: adult (utility worker/inspector, landscape worker, construction worker).

The receptors identified above are believed to be the primary receptors of interest.

1.8.3 Exposure Pathways

An exposure pathway begins with a source and mechanism of contaminant release, resulting in the contamination of a receiving matrix (environmental medium). A complete exposure pathway also requires a point of potential contact with the contaminated matrix (i.e., exposure point), an exposure route (i.e., inhalation, ingestion, or dermal contact), and a receptor population. If an exposure pathway is not complete because it does not include a contaminated matrix, a point of potential contact, an exposure route, or a receptor, then no risk exists.

Current Conditions

Site soil has primarily been contaminated with VOCs. The presence of VOCs and SVOCs is attributed to a petroleum (gasoline) release related to former use of the Site as a gasoline filling station. Human exposure to contaminated soil by construction workers and authorized guests is possible within the basement. The migration pathway is potentially complete for dermal absorption, inhalation and ingestion. Site groundwater is contaminated with VOCs and a SVOC (naphthalene). No groundwater is exposed and the groundwater is not a source of drinking water; therefore, the exposure pathway is incomplete. No soil vapor data has been collected at the Site; however, for the purposes of designing the remedy the soil vapor is assumed to be impacted by the same VOCs identified in the Site soil and groundwater. Human exposure to contaminated soil vapor by construction workers and authorized guests is possible within the basement. The migration pathway is potentially complete for inhalation.

Construction/Remediation Activities

Construction and remediation activities may result in potential exposures to site contaminants. The same contaminants exist as identified in Current Conditions. Construction and remedial activities include the disturbance of impacted soil during remediation activities. Therefore, the potential exists for exposure pathways to soil COCs for construction and remediation workers via dermal absorption, ingestion, and inhalation. Groundwater may be encountered during excavation activities by workers. There is a potential exposure pathway to groundwater COCs for construction workers via dermal absorption, ingestion, or inhalation. A potential pathway exists for exposure to soil vapor VOCs for construction and remediation workers via inhalation.

Proposed Future Conditions

The proposed development will include residential use. The presence of VOCs in the soil, soil vapor and groundwater creates a potential exposure pathway. VOC vapors may volatilize and potentially accumulate in the building, which will create a potential exposure pathway via inhalation to occupants, guests and temporary workers. Points of exposure include potential cracks in the foundation of the proposed development. Routes of exposure may include inhalation of vapors entering the building. The exposure route will be incomplete because of the vapor barrier membrane being installed as an additional protective measure, but not as a required element of the remedy beneath the basement slab.

The entire site will be capped with a composite cover system (concrete basement slab) and the Site will not use the groundwater as a source of drinking water. Drinking water for the Site will be obtained through the New York City water supply provider, which is sourced from reservoirs

in upstate New York. Therefore, the exposure pathway is incomplete for soil and groundwater contaminants.

Potential Exposure Pathways – Off-Site

Soils have a very low potential to be transported off-site by wind in the form of dust or on equipment leaving the Site during development and remediation activities because all of the exposed soils are below grade and not accessible to vehicles. This is a potentially complete inhalation, dermal exposure and ingestion pathway for the adjacent public. VOC vapors have the potential to volatilize and migrate off-site creating a potential inhalation exposure pathway to the public adjacent to the Site.

1.8.4 Human Health Exposure Assessment

Complete exposure pathways have the following five elements: 1) a contaminant source; 2) a contaminant release and transport mechanism; 3) a point of exposure; 4) a route of exposure; and 5) a receptor population. A discussion of the five elements comprising a complete pathway as they pertain to the Site is provided below.

Current Conditions

Potentially complete exposure pathways exists for petroleum-impacted soil and soil vapor. Site workers and authorized guest can potentially be exposed from impacted soil at the basement floor and volatilization of VOCs from impacted soil and groundwater. The routes of exposure are inhalation, ingestion and dermal contact. The potential for exposure is likely minimal given that the site is secure from the public with controlled access only allowed to trained workers and authorized guests. In addition, work in the basement has halted, which further limits the presence of potential receptors.

Construction/Remediation Activities

Potentially complete exposure pathways exists for petroleum-impacted soil, groundwater and soil vapor. Site workers and authorized guest can potentially be exposed from impacted soil and groundwater during remedial and development operations and volatilization of VOCs from impacted soil and groundwater. The routes of exposure are inhalation, ingestion and dermal contact. The potential for exposure is likely minimal given that the site is secure from the public with controlled access only allowed to trained workers and authorized guests. Workers and authorized guests will complete operations in accordance with a Health and Safety Plan (HASP). The HASP outlines safety measures to implement and protective equipment to use during operations involving the contaminated media.

Proposed Future Conditions

A potentially complete exposure pathway exists for petroleum-impacted soil vapor. Contaminant release and transport mechanisms include volatilization of contaminants from soil and groundwater to the soil vapor phase. Points of exposure include potential cracks in the foundation or basement slab of the proposed development. Routes of exposure may include inhalation of vapors entering the building; these routes may not exist if the remedy is fully effective. The receptor population includes the building tenants, temporary workers and visitors. As an additional protective measure, but not as a required element of the remedy, the possible routes of exposure will be mitigated by the proper installation of soil vapor mitigation measures.

Potential Exposure Pathways – Off-Site

The potential off-site migration of site contaminants is not expected to result in a complete exposure pathway for current, construction and remediation, or future conditions for the following reasons:

- Air monitoring will be conducted for particulates (i.e., dust) and VOCs during all intrusive activities as part of a community air monitoring program. Dust and/or vapor suppression techniques will be employed to limit potential for off-site migration of site soils and vapors.
- Contaminated equipment will be washed as necessary prior to leaving the Site to prevent tracking material off-site.

Human Health Exposure Assessment Conclusions

The following conclusions were developed from this human health exposure assessment:

1. There is a moderate risk of exposure during the current and construction and remediation activities. This risk can be minimized by following the appropriate health and safety, vapor and dust suppression, and site security measures.
2. The existence of a complete exposure pathway for site contaminants to human receptors during proposed future conditions is unlikely, as a large quantity of contaminated soils has been excavated for off-site disposal. In addition, to the extent described herein, soil exceeding Protection of Groundwater SCOs will be excavated and disposed of off-site, petroleum-impacted groundwater at the Site will likely be treated with a chemical oxidant, and a continuous concrete slab (impervious site cap) will be installed across the building footprint. As an additional protective measure, but not as a

required element of the remedy, the potential pathway for soil vapor intrusion into the building will be addressed using soil vapor mitigation measures.

3. It is unlikely that a complete exposure pathway exists for the migration of site contaminants to off-site human receptors for current, construction phase, or future conditions. Monitoring and control measures will be used during construction to prevent completion of this pathway.

2.0 REMEDIAL ACTION ALTERNATIVES ANALYSIS

The BCP requires the analysis of at least two remedial alternatives when the chosen option is not a Track 1 cleanup. This Section presents an analysis of two remedial actions that can potentially be achieved under the BCP. The proposed SCOs will be the generic Track 1 Part 375 Unrestricted Use SCOs for Alternative I and Track 4 Restricted Use Commercial SCOs for Alternative II.

This section is organized as follows:

- Section 2.1 describes the remedial goals and objectives
- Sections 2.2 and 2.3 provide technical descriptions of:
 - Alternative I, a BCP Unrestricted Use Track 1 concept
 - Alternative II, a BCP Restricted Use Commercial Track 4 concept
- Section 2.4 evaluates the remedial alternatives based on the BCP Remedy Selection Evaluation Criteria
- Section 2.5 discusses the recommended remedial alternative

2.1 Standards, Criteria and Guidance (SCGs) and Remedial Action Objectives (RAOs)

In accordance with DER-10 and ECL § 27-1415, the objectives of the remedial action are to: (1) reduce the concentrations of contaminants of concern at the Site to meet those levels that will protect public health and the environment, and (2) isolate the Site from migration of contaminated groundwater and soil vapor from potential on- and off-site sources. Where identifiable sources of contamination are found on the Site, the sources will be removed or eliminated to the greatest extent feasible, regardless of presumed risk or intended use of the Site.

Also in accordance with DER-10, the Remedial Action Objectives (RAO) for this Site are defined as medium-specific objectives for the protection of public health and the environment and are developed based on contaminant-specific standards, criteria, and guidance (SCGs). The SCGs for the Site include:

- NYSDEC – Brownfield Cleanup Program Guide (draft 2004);
- NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation (2010);
- NYSDEC TAGM No. 4031– Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Waste Sites (1989);

- NYSDEC TOGS 1.1.1 – Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (1998);
- NYSDEC TOGS 5.1.8 – New York State Stormwater Management Design Manual (2008);
- NYSDEC TOGS 5.1.10 – New York Standards and Specifications for Erosion and Sediment Controls (2005);
- NYSDOH – Guidance for Evaluating Soil Vapor Intrusions in the State of New York (2006);
- New York State Codes, Rules and Regulations (NYCRR) Title 6 Part 364 – Waste Transporter Permits;
- 6 NYCRR Part 370 – Hazardous Waste Management System;
- 6 NYCRR Part 375 – Environmental Remediation Program (December 2006);
- 6 NYCRR Part 376 – Land Disposal Restrictions;
- 6 NYCRR Part 750 – State Pollutant Discharge Elimination System (SPDES) Regulations;
- Code of Federal Regulations (CFR) Title 29 Part 1910.120 - Hazardous Waste Operations and Emergency Response Standard;
- CFR Title 29 Part 1926 - Safety and Health Regulations for Construction; and
- NYSDEC CP-51 - Soil Cleanup Guidance (2010).

In addition to the SCGs listed above, the RAOs were developed from information derived from previous environmental investigations referenced in Section 1.5, including identified contaminated media and potential public health and environmental exposure pathways, which were summarized in Section 1.8. The RAOs for this RAWP are the following:

For Public Health Protection:

- a. Prevent ingestion and direct contact with contaminated soil.
- b. Prevent inhalation of or exposure from contaminants volatilizing or associated with dust from contaminated soil.
- c. Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- d. Prevent contact with, or inhalation of volatiles, from contaminated groundwater.
- e. Mitigate impacts to public health resulting from the potential soil vapor intrusion into the building at the Site.

For Environmental Protection:

- a. Prevent impacts to biota and animals from ingestion and direct contact with the contaminated soil.
- b. Remove and/or remediate in situ soil exceeding the SCOs to the greatest extent practicable.
- c. Eliminate or reduce VOC concentrations in groundwater below TOGS 1.1.1 AWQS from site sources.
- d. Prevent migration of contaminants that would result in groundwater or surface water contamination.

2.2 Technical Description of Alternative I

2.2.1 Summary of Alternative I – Track 1 Remedy

Alternative I, a Track 1 remedy, would include the following tasks:

- Removal of soil exceeding Unrestricted Use SCOs;
- Dewatering and treatment of impacted groundwater;
- Collection and analysis of confirmation documentation soil samples;
- In-situ treatment of the groundwater with the application of an oxidant (e.g., Oxygen Release Compound, or ORC[®]) to reduce VOC concentrations;
- Backfilling of remedial excavation areas to development grade with certified fill (meeting Unrestricted Use SCOs) or virgin, native imported crushed stone; and
- Development and execution of plans for the protection of on-site workers, community, and environment during remediation and construction activities.

The requirements for each of the above tasks are described below.

2.2.2 Soil Removal

Exceedances of Part 375 Unrestricted Use SCOs were reported throughout the footprint of the Site. To achieve Track 1, soil removal and disposal is roughly estimated to extend to 6 feet below the existing basement grade (approximately el 41). The final excavation depth would extend below the water table and would require dewatering and extensive measures (e.g., underpinning) to protect buildings (on-site and adjacent to site) and roadways immediately adjacent to the Site. The underpinning excavation support would extend and strengthen the existing structure's foundations by digging by hand and using trench boxes underneath such

foundations and sequentially pouring concrete in a strategic order. The estimated volume of soil requiring removal and off-site disposal for a Track 1 cleanup is approximately 330 cubic yards. This estimate is based on vertical excavation limits derived from the field observations and laboratory analytical results from previous environmental investigations.

2.2.3 Dewatering and Groundwater Treatment

The remedial excavation would extend approximately 4 to 5 feet below the water table and would require dewatering. Dewatering would be accomplished using one or more high vacuum extraction dewatering trucks. Once full, the dewatering truck would transport the impacted groundwater in accordance with applicable local, state and federal regulations to a disposal facility that is permitted to accept the water. Given the space available on the Site, it is unlikely that a dewatering well point system with treatment facilities and discharge to the New York City sewer could be accommodated at the Site.

2.2.4 Confirmation Soil Sampling

Per NYSDEC Department of Environmental Remediation (DER) policy, confirmation soil sample collection would be completed from the bottom of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area. Based on these criteria, approximately two base endpoint samples and six sidewall samples, plus required QA/QC samples, would be collected. Endpoint soil samples would be analyzed for Part 375 VOCs, SVOCs, pesticides, polychlorinated biphenyls (PCB), and metals by an NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory. Additional endpoint samples would be required if the initial endpoint samples fail to meet the SCOs and over-excavation is required. Where analytes exceed Unrestricted Use SCOs, excavation in the area represented by the failing sample would be advanced 1 to 2 additional feet vertically and resampled until all analytes are reported below the Unrestricted Use SCOs. No off-site excavation would be required. Upon a demonstration that the endpoint samples satisfy the Unrestricted Use SCOs, no further soil remediation will be necessary and a request would be made to NYSDEC to consider the soil remedy complete.

2.2.5 In-Situ Groundwater Treatment

A chemical oxidant (e.g., Oxygen Release Compound, or ORC[®]) would be applied to groundwater in the open excavation of the Site. The release of dissolved oxygen supports a number of biological oxidation pathways that would be expected to result in the breakdown of residual petroleum-related VOCs. The remedial action plan would include one application event, after which, the excavation would be backfilled with clean fill. The total amount of ORC[®] would be approximately 100 pounds based on a dosing rate of 0.1 pounds per square-foot.

2.2.6 Excavation Backfill

After excavation, the Site would be backfilled to bring the basement to the development grade. The quantity of off-site fill material required to be imported is estimated at 230 cubic yards. Backfill material would consist of clean fill/top soil meeting the Unrestricted Use SCOs or other acceptable fill material such as virgin, native $\frac{3}{4}$ " stone from a quarry. The clean fill would be segregated at a source/facility that is free of environmental issues. Qualified environmental personnel would collect representative samples at a frequency consistent with CP-51 / Soil Cleanup Guidance (Table 4). The samples would be analyzed for Part 375 VOCs (EPA Method 8260), SVOCs (EPA Method 8270), pesticides/PCBs (EPA Method 8082/8081) and metals by an NYSDOH ELAP-certified laboratory. Acceptable backfill material would not exceed site SCOs.

2.2.7 Post-Remediation Groundwater Monitoring

Groundwater samples would be collected from two new wells to be installed within the building footprint after backfilling to document groundwater quality upon completion of the foregoing remediation. Samples would be collected after completion and stabilization of the monitoring wells and again three months after the first round. The samples would be submitted to an NYSDOH ELAP-accredited laboratory for analysis of VOCs, SVOCs, and metals. Based on groundwater sample results showing remediation and declining trend in dissolved concentrations of petroleum-related groundwater impacts, a request would be made to NYSDEC to discontinue sampling and consider the groundwater remedy complete.

2.2.8 On-Site Worker, Public Health, and Environmental Protection

A site-specific HASP would be developed and enforced to protect on-site workers from accidents and acute and chronic exposures from the identified contaminated media. Public health would be protected by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures included in the Community Air Monitoring Program (CAMP). The CAMP would include continuous perimeter monitoring of dust and organic vapor utilizing DustTrak aerosol monitors and PIDs capable of recording data and calculating 15-minute averages. A field engineer would monitor site perimeters for visible dust and odors. The environment would be protected by implementing and enforcing the appropriate soil erosion prevention measures.

2.3 TECHNICAL DESCRIPTION OF ALTERNATIVE II

2.3.1 Summary of Alternative II – Track 4 Remedy

The Track 4 remedy would include the following tasks:

- Removal of soil exceeding Protection of Groundwater SCOs to the extent described herein;
- In-situ treatment of VOC-impacted groundwater with the application of a chemical oxidant, sodium persulfate, using direct push temporary injection points. Section 2.3.4 provides a review and analysis of available remedial technologies that were considered for in-situ treatment. A Remedial Design report will be submitted for review and approval prior to the implementation of this aspect of the remedy. The Remedial Design will include dosing calculations, rates, and concentrations;
- Backfilling of remedial excavation areas to development grade with clean fill (meeting the Unrestricted Use SCOs) or virgin, native imported crushed stone;
- Collection and analysis of endpoint documentation soil samples;
- Installation of a composite cover system;
- Development and execution of a Health and Safety Plan and a Community Monitoring Plan for the protection of on-site workers, the general public, and the environment during remediation and construction activities; and
- Implement long-term Institutional Controls in the form of a Site Management Plan and an Environmental Easement.

The requirements for each of the above tasks are described below.

2.3.2 Soil Removal

Soil with Protection of Groundwater SCO exceedances will be excavated and disposed off-site to approximately 1.7 feet below the existing basement slab, which is the approximate average depth of groundwater. Depth is based on September 2012 survey measurements of the groundwater table and the basement ground surface (groundwater and basement grade measured at el 46.16 and el 47.83 feet, respectively). Soil removal would be to the extent practical and, in order to protect the stability of the building, appropriate sloping would be performed off building foundation components. Excavation will likely be completed by hand or with a vacuum excavator (Vactron or air knife). The estimated volume of soil requiring removal and off-site disposal is roughly 25 cubic yards.

2.3.3 Endpoint Soil Sampling

Per NYSDEC DER policy, endpoint documentation soil sample collection would be completed from the bottom of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area. Based on these criteria, approximately two base endpoint samples and six sidewall samples, plus required QA/QC

samples, would be collected. Endpoint soil samples would be analyzed for Part 375 VOCs, SVOCs, pesticides, PCBs, and metals by an NYSDOH ELAP-certified laboratory. No off-site excavation would be required.

2.3.4 Excavation Backfill

After excavation, the Site would be backfilled to bring the basement to the development grade. The quantity of off-site fill material required to be imported is estimated at 30 cubic yards. Backfill material would consist of soil meeting the lower of the Protection of Groundwater or Restricted Residential Use SCOs or other acceptable fill material such as virgin, native $\frac{3}{4}$ " stone from a quarry. The clean fill would be segregated at a source/facility that is free of environmental issues. Qualified environmental personnel would collect representative samples at a frequency consistent with CP-51 / Soil Cleanup Guidance (Table 4). The samples would be analyzed for Part 375 VOCs (EPA Method 8260), SVOCs (EPA Method 8270), pesticides/PCBs (EPA Method 8082/8081) and metals by an NYSDOH ELAP-certified laboratory. Acceptable backfill material would not exceed site SCOs.

2.3.5 In-Situ Groundwater Treatment

This section reviews several available groundwater treatment remedial alternatives for the Site and selects an alternative that is consistent with the remedial goals and objectives. For each alternative, the following discussion is provided:

- Description of the technology;
- Approach to the use of the technology at the Site; and
- Feasibility.

Free product has not been identified on-site, therefore, treatment technologies that are predominately focused on free product removal (i.e., steam injection, high vacuum extraction, dual phase extraction, surfactants, etc.) were not considered for evaluation.

Components and assumptions for three treatment technologies (thermal treatment, air sparging and chemical oxidation) were evaluated for the Site, and are discussed in the following paragraphs.

Thermal Treatment

Description of Technology

Thermal treatment technology heats the subsurface soil and groundwater in the target treatment zone to temperatures above the boiling point of the target compounds. Heat is generated via electrical resistance heating (ERH) of the subsurface. The heating of the subsurface is performed by electrodes that are placed into the ground within the targeted treatment zone. Each electrode is then connected to a power supply transformer to heat the subsurface to the desired temperature. The goal of the system is to use the natural resistivity of the subsurface to generate enough heat to maintain a temperature above the boiling point of the COCs. The increase in subsurface temperature would cause water and the contaminants to volatilize.

The volatilized contaminants and water vapor are captured in the unsaturated zone by a vapor recovery system. The vapor recovery system conveys captured vapors to the surface, where they are condensed, collected, separated, treated and disposed. Condensed water is typically disposed off-site, while contaminants in the uncondensed vapor stream are treated by activated carbon prior to discharge to the atmosphere.

Approach to Thermal Treatment at the Site

Electrodes would need to be installed within the basement of the Site through the contaminated zone on a maximum of 10-foot centers. The electrical conduits would need to be buried and/or cordoned off from site workers and future building occupants. High voltage service would be required and would need to be established with the local utility. The electrodes would need to be in-place for at least 3 months if not more. The vapor recovery and treatment system would need to be constructed and stored on site. This technology generates hot vapors and therefore there is a risk to the technicians required to operate and monitor the system. Even if this alternative could be safely and economically implemented, thermal treatment may not be feasible due to the very limited space available at the Site.

Feasibility

Thermal treatment using ERH is a technology that has shown some success in certain circumstances. However, ERH heating would require a dedicated soil vapor recovery and treatment system requiring frequent (biweekly to monthly) operational oversight which would significantly add to the total cost of the remediation. Additionally, there may not be sufficient space at the Site to accommodate such a system. Thermal heating does not justify additional

costs, as treatment would be consistent with chemical oxidation, but would take longer without appreciable additional benefit.

Air Sparging

Description of Technology

Air sparging is an in situ remedial technology that reduces concentrations of volatile constituents in petroleum products that are adsorbed to soils and dissolved in groundwater. This technology involves the injection of contaminant-free air into the subsurface saturated zone, enabling a phase transfer of hydrocarbons from a dissolved state to a vapor phase. The air is then vented through the unsaturated zone. This technology is typically used in conjunction with a vapor recovery system to remove the stripped contaminants. The vapor recovery system conveys captured vapors to the surface, where they are condensed, collected, separated, treated, and disposed. Condensed water is typically disposed off-site, while contaminants in the uncondensed vapor stream are treated by activated carbon prior to discharge to the atmosphere.

Approach to Air Sparging at the Site

Air sparge wells would need to be installed within the basement of the Site beneath the contaminated zone at depths and intervals as determined through pilot testing. Due to the potential for uncontrolled migration of vapor contaminants into the Site or nearby basements, a vapor extraction and treatment system would need to be used in conjunction with air sparging. Therefore, air sparging may not be feasible due to the limited space available at the Site. Additionally, vapor extraction may not be feasible due to the potential flooding of vapor extraction wells due to shallow water table conditions at the Site. Air sparging would also likely trigger hydraulic mounding through the down-hole introduction of pressurized air. There is a potential for this mounding to drive impacted groundwater away from the sparged zone and off-site.

Feasibility

Air sparging would require a dedicated soil vapor recovery and treatment system requiring frequent (biweekly to monthly) operational oversight which would significantly add to the total cost of the remediation. Additionally, there may not be sufficient space at the Site to accommodate such a system. The need for active extraction would also add up to operational costs and time, thereby making this remedy less effective than chemical oxidation.

In situ Chemical Oxidation (ISCO) – Selected Remedy

Description of Technology

ISCO involves injection of an aggressive chemical oxidant into the subsurface. A variety of oxidants are used in environmental applications; only the most potent can be used on fuel oil residuals. Therefore, only two general types of oxidants are applicable: hydrogen peroxide and persulfate. The easier to use alternative, permanganate, does not oxidize TPHs, benzene and naphthalene effectively. Due to excessive heat and steam generation associated with hydrogen peroxide use, which may affect the foundation of the building, it is not considered a viable treatment option. Therefore, activated sodium persulfate is the preferred oxidant included in this evaluation. Currently, alkaline-based activation for persulfate is thought to be one the most aggressive oxidation approaches and can degrade some fuel oil residuals.

Approach to ISCO at the Site

Injection of sodium persulfate would be performed using an estimated five direct push temporary injection points (see Figure 3). The alkaline activation of the persulfate would be performed by addition of ferrous iron into the ground. Prior to field implementation of ISCO, limited bench-scale testing, including a test for total soil oxidant demand (SOD) and dosage treatability tests, would be conducted.

Feasibility

Sodium persulfate with iron activation would be able to treat contaminants on the Site. Chemical oxidation is ideally suited to treat small areas, where petroleum mass is more concentrated. As such, chemical oxidation would be able to treat contaminants located within the saturated zone in the capillary fringe at the Site. ISCO would require significantly lesser treatment time, lesser operational oversight, and would therefore minimize cost. Therefore, this technology is most suitable for treatment at the site.

A Remedial Design report will be submitted for review and approval prior to the implementation of this aspect of the remedy. The Remedial Design will include dosing calculations, rates, and concentrations. The Remedial Engineer will oversee implementation and document operations. The in-situ treatment of VOC-impacted groundwater will be implemented using one application event (several injections over approximately three days).

2.3.6 Composite Cover System

A composite cover system will be installed to allow for restricted residential use of the Site. This composite cover system will be comprised of concrete building slab that will span the entire footprint of the Site. The cover system serves as an engineering control for the protection of human health by establishing an incomplete exposure pathway to residual site soils. Any fill material brought to the Site to meet development grade will meet the requirements set forth in 6 NYCRR Part 375-6.7(d).

2.3.7 Post-Remediation Groundwater Monitoring

As part of the Site Management Plan (refer to Section 5.3), groundwater samples would be collected from the three existing off-site wells. Following completion of RAWP implementation, quarterly groundwater monitoring would be implemented to document the effectiveness of the remedy. Groundwater would be sampled for one year (four monitoring events). The samples would be submitted to a NYSDOH ELAP-accredited laboratory for analysis of VOCs, SVOCs, and metals. The samples would be used to demonstrate a downward trend in groundwater VOC concentrations. A Groundwater Monitoring Report would be provided to NYSDEC following each monitoring event.

2.3.8 Worker, Public Health, and Environmental Protection

A site-specific HASP would be developed and enforced to protect on-site workers from accidents and acute and chronic exposures from the identified contaminated media on site. The public health would be protected by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures included in the CAMP. The CAMP would include continuous perimeter monitoring of dust and organic vapor utilizing DustTrak aerosol monitors and PIDs capable of recording data and calculating 15-minute averages. A field engineer would monitor Site perimeters for visible dust and odors.

2.3.9 Institutional Controls

An environmental easement would be recorded referencing institutional or engineering controls that are part of the selected remedy, which would be binding upon all subsequent owners and occupants of the property. The institutional controls would restrict the Site's use to restricted residential and include notice-of-use restrictions of the Site's soil. The engineering controls that would be included in the easement are the requirements for the maintenance of the composite cover system previously described in this alternative.

2.4 Evaluation of the Proposed Remedy

The following is an evaluation of the proposed remedy based on the NYSDEC BCP remedy evaluation criteria listed below. The first two criteria are considered “threshold criteria” and the remaining criteria are “balancing criteria”. A remedial alternative must meet the threshold criteria in order to be considered and evaluated further under the balancing criteria.

A. Protection of Human Health and Environment;	F. Implementability;
B. Standards, Criteria, and Guidance (SCG);	G. Cost Effectiveness;
C. Short-Term Effectiveness and Permanence;	H. Community Acceptance; and
D. Long-Term Effectiveness and Permanence;	I. Land Use
E. Reduction of Toxicity, Mobility, or Volume;	

Each criterion evaluation is prefaced by the NYSDEC description as provided in the DER-10 guidance document.

2.4.1 Overall Protection of Public Health and the Environment

Alternative I - The remedy would eliminate all pathways of exposure from on-site contaminated media. Remediating to Track 1 standards would result in the elimination of all on-site soil with Track 1 SCO exceedances. The on-site source of groundwater contamination would be removed. In addition, groundwater is not a source of drinking water in this area of New York City. The RAOs for public health and environmental protection would be met through the removal of all contaminated media at the Site, which would eliminate any possible ingestion, inhalation or dermal contact.

Alternative II – The Track 4 remedy would provide protection to public health and the environment similar to Alternative I. Under a Track 4 remedy, potential exposure pathways for ingestion, dermal contact or inhalation to residual impacted soil and groundwater would be incomplete due to the installation of a composite cover system (concrete slab). In addition, groundwater in Manhattan is not used as a source of drinking water. As an additional protective measure, but not as a required element of the remedy, potential exposure pathways for inhalation of impacted soil vapor would be incomplete due to the installation of a soil vapor mitigation system. The system would include a vapor barrier membrane for subsurface portions of the Site building and an active sub-membrane depressurization (SMD) system.

Public health would be protected during remediation activities under the two remedial alternatives by implementing a HASP and enforcing dust, odor, and organic vapor control and monitoring procedures when needed.

2.4.2 Standards, Criteria, and Guidance (SCG)

Alternative I - Remediating the Site to Track 1 Unrestricted Use standards would ensure compliance with all applicable SCGs listed in Section 2.1 due to the removal of all impacted on-site materials.

Alternative II - This remedy was designed to meet the requirements of a Track 4 Restricted Use Commercial SCOs. Alternative II complies with the SCGs.

Remedial alternatives would also comply with those SCGs that involve protection of the public health and environment during the remedial action by implementing and enforcing a site-specific HASP. OSHA requirements for on-site construction safety would be followed by the site Contractors.

2.4.3 Short-Term Effectiveness and Permanence

Alternative I - The most significant short-term adverse impacts and risks to the community would be the potential complications involved with designing support of excavation for buildings and roadways adjoining the Site. Increased truck traffic and operational noise levels would be necessary to haul out the soil excavated to achieve Track 1 standards, haul in the additional backfill and support excavation dewatering. The operation is estimated to require approximately 120 to 160 vacuum extraction dewatering trucks (estimate 4 trucks per day for 30 to 40 days) and forty 25-ton capacity dump truck trips to haul soil for disposal and backfill. Truck traffic would be routed on the most direct course using major thoroughfares where possible and flaggers would be used to protect pedestrians at Site entrances and exits. Additionally, waiting times associated with analysis of endpoint sampling and re-sampling may delay construction, leaving soils exposed for a longer time resulting in a potential increase in dust, odors, and organic vapor from the excavation. The effects of these potential adverse impacts to the community, workers and the environment would be minimized by implementing their respective control plans.

Alternative II - Short-term adverse effects are minimal in comparison to the Alternative I remedy. This is a result of the reduction in underpinning, truck traffic and related noise given that no additional soil removal is required as part of the Alternative II cleanup. Additionally, utility consumption for the Site could be reduced through the use of a solar powered blower system. The Track 4 remedy is the most sustainable approach, because fewer fossil fuel

natural resources are required and carbon emissions to the atmosphere are reduced. This Alternative also offers a reduction in potential exposure to dust, odors, and organic vapor from excavation activity.

Under the two remedial alternatives, dust would be controlled by the application of water spray on site, when and where needed. Engineering controls, such as slowing the pace of work, applying foam suppressant or covering portions of the excavation, would be used to minimize vapors and suppress odors when required. Work would be modified or stopped according to the action levels set in the CAMP.

2.4.4 Long-Term Effectiveness and Permanence

Alternative I - The Track 1 remedy would remove all contaminated media from the site exceeding Unrestricted Use SCOs for soil. The potential exists for residual VOC concentrations in groundwater and soil vapor due to off-site sources. Potential exposure by soil vapor VOC intrusion would be prevented by the installation of a vapor barrier at the Site. In addition, groundwater in this area of New York City is not used for drinking water. Therefore, the long-term effectiveness of this remedy would eliminate risks and satisfy the objectives of this criterion.

Alternative II - The magnitude of the remaining risks would be minimal because potential exposure pathways to the contaminated soil, groundwater, and soil vapor would be minimized by completion of the Track 4 remedy. The Site would be capped with concrete, which would eliminate exposure by ingestion or dermal exposure. As an additional protective measure, but not as a required element of the remedy, potential exposure from soil vapor VOC intrusion would be prevented by the installation of a vapor barrier membrane and an active SMD system. In addition, groundwater in this area of New York City is not used for drinking water. Therefore, the long-term effectiveness of this remedy would eliminate risks and satisfy the objectives of this criterion.

2.4.5 Reduction of Toxicity, Mobility, and Volume

Alternative I - The Track 1 remedy would permanently and significantly reduce the toxicity, mobility, and volume of contamination, because all contaminated soil and groundwater would be removed from the Site.

Alternative II - The majority of impacted soil was already removed from the Site during the excavation for a site-wide basement level. In addition, the combination of chemical oxidation to reduce groundwater impacts and the installation of the soil vapor mitigation system would address concerns related to the toxicity and mobility of impacted soil vapor and groundwater.

2.4.6 Implementability

Alternative I – The technical feasibility of implementing Alternative I is very low. The Alternative would be very technically challenging due to the anticipated depths of Track 1 exceedances (approximately 6 feet below basement grade); with impacted areas extending below the water table and well below estimated foundation components of adjacent buildings. Extensive excavation support including high risk underpinning of the site building and adjacent buildings and dewatering would be required to remove material exceeding the Unrestricted Use SCOs. The feasibility is also very low considering it would rely on coordination with adjacent property owners to allow underpinning of their structure. The risk of damage to adjacent property buildings and impact to occupants is highest for the Alternative I remedy.

Alternative II - The technical feasibility of implementing the Alternative II remedy is high. The remedy uses typical remediation methods to address site impacts and contractors experienced in implementing the described remedy are readily available in the area of the Site. The risk of damage to adjacent property buildings and impacts to occupants is lowest for the Alternative II remedy.

2.4.7 Cost Effectiveness

Alternative I - Based on the assumptions detailed for Alternative I, including removal of all soil exceeding Unrestricted Use SCOs, dewatering, import backfill, and the vapor barrier, the estimated remediation cost of a Track 1 cleanup is approximately \$2 million. As the site would be remediated to an unrestricted-use level, there are no operations, maintenance, or monitoring costs associated with the proposed remedy. Table 1 details the individual cost components used for the estimate. Alternative I is the least cost effective alternative, considering the alternative of managing lower level contaminants in place.

Alternative II - Based on the assumptions detailed for Alternative II, the estimated remediation cost to achieve a Track 4 cleanup is approximately \$348,000. Alternative II remediation includes the removal of soil exceeding Protection of Groundwater SCOs to the extent discussed herein and the application of a chemical oxidant, sodium persulfate, to treat residual groundwater contamination. Alternative II engineering and administrative controls include a composite cover system and an environmental easement. In addition, a Site Management Plan would be required to assure compliance with the remediation goal and objectives. Table 2 details the individual cost-components for this cost estimate. Alternative II presents the most cost effective alternative for achieving the remediation goals and objectives.

2.4.8 Community Acceptance

The two remedial alternatives should be acceptable to the community because the potential exposure pathways to on-site contamination would be eliminated upon completion of the respective alternatives and the Site would be redeveloped into an attractive use. Alternative II is likely to have higher community acceptance based on the reduced truck traffic and noise and elimination of underpinning.

2.4.9 Land Use

The current and proposed land use of the site and its surroundings are compatible with the selected remedy. The development at the Site includes the completion of a five-story plus penthouse townhouse building with a basement. Review of previous environmental and public documents for the Site has led to the following conclusions:

1. The current and proposed use of the Site and its surroundings would be compatible with the selected remedy. The proposed development of the Site and the use of its surroundings have been documented by the Volunteer in the BCP application.
2. The use proposed for the Site conforms with applicable zoning laws or maps or the reasonably anticipated future use of the site.
3. The proposed use conforms to historical and/or recent development patterns in the area.
4. To the best of our knowledge, the Site does not fall within the boundaries of an existing Brownfield Opportunity Area (BOA).
5. According to the New York City Planning Commission Zoning Map 6b, the Site is located in a C2-8 commercial district, which allows for residential use. The proposed use is consistent with this planning initiative.
6. The site is located in an urban setting that is characterized by residential, commercial office, commercial retail developments, and parks. There are no areas zoned for agricultural use in the proximity of the Site.
7. There are no environmental justice concerns.
8. There are no federal or state land designations.
9. The population growth patterns and projections support the proposed land use.

10. The Site is accessible to existing infrastructure.

11. There are several City Landmarks and National Register listed sites within ½-mile of the Site. The below table lists City Landmarks (L), Interior Landmarks (INT L) and Properties Listed on National Register (NR) of Historic Places within approximately ½-mile of the Site:

Property/Site	Address
House at 160 East 92 Street	160 east 92 Street
House at 122 East 92 Street	122 East 92 Street
House at 120 East 92 Street	120 East 92 Street
Carnegie Hill Historical District	Bounded by Fifth Avenue, 96 Street, Lexington Avenue, and 86 Street
The Synod of Bishops of the Russian Orthodox Church	1190 Park Avenue
House at 67 East 93 Street	House at 67 East 93 Street
Romanian Permanent Mission to the United Nations	60 East 93 Street
House at 56 East 93 Street	56 East 93 Street
House at 1321 Madison Avenue	1321 Madison Avenue
Houses at 146-156 East 89 Street	146-156 East 89 Street
Madison Avenue Front of Squadron "A" Armory	Madison Avenue between 94 and 95 Streets
Edith Fabri House	7 East 95 Street
Mrs. Amory S. Carhart House (now Lycee Francais De New York)	3 East 95 Street
National Audobon Society	1130 5 Avenue
Felix Warburg Mansion	1109 5 Avenue
John B. Trevor House	11 East 91 Street
John Henry Hammond House	9 East 91 Street
James A. Burden House	7 East 91 Street
Otto Kahn House	1100 5 Avenue
Andrew Carnegie Mansion	1095 5 Avenue
1261 Mansion Avenue Apartments	1261 Madison Avenue
House at 15 East 90 Street	15 East 90 Street
The Solomon R. Guggenheim Museum	1070 5 Avenue
Sources: NYS Historic Preservation Office, NYC.gov NYCityMap	

12. With the exception of the East River, approximately 1,500 feet east of the Site, the Site is not located in close proximity to important federal, state or local natural resources, including waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species.

13. Municipal water supply wells are not present in this area of New York City; therefore, groundwater from the Site cannot affect municipal water supply wells or recharge areas. Groundwater flow in the area is generally east, toward the East River.
14. According to FEMA flood maps, the Site is not located within a flood plain. However, a Special Flood Hazard Area subject to inundation by the 1% Annual Chance Flood is located approximately 1,100 feet east of the Site.
15. There are no known current institutional controls in effect at the Site.

2.5 Recommended Remedial Alternative Selection

Based on the evaluation of the remedial alternatives described above, both alternatives would be protective of human health and the environment and meet the remedy selection criteria. Implementation of Alternative I provides for removal of all impacted, on-site soil contamination exceeding Track 1 SCOs; however, the extended excavation depths required to remove all soil exceeding Track 1 SCOs is high risk and not considered practical. The additional excavation required to achieve a Track 1 cleanup is expected to extend below the water table and would substantially complicate support of excavation design for adjoining buildings and roadways, increase truck traffic, and prolong potential exposure to noise and contaminated dust associated with additional excavation.

Alternative II provides an effective remedy that achieves the remedial objectives. The exposure pathways to residual contaminants are controlled through the installation of a composite cover system. As an additional but not required protective measure, potential exposure pathways for inhalation of impacted soil vapor would be incomplete due to the installation of a soil vapor mitigation system.

Unlike Alternative I, Alternative II can be feasibly and practically implemented in a cost-effective manner while providing the same overall protection to human health and the environment. Therefore, Alternative II is the recommended remedial alternative for this Site.

3.0 TECHNICAL PLANS FOR THE PROPOSED REMEDY

3.1 General

The Remedial Engineer (defined in Section 6), will oversee remedial action planning and implementation that are part of the proposed remedy. The Remedial Engineer is responsible for ensuring that the remedial work conforms to the terms defined in this RAWP. The Remedial Engineer will prepare plans and specifications as required to implement the RAWP, select an experienced Remediation Contractor and oversee implementation of the work.

The Remedial Engineer will provide representatives for full-time oversight of all remedial activities. The activities that occur during site remediation will be properly documented in periodic reports and in the Final Engineering Report (FER) as described in Section 5.

Site development activities are prohibited from interfering or otherwise impairing remedial activities that are part of this RAWP. Bevin Associates LLC and associated parties preparing the remedial documents submitted to the state will retain parties performing this work that are responsible for the safe performance of all invasive work and the structural integrity of structures that may be affected by remediation operations (such as building foundations, roadways, sidewalks, utilities, etc.).

3.2 Pre-Construction Meeting with NYSDEC

This meeting must take place prior to the start of major construction activities

3.3 Emergency Contact Information

An emergency contact sheet with names and phone numbers is included in Table 3. This table defines the specific project contacts for use by NYSDEC and NYSDOH in the case of a day or night emergency.

3.4 Remedial Action Costs

The total estimated cost of the Remedial Action is \$355,000. An itemized and detailed summary of estimated costs for all remedial activity is attached as Table 2. This will be revised based on actual costs and submitted as an appendix to the FER.

3.5 Remedial Facilities

A fence placarded with the appropriate signs will be installed and/or maintained around the Site to control access. A project sign will be erected at the entrance to the Site prior to the start of

any remedial activities. The sign will indicate that the project is being performed under the New York State Brownfield Cleanup Program. The sign will meet the detailed specifications provided by the NYSDEC Project Manager and contained in Appendix B. Sidewalks adjacent to the Site will be maintained with barriers to protect the public.

3.5.1 Utility Marker and Easements Layout

The Volunteer and its contractors are solely responsible for the identification of utilities that might be affected by work under the RAWP and implementation of all required, appropriate, or necessary health and safety measures during performance of work under this RAWP. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this RAWP. The Volunteer and its contractors must obtain any local, State or Federal permits or approvals pertinent to such work that may be required to perform work under this RAWP. Approval of this RAWP by NYSDEC does not constitute satisfaction of these requirements.

The presence of utilities and easements on the Site has been investigated by the Remedial Engineer. It has been determined that no impediment to the planned work under this Remedial Action Work Plan is posed by utilities or easements on the Site.

3.5.2 Site Fencing

The Site perimeter will be secured with gated fencing. The purpose of the fencing is to limit Site access to authorized personnel, protect pedestrians from Site activities, and maintain Site security.

3.6 Waste Characterization

Waste characterization samples will be collected from all remediation-derived waste as required to meet disposal facility requirements. This activity will be coordinated and overseen by the Remedial Engineer. Samples will be collected to be representative of the material to be disposed at a frequency consistent with disposal facility requirements.

Laboratory tests for characterization of a waste stream typically include all or a subset of the following list. The actual testing will be determined by the facility's permit requirements.

- Total petroleum hydrocarbons (TPH) by gas chromatograph/ photoionization device (GC/PID);
- Total VOCs, Method 8260;
- Total SVOCs, Method 8270;

- Total PCBs, Method 8082;
- Total metals (14), Method 6010B;
- Total cyanide;
- Hexavalent Chromium;
- Paint Filter;
- RCRA Characteristics - Ignitability, corrosivity, and reactivity;
- Toxic Characteristics Leaching Procedure (TCLP) VOCs, SVOCs, metals and pesticides and herbicides; and
- Diesel Range Organics (DRO) and Gasoline Range Organics (GRO).

Characterization samples collected will be submitted to an ELAP-approved laboratory for analysis. Analytical reports will be maintained and copies will be available for inspection in the field and will be included in the FER (described in section 5).

3.7 Soil and Sediment Erosion Plan

It is anticipated that soil and sediment erosion controls will not be required considering the Site remediation operations are occurring within a basement in the middle of an urban area making migration of soil and sediment off-site unlikely.

3.8 Dust, Odor, and Vapor Control/Monitoring Plan

This dust, odor, and organic vapor control and monitoring plan (DOOVCM Plan) was developed in accordance with the NYSDOH Generic Community Air Monitoring Plan (CAMP) and OSHA standards for construction (29 CFR 1926). Remediation activities will be monitored for dust and odors by the Remedial Engineer's field inspector. Continuous monitoring on the perimeter of the work zones for odor, VOCs, and dust will be required for all ground intrusive activities such as site remediation operations and handling activities. The work zone is defined as the general area in which machinery is operating in support of remediation activities. Two stationary air-monitoring stations will be set up at Site perimeters (one upwind and one downwind) during intrusive Site work for continuous monitoring. Each station will include a PID and a DustTrak aerosol monitor or equivalent. A portable PID will be used to monitor the work zone and for periodic monitoring for VOCs during activities such as soil sampling. Action levels for the protection of the community and visitors are set forth in the CAMP that will be included in the HASP. Action levels for site worker respiratory use will also be set forth in the HASP.

Work practices to minimize odors and vapors will be used during all remediation activities. Offending odor and organic vapor controls may include the application of foam suppressants or

tarps over the odor or VOC source areas. Foam suppressants may include biodegradable foams applied over the source material for short-term control of the odor and VOCs.

If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include the use of chemical odorants in spray or misting systems and the use of staff to monitor odors in surrounding neighborhoods.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems. CAMP procedures are included in Appendix D.

3.9 Protective Measure Plan

Protective measure plans have been developed to effectively deal with unexpected discoveries of additional contaminated media on site. During remedial activities, soil will be continuously monitored by the Remedial Engineer's field representatives using a PID and visual and olfactory field screening techniques. Remediation derived waste material will be disposed off-site at a permitted facility able to receive the material based on the characterization data.

3.10 Health and Safety Plan

The Remedial Engineer prepared a Site-specific HASP, which is included as Appendix C. The HASP will apply to all remedial and construction-related work onsite. The HASP provides a mechanism for establishing on-site safe working conditions, safety organization, procedures, and personal protective equipment requirements. The HASP meets the requirements of 29 CFR 1910 and 29 CFR 1926 (which includes 29 CFR 1910.120 and 29 CFR 1926.65). The HASP includes, but is not limited to, the following components listed below:

- Organization and Identification of key personnel;
- Training requirements;
- Medical surveillance requirements;
- List of site hazards;
- Excavation safety;
- Work zone descriptions;
- Personal safety equipment and protective clothing requirements;
- Decontamination requirements;

- Standard operating procedures;
- Protective measure Plan;
- Community Air Monitoring Plan; and
- Material Safety Data Sheets.

3.11 Quality Assurance Project Plan

The Remedial Engineer has prepared a Quality Assurance Project Plan (QAPP) that describes the quality control components that will ensure that the proposed remedy accomplishes the remedial goals, remedial action objectives, and is completed in accordance with the design specifications. The QAPP is provided as Appendix E and includes:

- Responsibilities of key personnel and their organizations for the proposed remedy;
- Qualifications of the quality assurance officer;
- Sampling requirements including methodologies, quantity, volume, locations, frequency, acceptance and rejection criteria; and
- Description of the reporting requirements for quality assurance activities including weekly quality assurance review reports, periodic quality assurance and quality control (QAQC) audits, and other report and data submissions.

3.12 Field Sampling Plan

The Remedial Engineer has prepared a Field Sampling Plan (FSP) that define the methods and procedures to be used for conducting any field sampling at the Site. The FSP is provided as Appendix F. The components include:

- Soil sample collection, identification and custody procedures;
- Overview of field instruments and calibration requirements;
- Decontamination procedures for field equipment and sampling supplies; and
- Air monitoring and general field guidelines.

3.13 Citizen Participation Plan

Before the RAWP is approved by the NYSDEC, the RE, on behalf of Bevin Associates LLC, will place the draft RAWP, along with a Fact Sheet approved by NYSDEC, in the document repository. The Fact Sheet will also be mailed to all of the entities on the Site Contact List found in the Citizen Participation Plan. These notifications will precede a 45-day public comment period on the RAWP. After the NYSDEC approves the RAWP, the RE, on behalf of

Bevin Associates LLC, will mail a Pre-Construction Notice, including a project Fact Sheet approved by NYSDEC, to all entities on the Site Contact List.

After the remedial action has been completed, a FER will be prepared by a New York State-licensed Professional Engineer, and submitted to NYSDEC for review and final approval. Upon submission of this report to NYSDEC and prior to its approval, the RE, on behalf of Bevin Associates LLC, will provide notice to all entities on the Site Contact List, in the form of a cover letter and associated Fact Sheet (approved by NYSDEC), indicating that the remedy is complete and the FER and Site Management Plan have been submitted for final review.

4.0 SCHEDULE

Implementation of the Track 4 remedial activities are anticipated to take approximately 4 to 6 weeks. Within 90 days of completion of all remedial activities at the Site, a Final Engineering Report (FER) will be submitted to NYSDEC as detailed in Section 5.2. A Gannt chart showing a detailed project schedule is included in Appendix G.

5.0 ENGINEERING CONTROLS

5.1 Composite Cover System

Exposure to residual contaminated soils will be prevented by an engineered, composite cover system that will be built on the Site. This composite cover system will be comprised of concrete building slab that will span the entire footprint of the Site.

A Soil Management Plan will be included in the Site Management Plan and will outline the procedures to be followed in the event that the composite cover system and underlying residual contamination are disturbed after the Remedial Action is complete. Maintenance of this composite cover system will be described in the Site Management Plan in the FER.

5.2 Treatment Systems

Prior to field implementation of ISCO, bench-scale testing, including a test for total soil oxidant demand (SOD) and dosage treatability tests, will be conducted as necessary. Design plans and a work schedule will be submitted to NYSDEC for injection of sodium persulfate. All as-built drawings, diagrams, calculation and manufacturer documentation for treatment systems will be presented in the FER.

5.3 Soil Vapor Mitigation System

As an additional protective measure, but not as a required element of the remedy, measures to mitigate potential soil vapor intrusion into the planned on-site building would include an engineered vapor barrier membrane and a SMD system. The vapor barrier membrane would be a minimum of 20 mils thick and would be installed below the new basement slab.

The proposed vapor barrier membrane and SMD system design details are provided as Appendix H. The SMD system was developed in general accordance with the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York. The system consists of a sub-membrane collection layer (Cupolex®, which comprises arrays of interlocking hardened plastic domes) and vapor conveyance piping to an active electric blower located above the roof. A vapor barrier would be installed above the Cupolex® layout and would extend at least one foot up the concrete basement sidewalls. The Remedial Engineer will oversee implementation and document operations. All as-built drawings, diagrams, calculation and manufacturer documentation for the vapor barrier and SMD system will be presented in the FER. The blower fan would remain in continuous operation until permission to discontinue its' use is granted in writing by NYSDEC, at which point the active blower system would be transitioned to a passive system through the use of a wind turbine.

A Site Management Plan will outline the procedures to be followed in the event that the soil vapor mitigation system is disturbed after the development is complete. Maintenance of the soil vapor mitigation system will be described in the Site Management Plan in the FER.

6.0 ENGINEERING CONTROL SYSTEMS

6.1 Criteria for Completion of Remediation/Termination of Remedial Systems

6.1.1 Composite Cover System

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

6.1.2 Groundwater Treatment

Groundwater monitoring activities to assess ISCO treatment effectiveness will continue, as determined by NYSDOH and NYSDEC, until residual groundwater concentrations are found to be below NYSDEC standards or have become asymptotic over an extended period. Monitoring will continue until permission to discontinue is granted in writing by NYSDEC and NYSDOH. Monitoring activities are outlined in the Monitoring Plan of the Site Management Plan (SMP).

7.0 INSTITUTIONAL CONTROLS

After the remedy is complete, the Site may have residual contamination remaining in place. Engineering Controls (ECs) for the residual contamination have been incorporated into the remedy to render the overall Site remedy protective of public health and the environment. Two elements have been designed to ensure continual and proper management of residual contamination in perpetuity: an Environmental Easement and a Site Management Plan. These elements are described in this Section. A site-specific Environmental Easement will be recorded with New York County to provide an enforceable means of ensuring the continual and proper management of residual contamination and protection of public health and the environment in perpetuity or until released in writing by NYSDEC. It requires that the grantor of the Environmental Easement and the grantor's successors and assigns adhere to all Engineering and Institutional Controls (ECs/ICs) placed on this Site by this NYSDEC-approved remedy. ICs provide restrictions on Site usage and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. The SMP describes appropriate methods and procedures to ensure compliance with all ECs and ICs that are required by the Environmental Easement. Once the SMP has been approved by the NYSDEC, compliance with the SMP is required by the grantor of the Environmental Easement and grantor's successors and assigns.

7.1 Environmental Easement

An Environmental Easement, as defined in Article 71 Title 36 of the Environmental Conservation Law, is required when residual contamination is left on-Site after the Remedial Action is complete. If the Site will have residual contamination after completion of all Remedial Actions than an Environmental Easement is required. As part of this remedy, an Environmental Easement approved by NYSDEC will be filed and recorded with the New York County Clerk. The Environmental Easement will be submitted as part of the Final Engineering Report.

The Environmental Easement renders the Site a Controlled Property. The Environmental Easement must be recorded with the New York County Clerk before the Certificate of Completion can be issued by NYSDEC. A series of Institutional Controls are required under this remedy to implement, maintain and monitor these Engineering Control systems, prevent future exposure to residual contamination by controlling disturbances of the subsurface soil and restricting the use of the Site to residential use(s) only. These Institutional Controls are requirements or restrictions placed on the Site that are listed in, and required by, the Environmental Easement. Institutional Controls can, generally, be subdivided between controls that support Engineering Controls, and those that place general restrictions on Site usage or other requirements. Institutional Controls in both of these groups are closely integrated with

the Site Management Plan, which provides all of the methods and procedures to be followed to comply with this remedy.

The Institutional Controls that support Engineering Controls are:

- Compliance with the Environmental Easement by the Grantee and the Grantee's successors and adherence of all elements of the SMP is required;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- A composite cover system consisting of the concrete building slab must be inspected, certified and maintained as required in the SMP;
- All Engineering Controls on the Controlled Property must be inspected and certified at a frequency and in a manner defined in the SMP;
- Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
- Data and information pertinent to Site Management for the Controlled Property must be reported at the frequency and in a manner defined in the SMP;
- On-Site environmental monitoring devices, including but not limited to, [groundwater monitor wells and soil vapor probes], must be protected and replaced as necessary to ensure proper functioning in the manner specified in the SMP; and
- Engineering Controls may not be discontinued without an amendment or extinguishment of the Environmental Easement.

Adherence to these Institutional Controls for the Site is mandated by the Environmental Easement and will be implemented under the Site Management Plan (discussed in the next section). The Controlled Property (Site) will also have a series of Institutional Controls in the form of Site restrictions and requirements. The Site restrictions that apply to the Controlled Property are:

- Vegetable gardens and farming on the Controlled Property are prohibited;
- Use of groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose;
- All future activities on the Controlled Property that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in the Site Management Plan;
- The Controlled Property may be used for [usage type: e.g. restricted commercial] use only, provided the long-term Engineering and Institutional Controls included in the Site Management Plan are employed;

- The Controlled Property may not be used for a higher level of use, such as [restricted residential] use without an amendment or extinguishment of this Environmental Easement; and
- Grantor agrees to submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow. This statement must be certified by an expert that the NYSDEC finds acceptable.

7.2 Site Management Plan

Site Management is the last phase of remediation and begins with the approval of the FER and issuance of the Certificate of Completion (COC) for the Remedial Action. The Site Management Plan is submitted as part of the FER but will be written in a manner that allows its removal and use as a complete and independent document. Site Management continues in perpetuity or until released in writing by NYSDEC. The property owner is responsible to ensure that all Site Management responsibilities defined in the Environmental Easement and the Site Management Plan are performed.

The SMP is intended to provide a detailed description of the procedures required to manage residual contamination left in place at the Site following completion of the Remedial Action in accordance with the BCA with the NYSDEC. This includes: (1) development, implementation, and management of all Engineering and Institutional Controls; (2) development and implementation of monitoring systems and a Monitoring Plan; (3) development of a plan to operate and maintain any treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual); (4) submittal of Site Management Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and (5) defining criteria for termination of treatment system operation.

To address these needs, this SMP will include four plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems; and (4) a Site Management Reporting Plan for submittal of data, information, recommendations, and

certifications to NYSDEC. The SMP will be prepared in accordance with the requirements in the May 2010 NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation and the guidelines provided by NYSDEC.

Site management activities, reporting, and EC/IC certification will be scheduled on a certification period basis. The certification period will be annual. The Site Management Plan will be based on a calendar year and will be due for submission to NYSDEC by March 1 of the year following the reporting period.

The Site Management Plan in the FER will include a monitoring plan for groundwater at the down-gradient Site perimeter to evaluate Site-wide performance of the remedy.

No exclusions for handling of residual contaminated soils will be provided in the SMP. All handling of residual contaminated material will be subject to provisions contained in the SMP.

8.0 REPORTING

Periodic reports and a FER will be required for the remedial action. The Remedial Engineer responsible for certifying all reports will be an individual licensed to practice engineering in the State of New York; Joel Landes, P.E. of Langan, will have this responsibility. Should Mr. Landes become unable to fulfill this responsibility, another suitably qualified New York State professional engineer will take his place. In addition to the periodic reports and the FER, copies of all the contractor documents will be submitted to the NYSDEC.

8.1 Progress Reporting

Periodic progress reports will be provided by electronic media to NYSDEC's project manager weekly during remedial action, and monthly during general construction activities, until all ground surfaces have been covered with barriers or acceptable soil. Initial submissions will be electronic and a hard copy of all the reports will be included in the FER, which is submitted at the end of all remediation activities. Information included in the periodic progress reports will, in accordance with DER-10, include:

1. Reporting of all remedial actions accomplished during the reported period;
2. Proposed modifications to the approved RAWP;
3. Reporting of problems and delays to the RAWP, along with proposed corrections and a revised schedule;
4. Planned remedial activities during the next work period;
5. Tabulation and preliminary analysis of sample results received;
6. Listing of all types and quantities of waste generated and disposed of during the reporting period; and
7. Support documentation as required.

8.2 Final Engineering Report

A FER will be submitted to the NYSDEC Project Manager with 90 days of completing the remedial action. This FER will include the following:

1. Certification by the Project Remedial Engineer that the data generated was useable and met the remedial requirements;

2. Certification by the Project Remedial Engineer that any financial assurance mechanisms required by the NYSDEC have been executed;
3. Certification by the Project Remedial Engineer that the remedial work conformed to the RAWP;
4. Certification by the Project Remedial Engineer that dust, odor, and vapor control measures were implemented during invasive work and conformed with the RAWP;
5. Certification by the Project Remedial Engineer that all the remedial waste was transported and disposed in accordance with the RAWP;
6. Certification by the Project Remedial Engineer that the source approval and sampling of imported acceptable fill was completed in a manner consistent with the methodology of the RAWP;
7. Summary of the remedy from the decision document;
8. Summary by area of concern of all remedial actions completed;
9. Description of any problems encountered and their resolutions;
10. Description of changes to the design documents and the reasons for them;
11. Quantities and concentration of contaminants removed;
12. Description of the deviations from the approved RAWP;
13. Listing of waste streams, quantity of materials disposed, and where they were disposed;
14. Analytical QA/QC completed for the environmental media sampling during the remedial activities, including DUSR or other data validation;
15. List of the remediation standards applied to the remedial actions;
16. List of all applicable local, regional, and national governmental permits, certificates, or other approvals required for the remedial and development work;
17. Tables and figures containing all pre- and post-remedial data, including volumes of soil removed (as applicable);

18. Description of source and quality of fill (as applicable);
19. "As-built" drawings including remediation areas, vapor mitigation system, and permanent structures;
20. Air quality and dust monitoring screening data and map;
21. Copies of all the submitted periodic reports; and
22. Copies of all manifests of off-site transport of waste material.

All documents and reports submitted to the NYSDEC will be in both hard copy and in digital format on CD. These digital documents shall be in PDF form and, where appropriate, supplemented by photos and Microsoft Excel files. Laboratory analytical data will be submitted in an electronic data deliverable (EDD) format that complies with the NYSDEC's electronic data warehouse standards.

8.3 Site Management Plan and Environmental Easement

The SMP will be developed near the completion of the proposed remedy, coinciding with the submission of the FER, in accordance with the applicable provisions of DER-10. The SMP will be designed to maintain the institutional and engineering controls and to provide inspection and evaluation frequencies to verify the protection of human health and the environment at the Site. Specifically, the effectiveness of the engineering controls will be evaluated to confirm that the engineering controls are intact and the institutional controls are adhered to and enforced. A licensed engineer will certify the results of this inspection and review in a report submitted to the NYSDEC within 90 days after the anniversary of the certificate-of-completion date. Any lapses in the engineering or institutional controls noted in the annual review will be required to be corrected expeditiously and the NYSDEC notified of the correction. The SMP includes:

1. Introduction with purpose, summary of remediation, and site conditions;
2. List of required engineering and institutional controls;
3. Monitoring plan that includes annual inspection and review requirements;
4. Post-remediation groundwater monitoring plan;
5. Site maintenance requirements;
6. SMP Citizen Participation Plan;

7. Personnel organization and responsibilities;
8. Health and Safety Plan;
9. Records and forms;
10. Emergency Protective measure Plan; and
11. Copies of environmental easement and applicable site plans, including electronic versions.

The environmental easement will reference the required institutional controls. These controls include the following notices and requirements:

- Notice to future property owners of the site's environmental condition after the remedial action and of any use restrictions placed on the Site;
- Notice that the Site cannot be developed for unrestricted use without further remediation and the approval of NYSDEC;
- Requirement of immediate corrective action if the soil vapor mitigation system has been compromised;
- Requirement of prior notice to the NYSDEC and involved on-site workers of ground intrusive activities and the potential contaminated media they may encounter. Excluded from the notification are typical utility repairs and similar work that is performed under a HASP included in the SMP plan; and
- Copy of the SMP plan.

The Engineering controls required by the selected alternative include a site cap, vapor barrier membrane, and a sub-membrane depressurization system. These controls will be installed to mitigate potential exposure to VOCs from residual soil and groundwater impacts and will be installed throughout the entire basement footprint.

9.0 PROJECT ORGANIZATION

This Section presents the anticipated project organization and associated roles, including key personnel, descriptions of duties, and lines of authority in the management of the RAWP. Information regarding the organizations/personnel and their associated responsibilities is provided below.

9.1 NYSDEC

NYSDEC, Region 2- Division of Remediation, will serve as the lead regulatory agency for this remediation. The NYSDEC Project Manager, Mr. Shaun Bollers, will provide and coordinate regulatory oversight and direction.

9.2 Owner/Developer/Volunteer

As owner of the site, Bevin Associates LLC will be responsible for implementing the voluntary cleanup of the Site. General responsibilities of Bevin Associates LLC are set forth in the BCP agreement. To assist in the remediation implementation, Bevin Associates LLC will contract with a Construction Manager and has contracted with a Remedial Engineer, Joel Landes, P.E. of Langan.

9.3 Remedial Engineer

The Remedial Engineer will coordinate the work of other contractors and subcontractors to Bevin Associates LLC for the services associated with the site preparation, soil characterization, removal and disposal, air monitoring, emergency spill response services (if necessary), and management of waste transport and disposal. The Remedial Engineer selected by Bevin Associates for this project, Mr. Joel B. Landes, P.E., of Langan, will provide full-time engineering observation services for the duration of the remedial activities. The Remedial Engineer will document that the remedial activities are conducted in accordance with this RAWP and associated plans submitted by the Construction Manager. The Remedial Engineer will be responsible for certifying the construction was completed in substantial conformance with the approved RAWP, and/or approved field changes. In addition to oversight and final engineering certification, the Remedial Engineer may prepare and/or review pre-remedial plans such as the HASP, CAMP and other appropriate plans.

9.4 Analytical Laboratory and Data Validation Contractor

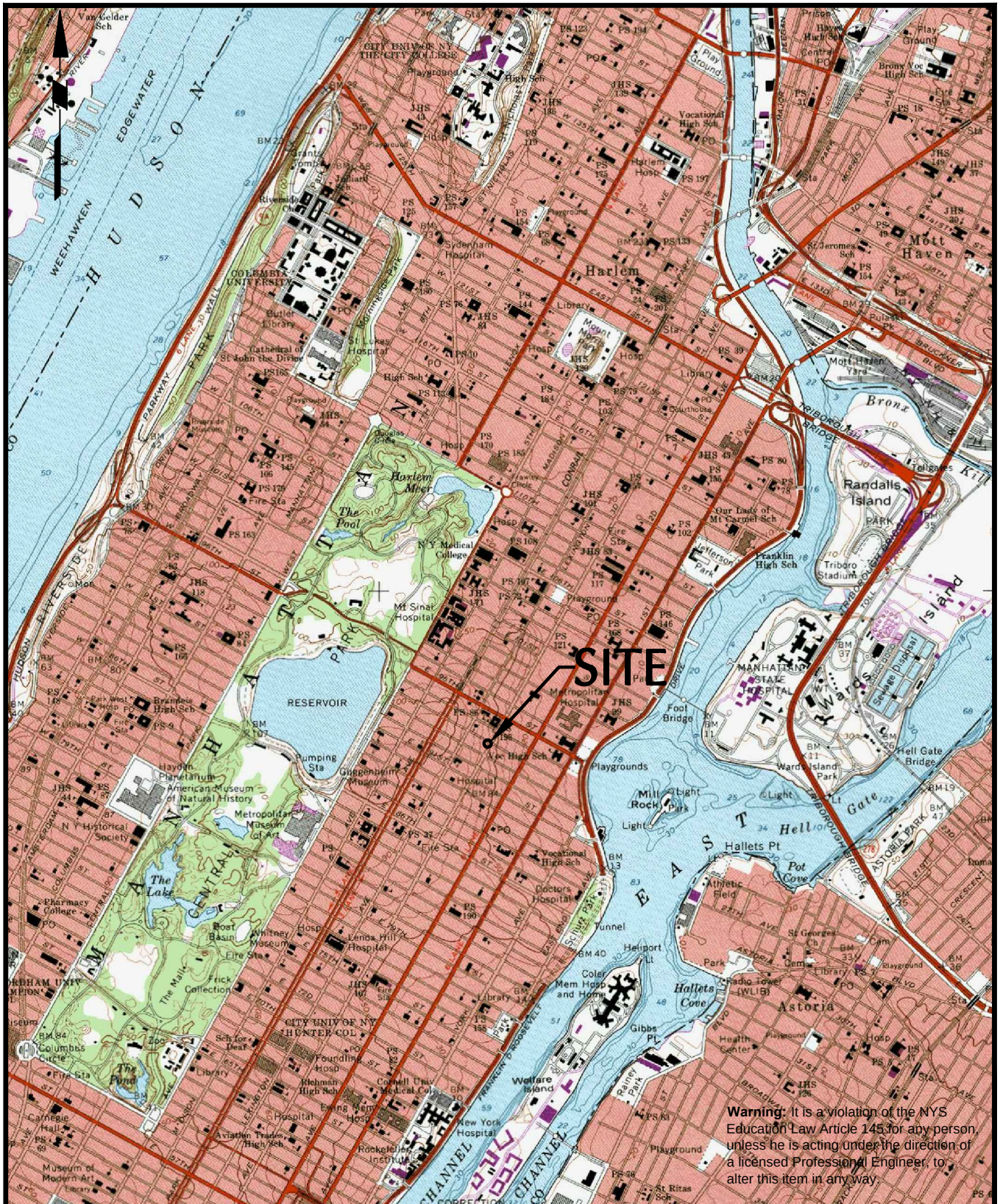
A NYSDOH-certified, ELAP-accredited laboratory will provide analytical services required for this project. The laboratory will be provided with the necessary information to complete the quality

control measures in accordance with procedures described in the QAPP. The Data Validation Contractor will be a third party contractor qualified in data analysis.

9.5 Off-Site Disposal Facilities

Any contaminated excavated materials will be transported to and disposed of at licensed, permitted disposal facilities. Transportation to these facilities will be via legally permitted (such as permits required in NYCRR Part 364 and NYCRR Part 360) and NYSDEC-acceptable methods.

FIGURES



Warning: It is a violation of the NYS Education Law Article 145 for any person, unless he is acting under the direction of a licensed Professional Engineer, to alter this item in any way.

SOURCE: PORTION OF USGS CENTRAL PARK QUADRANGLE MAP, 1995



21 Penn Plaza, 8th Floor New York, NY 10001
P: 212.479.5400 F: 212.479.5444
www.langan.com

NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA
NEVADA VIRGINIA CALIFORNIA

NJ Certificate of Authorization No: 24GA27996400

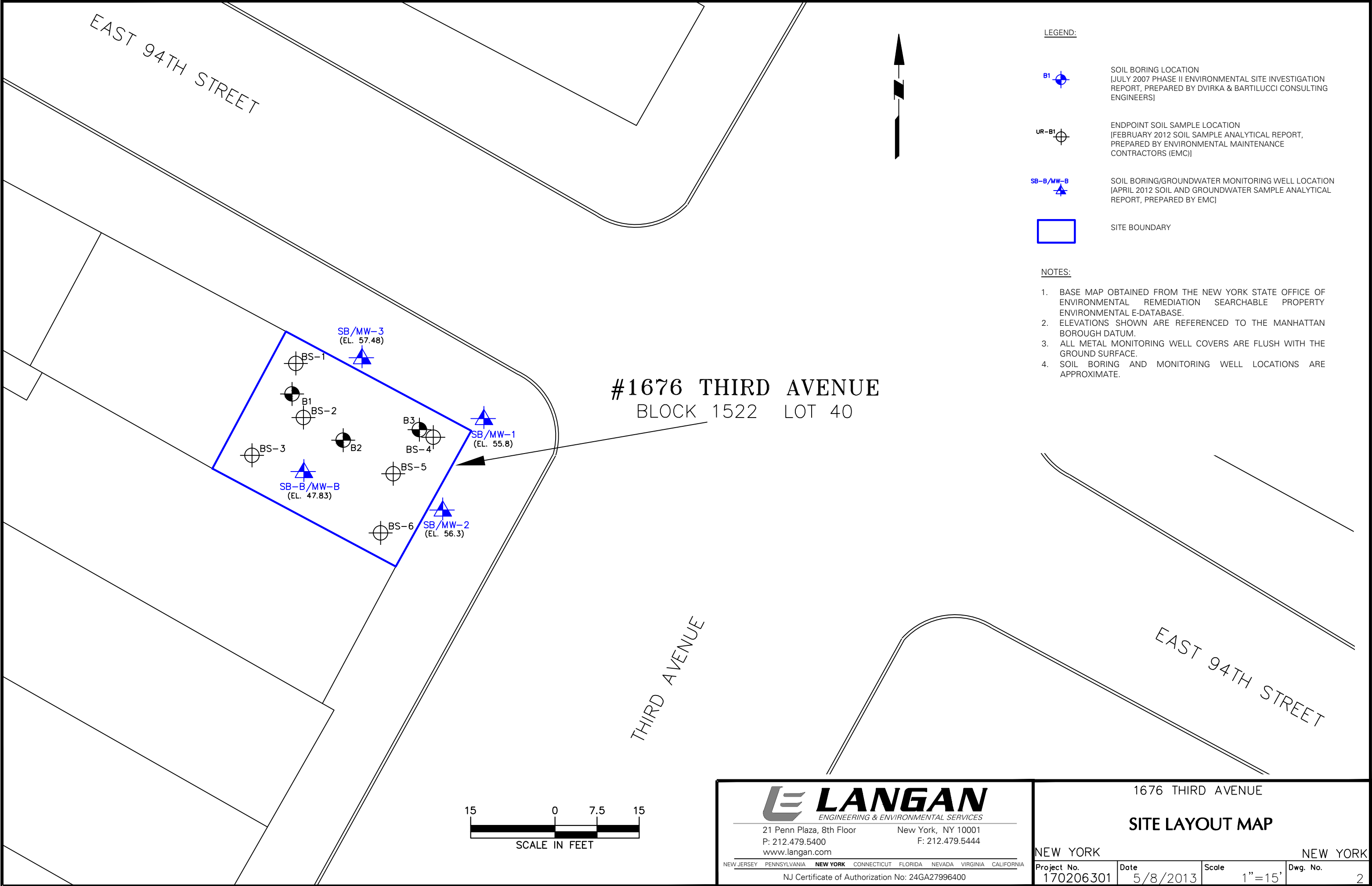
1676 THIRD AVENUE SITE LOCATION MAP

NEW YORK

NEW YORK

Project No.	Date	Scale	Dwg. No.
170206301	5/8/13	1"=2000'	1

© 2010 Langan Engineering and Environmental Services Inc.



© 2010 Langan Engineering and Environmental Services Inc.

EAST 94TH STREET



LEGEND:



SITE BOUNDARY



PROPOSED CHEMICAL OXIDATION INJECTION WELL LOCATION

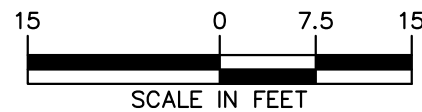
NOTES:

1. BASE MAP OBTAINED FROM THE NEW YORK STATE OFFICE OF ENVIRONMENTAL REMEDIATION SEARCHABLE PROPERTY ENVIRONMENTAL E-DATABASE.

#1676 THIRD AVENUE
BLOCK 1522 LOT 40

THIRD AVENUE

EAST 94TH STREET



SCALE IN FEET



21 Penn Plaza, 8th Floor New York, NY 10001
P: 212.479.5400 F: 212.479.5444
www.langan.com

NEW JERSEY PENNSYLVANIA **NEW YORK** CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA

NJ Certificate of Authorization No: 24GA27996400

1676 THIRD AVENUE

PROPOSED CHEMICAL OXIDATION
INJECTION WELL LOCATION MAP

NEW YORK

NEW YORK

Project No. 170206301	Date 5/08/13	Scale 1"=15'	Dwg. No. 3

TABLES

TABLE 1- ALTERNATIVE I REMEDIAL COST ESTIMATE

Track 1

1676 Third Avenue

New York, NY

Item No.	Description of Environmental Premium Item	Quantity		Premium Unit Price	Estimated Premium
CONTRACTOR FEES					
1	Remediation Facilities, Mobilization, Demobilization, Permits, and Site Maintenance - Remediation and decontamination facilities include trailer, truck cleaning facilities, etc. Also accounts for dust, odor, organic vapor control equipment, personal protective equipment, etc.			Allowance	\$15,000
2	Excavation of Site Material - Accounts for excavation of material containing concentrations exceeding Unrestricted Use Soil Cleanup Objectives, including costs for the Vactron Excavator (including underpinning spoils).	33	Day	\$4,500 per Day	\$148,500
3	Transport of Excavated Material	33	Load	\$850 per Load	\$28,050
4	Disposal of Contaminated Material - Includes disposal of petroleum-impacted soil at a permitted facility.	495	Tons	\$95 per Ton	\$47,025
5	Underpinning - Accounts for foundation stabilization of the site, adjoining buildings, and sidewalks during remediation excavation.	130	CY	\$2,500 per CY	\$325,000
6	Dewatering - Includes approximately 2 months of dewatering, transport vehicles and disposal of petroleum-impacted water at a permitted facility.			Lump Sum	\$1,000,000
7	Dust, Odor and Vapor Control - Includes odor, dust, and organic vapor control during the excavation of petroleum-impacted material. Assumes control measures will include, but not be limited to application of odor suppressant, foam or water.	1	Month	10,000 per Month	\$10,000
8	Open Excavation Oxidant Application - Accounts for remediation of petroleum impacts to groundwater with chemical oxidant applied within the excavation of the petroleum-impacted area. This item assumes that the one-time application of oxidant will be applied into an open remedial excavation.			Lump Sum	\$30,000
9	Backfill - Import and placement of clean fill material to bring site to development grade. An additional 15% of material is included to account for compaction.	230	CY	\$120 CY	\$28,000
SUBTOTAL					\$1,631,575
ENGINEERING FEES					
1	Preliminary Waste Characterization -Includes in-situ characterization of soil for off-site disposal in accordance with the criteria of most disposal facilities. Pre-characterization of the material to be removed as part of development/remedial excavation will assist in obtaining pre-approval from disposal facilities and understanding disposal cost.			Lump Sum	\$10,000
2	Endpoint Sampling - To document residual site conditions following remedial excavation.			Lump Sum	\$4,000
3	Install two post-remediation monitoring wells			Lump Sum	\$10,000
4	Two groundwater monitoring events	2	events	\$7,500 per Event	\$15,000
5	BCP Engineering Services - Remedial Design, Remedial Oversight, Closure Reporting			Allowance	\$160,000
SUBTOTAL					\$199,000
Remediation Contingency (10% of Contractor Fee Subtotal)					\$163,158
Total Estimated Cost					\$1,993,733
ENVIRONMENTAL BCP ESTIMATE					\$ 2 MILLION

Assumptions and Conditions:

- (1) Soil volumes based on excavating the Site to approximately 6 feet below current basement grade.
- (2) The density used for conversion from cubic yards to tons was 1.5 tons per cubic yard.
- (3) Excavation depths were calculated using soil sample results and field observations obtained from previous investigations.

TABLE 2 - ALTERNATIVE II REMEDIAL COST ESTIMATE

Track 4
1676 Third Avenue
New York, NY

Item No.	Description of Environmental Premium Item	Quantity		Premium Unit Price	Estimated Premium
CONTRACTOR FEES					
1	Excavation of Site Material - Accounts for excavation of material containing concentrations exceeding Protection of Groundwater Soil Cleanup Objectives.			Lump Sum	\$20,000
2	Disposal of Contaminated Material - Includes disposal of petroleum-impacted soil at a permitted facility.	38	Tons	\$95 per Ton	\$3,600
3	Backfill - Import and placement of clean fill material to bring site to development grade. An additional 15% of material is included to account for compaction.	30	CY	120	\$3,600
4	Oxidant Application - Accounts for remediation of petroleum impacts to groundwater with chemical oxidant applied using an estimated five injection points. This item assumes that the one-time, 3-day application of oxidant. Includes SOD Test, DP Drilling, System installation, Persulfate, Equipment, and Oversight			Lump Sum	\$65,000
5	Disposal of Contaminated Material - Includes disposal of remediation derived waste at a permitted facility.			Lump Sum	\$1,000
6	Active Sub-Membrane Depressurization (SMD) System			Lump Sum	\$75,000
7	Vapor Barrier	2,600	SF	\$12 per SF	\$31,200
SUBTOTAL					\$200,000
ENGINEERING FEES					
1	Waste Characterization - Remediation derived waste will be appropriately characterized and disposed of accordance with the criteria of most disposal facilities. Pre-characterization of the material to be removed as part of remedial activities will assist in obtaining pre-approval from disposal facilities and understanding disposal cost.			Lump Sum	\$4,000
2	Endpoint Sampling - To document residual site conditions following remedial excavation.			Lump Sum	\$4,000
3	Four Quarterly Groundwater Monitoring Events	4	events	\$7,500 per Event	\$30,000
4	BCP Engineering Services - Work Plans, Remedial Design, Remedial Oversight, Closure Reporting			Allowance	\$90,000
SUBTOTAL					\$128,000
Remediation Contingency (10% of Contractor Fee Subtotal)					\$20,000
Total Estimated Cost					\$348,000
ENVIRONMENTAL BCP ESTIMATE					\$ 348 K

TABLE 3 - EMERGENCY SITE CONTACTS

1676 Third Avenue

Contact Name	Email	Phone
New York State Department of Environmental Conservation		
Sean Bollers, Project Manager	snbollers@gw.dec.state.ny.us	(718)482-4093
New York State Department of Health		
Krista Anders	kma06@health.state.ny.us	(518)-402-7860
Langan Engineering and Environmental Services		
Joel Landes, VP/Principle Associate	jlandes@langan.com	(212)-479-5404 (office), (917) 940-3015(mobile)
Jason Hayes, Project Manager	jahayes@langan.com	(212)-479-5427 (office), (917) 859-4908(mobile)
Ryan Wohlstrom, Field Team Leader	rwohlstrom@langan.com	(212)-479-5483 (office), (203 464-2731(mobile)
Bevin Associates, LLC (Site Owner)		
Elias S. Kefalidis	bcho@related.com	(212) 758-7373

APPENDIX A

Previous Environmental Reports

Bevin Associates LLC

Phase I Environmental Site Assessment 1676 Third Ave., New York, New York



April 2007



DVIRKA AND BARTILUCCI
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

PHASE I ENVIRONMENTAL SITE ASSESSMENT
1676 THIRD AVENUE
NEW YORK, NEW YORK

Prepared for:
BEVIN ASSOCIATES, LLC
NEW YORK, NEW YORK

Prepared by:
DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
WOODBURY, NEW YORK

APRIL 2007

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
1676 THIRD AVENUE
NEW YORK, NEW YORK**

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
S.0	EXECUTIVE SUMMARY	ES-1
1.0	INTRODUCTION.....	1-1
1.1	Project Scope and Objective	1-1
1.2	Limitations and Exceptions.....	1-1
1.3	Special Terms and Conditions	1-2
1.4	User Reliance	1-2
2.0	PROPERTY DESCRIPTION.....	2-1
2.1	Location and Legal Description.....	2-1
2.2	Subject Property and Vicinity General Characteristics	2-1
2.3	Current Use of the Property	2-1
2.4	Site Description.....	2-1
2.5	Current Uses of the Adjoining Properties	2-4
3.0	USER PROVIDED INFORMATION.....	3-1
3.1	Title Records	3-1
3.2	Environmental Liens or Activity and Use Limitations	3-1
3.3	Specialized Knowledge.....	3-1
3.4	Valuation Reduction for Environmental Issues	3-1
3.5	Owners, Property Manager and Occupant Information.....	3-1
3.6	Reason for Performing Phase I ESA.....	3-2
4.0	RECORDS REVIEW	4-1
4.1	Site Geology and Hydrogeology.....	4-1
4.2	Standard and Additional Environmental Records Sources.....	4-1
4.3	Historical Use Information for Property and Adjoining Properties.....	4-7
4.3.1	Sanborn (Fire Insurance) Maps.....	4-7
4.3.2	Aerial Photographs.....	4-8
4.3.3	Historical Topographical Maps.....	4-8
4.3.4	City Directory	4-9
4.3.5	Historical Reports and Investigations	4-9

TABLE OF CONTENTS (continued)

<u>Section</u>	<u>Title</u>	<u>Page</u>
5.0	SITE RECONNAISSANCE.....	5-1
5.1	Methodology and Limiting Conditions.....	5-1
5.2	General Site Setting	5-1
5.3	Perimeter Observations.....	5-1
5.4	Property Observations.....	5-2
6.0	INTERVIEWS.....	6-1
6.1	Interviews with Owners and Occupants	6-1
6.2	Interviews with Local Government Officials	6-1
7.0	FINDINGS AND CONCLUSIONS.....	7-1
8.0	REFERENCES.....	8-1
9.0	SIGNATURES OF ENVIRONMENTAL PROFESSIONALS	9-1
10.0	QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS.....	10-1

List of Appendices

Regulatory Database	A
Historic Research Documentation	B
Site Reconnaissance Photographs.....	C
Freedom of Information Requests	D
Résumés	E

List of Figures

2-1	Site Location Map.....	2-2
2-2	Tax Map	2-3

S.0 EXECUTIVE SUMMARY

Bevin Associates, LLC retained Dvirka and Bartilucci Consulting Engineers (D&B) to undertake a Phase I Environmental Site Assessment (ESA) of a parcel of land identified in New York City tax records as Block 1522, Lot 40. The approximately 930 square foot (sf) property is located at 1676 Third Avenue in the Borough of Manhattan, New York, New York. The property consists of an undeveloped paved lot located on the southwest corner of Third Avenue and East 94th Street. Third Avenue is oriented in a southwest-northeast direction and East 94th Street is oriented in a northwest-southeast direction.

The purpose of this Phase I ESA was to identify, to the extent feasible, recognized environmental conditions (RECs) associated with the property. This Phase I ESA included a site inspection of the property; interviews with the Owner and Building Superintendent of the adjoining properties; a review of historical information sources (i.e., Sanborn fire insurance maps, aerial photographs, topographic maps); and a review of local, tribal, state and federal environmental databases.

This assessment has identified RECs associated with the property as follows:

- The property was historically used as a gasoline station between the 1930s and 1980s or 1990s. New York State Department of Environmental Conservation (NYSDEC) records indicate that seven underground storage tanks (USTs) for leaded and unleaded gasoline were present on the site that were administratively closed in 1996. D&B submitted a Freedom of Information Letter (FOIL) request to the Fire Department of New York City requesting information on existing or removed motor vehicle tanks at the property. As of the date of this report the receipt of any records is pending. In the absence of documentation verifying that the seven USTs were removed or properly closed in place, D&B recommends that a geophysical survey of the property be completed. Additionally, no information regarding potential impacts from petroleum USTs on soil and groundwater quality conditions underlying the site was available. Therefore, D&B recommends that a limited subsurface investigation be conducted at the site.
- The adjoining properties to the northwest and southwest of the subject property were previously used as or are currently occupied by dry cleaning facilities. The adjoining site uses are of concern since if a spill occurred the potential exists to impact soil and groundwater quality conditions at the site.

1.0 INTRODUCTION

Bevin Associates, LLC retained Dvirka and Bartilucci Consulting Engineers (D&B) to undertake a Phase I Environmental Site Assessment (ESA) of a parcel of land identified in New York City tax records as Block 1522, Lot 40. The approximately 930 square foot (sf) property is located at 1676 Third Avenue in the Borough of Manhattan, New York, New York. The property consists of an undeveloped paved lot located on the southwest corner of Third Avenue and East 94th Street. Third Avenue is oriented in a southwest-northeast direction and East 94th Street is oriented in a northwest-southeast direction.

1.1 Project Scope and Objective

The scope of work for this Phase I ESA of a parcel of land at 1676 Third Avenue, New York, New York was conducted in accordance with the scope and limitations of “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” guidance document E 1527-05, published by the American Society for Testing and Materials (ASTM). The purpose of this Phase I ESA was to identify, to the extent feasible, both historic and current recognized environmental conditions (RECs) associated with the property.

This Phase I ESA included a site inspection of the property; interviews with the Owner and Building Superintendent of the adjoining properties; a review of historical information sources (i.e., Sanborn fire insurance maps, aerial photographs, topographic maps); and a review of local, tribal, state and federal environmental databases.

1.2 Limitations and Exceptions

This ESA was conducted in accordance with D&B’s Technical Scope of Work dated March 9, 2007. However, during the site reconnaissance D&B observed that the subject property was being used as a temporary storage area for debris and materials staging by contractors working on the adjoining building to the northwest at 178-180 East 94th Street, which obscured the ground, particularly in the west portion of the parcel, presenting a limitation.

1.3 Special Terms and Conditions

It should be noted that the assessment of lead-based paint (LBP) and asbestos-containing materials (ACM) is not typically conducted in support of Phase I ESAs, since these activities are considered to be “non-scope considerations” in the ASTM standard. Further, an assessment of LBP and ACM does not appear warranted because there are no existing structures on the Site.

1.4 User Reliance

This Phase I ESA report was prepared for Bevin Associates, LLC who may rely upon its contents with the limitations noted above.

2.0 PROPERTY DESCRIPTION

2.1 Location and Legal Description

The property consists of a parcel of land approximately 930 square feet (sf) in size and is identified in New York City tax records as Block 1522, Lot 40. The property is located within the block bounded by East 94th Street to the north, Third Avenue to the east, East 93rd Street to the south, and Lexington Avenue to the west, in the Borough of Manhattan, New York, New York. See Figure 2-1 for a site location map and Figure 2-2 for a tax map outlining the property boundaries. A legal description of the property boundaries is included in the environmental lien search report (Appendix B).

2.2 Subject Property and Vicinity General Characteristics

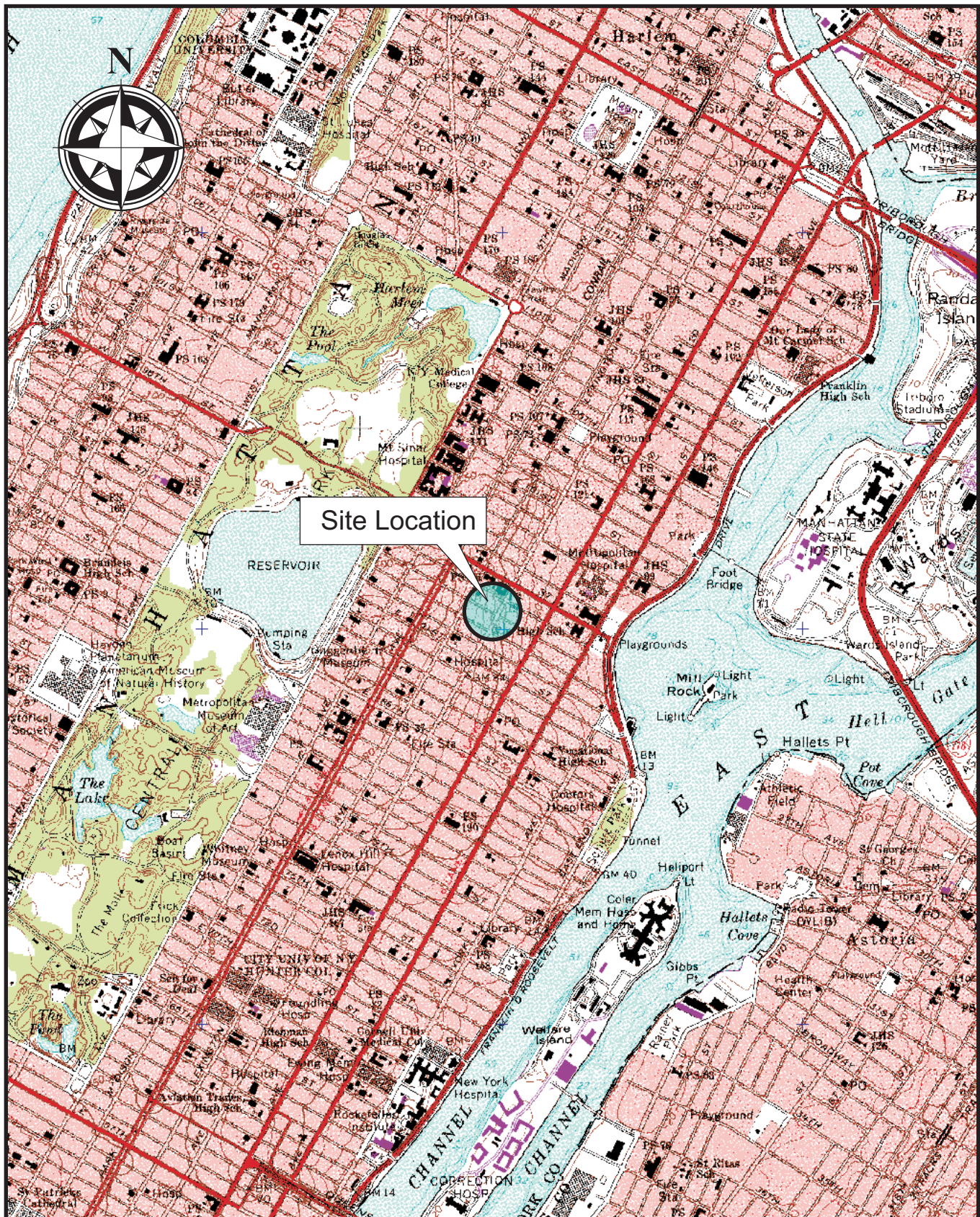
The property is located on the southwest corner of Third Avenue and East 94th Street. The surrounding area is characterized by residential properties and residential properties with ground floor retail stores. The surrounding area is a densely developed urban neighborhood.

2.3 Current Use of the Property

The property consists of an undeveloped paved lot with no current identified use.

2.4 Site Description

The property consists of an approximately 930 square-foot undeveloped paved lot.

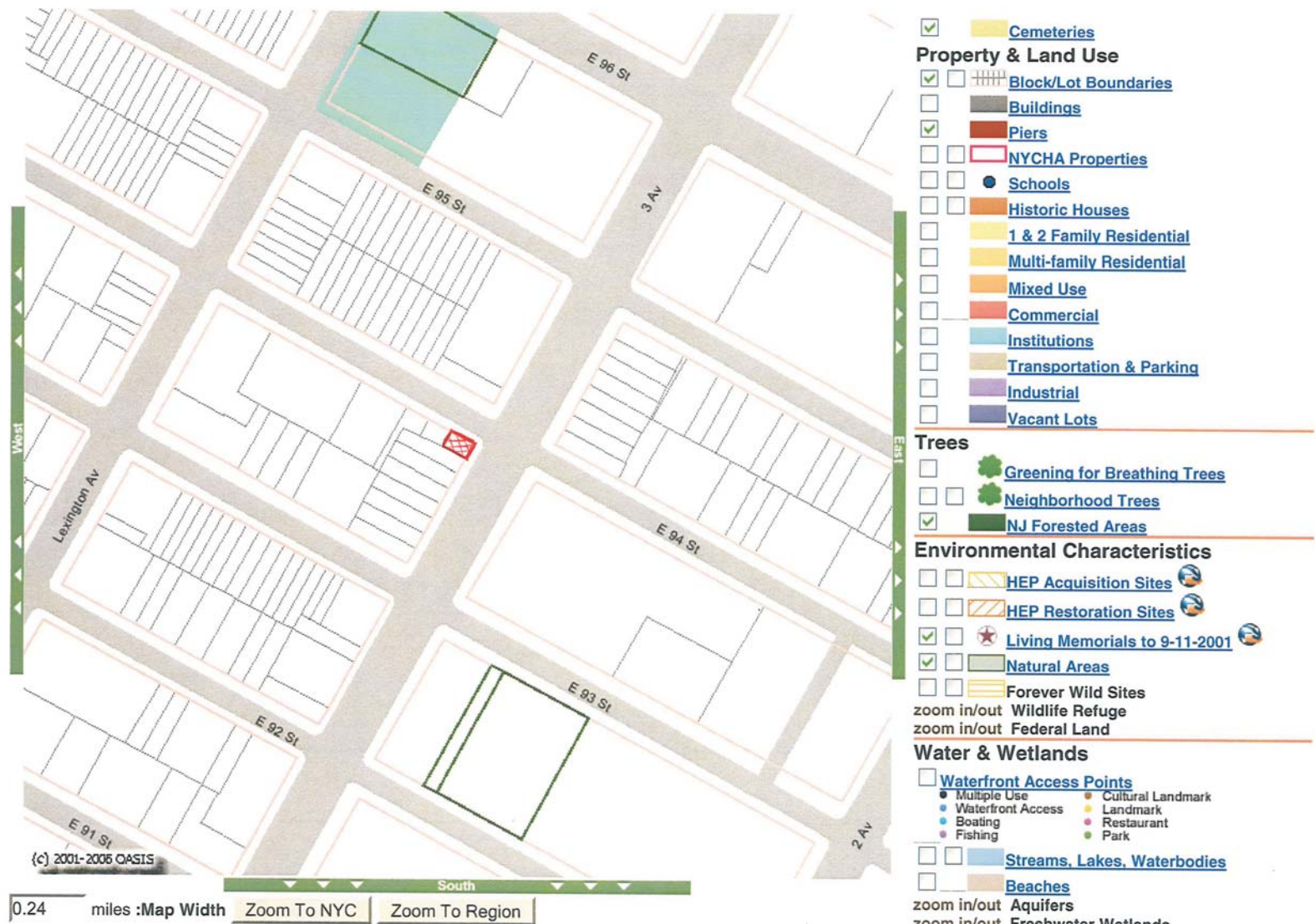


RLA/BevinAssoc.LLC2660(04/06/07)

db **Dvirka and Bartilucci**
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

BEVIN ASSOCIATES LLC
1676 THIRD AVENUE
NEW YORK, NEW YORK
SITE LOCATION MAP

FIGURE 2-1



RLA/BevinAssocLLC2660(04/06/07)

2.5 Current Uses of the Adjoining Properties

The current uses of the surrounding properties were noted as follows:

- Southwest: Five-story residential building with ground floor retail space occupied by a Mrs. Roles Hand Launderers French Dry Cleaners (a dry cleaning facility) (1674 Third Avenue). Although a dry cleaner is present, this site does not appear in the regulatory database report as a hazardous waste generator facility indicating it may not be permitted to conduct its dry cleaning operations on the premises.
- Northwest: Two-story residential building attached to three-story residential building with ground floor retail space occupied by Precious Nails (a nail salon) (178-180 East 94th Street). This site appears in the regulatory database report as a dry cleaner and hazardous waste generator facility although it no longer appears to be occupied by a dry cleaner based on the site inspection.
- Northeast: Across East 94th Street: Four-story residential building with ground floor retail space occupied by Barking Dog NYC (a luncheonette) (183 East 94th Street).
- East: Across East 94th Street and Third Avenue: Five-story residential building with ground floor retail space occupied by Tamarind (an Indian food restaurant) (203 East 94th Street/1679 Third Avenue).
- Southeast: Across Third Avenue: Approximately 30-story residential building (Carnegie Park apartments) with ground floor retail space occupied by Duane Reade (a drug store) (200 East 94th Street).

3.0 USER-PROVIDED INFORMATION

3.1 Title Records

Based on an environmental lien search report for the parcel of land identified as Block 1522, Lot 40 (Appendix B), the property title was transferred from Blue 3rd Corporation to Bevin Associates, LLC on December 22, 2006.

3.2 Environmental Liens or Activity and Use Limitations

Based on an environmental lien search report for the parcel of land identified as Block 1522, Lot 40 (Appendix B), records of environmental liens or activity and use limitations were not recorded against the property.

3.3 Specialized Knowledge

D&B was not provided with any specialized knowledge regarding the property other than information that it was previously used as a gasoline station.

3.4 Valuation Reduction for Environmental Issues

D&B was not provided with any information regarding reduction in the value of the property due to known environmental issues.

3.5 Owners, Property Manager and Occupant Information

The subject property is currently owned by Bevin Associates, LLC and is currently unoccupied land with no structures on it.

3.6 Reason for Performing Phase I ESA

Bevin Associates, LLC has retained D&B to undertake this Phase I Environmental Site Assessment of an approximately 930 sf parcel of land identified as 1676 Third Avenue in order to perform due diligence and qualify for a Landowner Liability Protection under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

4.0 RECORDS REVIEW

Standard historical sources of information were reviewed as part of the investigation. Information presented in this section is based on a review of current topographic maps and hydrogeological sources, Sanborn (fire insurance) maps from 1896 through 1996, aerial photographs from 1954 through 1994, topographic maps from 1897 through 1995, a city directory search from 1920 to 2000, as well as a review of local, tribal, state and federal regulatory databases.

4.1 Site Geology and Hydrogeology

According to the United States Department of Agriculture's (USDA) Soil Conservation Service (SCS), as reported by the Environmental Data Resources, Inc. (EDR) Radius Map with Geocheck, shallow soil at the site is classified as Urban Land. Urban Land indicates that the majority of the property is covered by buildings and/or paved surfaces. Other shallow soil types in the area of the site are classified as sandy loam.

Based on a review of the United States Geological Survey (USGS) topographic map of the Central Park Quadrangle, the on-site elevation is approximately 60 feet above mean sea level (msl) with a general topographic gradient to the east. Groundwater likely flows in an easterly direction towards the East River, located less than ½-mile east of the subject site.

Based on a review of the EDR Radius Map with Geocheck, depth to bedrock was reported to be 12 feet below grade at a site located within 1/8-mile north of the subject site. Groundwater at the subject site will likely be encountered within 12 feet below grade in the unconsolidated sediments overlying the bedrock.

4.2 Standard and Additional Environmental Records Sources

A computer environmental database search of record sources for the property and surrounding areas was undertaken in accordance with ASTM standards. This section presents a

summary of the findings of the environmental database search. The detailed report is presented in Appendix A.

Subject Property

The subject property was identified on the registered petroleum bulk storage tank (PBS) database. The owner was identified as West Bradhurst Parking Corporation. The site is designated as PBS #2-480452. The site had seven registered underground storage tanks (USTs) including three 550-gallon leaded gasoline USTs that were installed in 1946, two 550-gallon unleaded gasoline USTs that were installed in 1949, one 550-gallon unleaded gasoline UST that was installed in 1954, and one 550-gallon unleaded gasoline UST that was installed in 1977. All seven of these USTs were reported as administratively closed on September 1, 1996. The database states that reasons a facility status may be reported as administratively closed include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed or a duplicate registration was generated.

Surrounding Properties

The following presents a summary of the mapped properties identified in the local, tribal, state and federal databases:

- No National Priority List (NPL) sites within a 1-mile radius of the subject property;
- No delisted NPL sites within a ½-mile radius of the subject property;
- No Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) sites within a 1/2-mile radius of the subject property;
- No CERCLIS No Further Remedial Action Planned (NFRAP) sites within a ½-mile radius of the subject property;
- No Resource Conservation and Recovery Act (RCRA) Corrective Action (CORRACTS) sites within a 1-mile radius of the subject property;

- No RCRA Treatment Storage or Disposal (TSD) facilities within a 1/2-mile radius of the subject property;
- One RCRA hazardous waste generator facility adjoining the subject property;
- No institutional or engineering controls listing for the subject property;
- No Emergency Response Notification System (ERNS) listing for the subject property;
- No State Hazardous Waste Sites (SHWS) within a 1-mile radius of the subject property;
- No Hazardous Substance Waste Disposal Sites (HSWDS) within a 1/2-mile radius of the subject property;
- No state landfills/solid waste facilities (SWF) within a 1/2-mile radius of the subject property;
- Ninety-nine Leaking Underground Storage Tanks (LTANKS) sites within a 1/2-mile radius of the subject property;
- Eighteen SPILLS sites within an 1/8-mile radius of the subject property;
- One registered petroleum bulk storage (PBS) tank site adjoining the subject property;
- No voluntary cleanup agreement (VCP) sites within a 1/2-mile radius of the subject property;
- No Brownfield sites within a 1/2-mile radius of the subject property;
- Three manufactured gas plant (MGP) sites within a 1-mile radius of the subject property.

RCRA Generators

Resource Conservation and Recovery Act (RCRA) Information is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites that generate hazardous waste as defined by the RCRA. Generator facilities are classified as either conditionally exempt, small quantity or large quantity depending on the quantities of hazardous waste generated per month.

The ASTM standard requires the reporting of hazardous waste generator facilities on the site and adjoining properties.

The following adjoining site was identified in the RCRA small quantity hazardous waste generator database:

- Laundromat 94th Street Corporation/Green Castle Cleaners at 178 East 94th Street (northwest).

The database indicates that this facility generated halogenated solvents and still bottoms from recovery of solvents between 1989 and 1993.

The database identifies a number of other RCRA hazardous waste generator facilities that are upgradient and within 1/8-mile of the subject property. However, no RCRA violations were reported at any of these facilities. Therefore, it is unlikely that these hazardous waste generator facilities have impacted the subject property.

LTANKS and NY SPILLS

The Spills information database contains an inventory of reported leaking storage tank (LTANKS) incidents reported from April 1, 1986 through the most recent update. They can be either leaking underground storage tanks or leaking aboveground storage tanks. The causes of the incidents are tank test failures, tank failures or tank overfills. The ASTM standard requires the reporting of LTANKS sites within a ½-mile radius of the subject property. Ninety-nine LTANKS sites were identified within a ½-mile radius of the subject property.

The Spills information database also includes an inventory of reported minor spill incidents (NY SPILLS) that are not tank-related. The causes of the incidents are human error, traffic accidents and equipment failure. Eighteen NY SPILLS sites were identified within a 1/8-mile radius of the subject property.

Eighty six of the 99 LTANKS sites and 18 of the 18 NY SPILLS sites listed in the database have closed spills. Based on information supplied by representatives of the NYSDEC Spill Unit, a Spill Close Date indicates that the NYSDEC has concluded its investigation and remediation of the spill (if any) has been completed to their satisfaction. Since it is not expected that the closed spills have adversely impacted the subject property, only the active spills were evaluated. The following 13 active LTANKS sites were evaluated:

- Monterey Apartments, 175 E. 96th Street, Spill No. 0011155, 0-1/8 mile north, No. 4 fuel oil tank failure, affecting soil.
- 245 E. 93rd Street, Spill No. 9608048, 1/8-1/4 mile southeast, No. 6 fuel oil tank failure, affecting soil.
- Isaacs Houses, 403 E. 93rd Street, Spill No. 9212885, 1/4-1/2 mile southeast, No. 4 fuel oil tank failure, affecting soil.
- Isaacs Houses, 403 E. 93rd Street, Spill No. 0008678, 1/4-1/2 mile southeast, No. 2 fuel oil tank test failure, affecting soil.
- Rathbones, 1702 2nd Avenue, Spill No. 9813864, 1/4-1/2 mile south, No. 2 fuel oil tank test failure, affecting soil.
- 1901 1st Avenue, Spill No. 9300607, 1/4-1/2 mile east, Gasoline tank test failure, affecting soil.
- 424 E. 89th Street, Spill No. 9504595, 1/4-1/2 mile south-southeast, No. 6 fuel oil tank failure, affecting soil.
- 401 E. 88th Street, Spill No. 9509647, 1/4-1/2 mile south-southeast, No. 6 fuel oil tank test failure, affecting soil.
- Metro North Houses, Spill No. 9315472, 1/4-1/2 mile northeast, No. 2 fuel oil tank test failure, affecting groundwater.
- Apartment, 110 E. 87th Street, Spill No. 0502037, 1/4-1/2 mile southwest, No. 6 fuel oil tank failure, affecting groundwater.
- Mexican Restaurant, 314 E. 86th Street, Spill No. 8709801, 1/4-1/2 mile south, No. 2 fuel oil tank failure, affecting groundwater.
- 103 E. 86th Street, Spill No. 9706570, 1/4-1/2 mile southwest, No. 6 fuel oil tank failure, affecting soil.

- Apartment Building, 55 E. 87th Street, Spill No. 9210788, ¼-1/2 mile west-southwest,
No. 6 fuel oil tank failure, affecting groundwater.

An evaluation of the 13 active spills identified above indicates that none affected soil on an adjoining property or groundwater upgradient of the subject property. Therefore, it is not expected that these spills have adversely impacted the subject property.

PBS

The petroleum bulk storage tank (PBS) database identifies facilities that have petroleum storage capacities in excess of 1,100 gallons and less than 400,000 gallons. These facilities may have underground storage tanks (USTs) and/or aboveground storage tanks (ASTs). The ASTM standard requires the reporting of PBS facilities on the site and adjoining properties.

The following adjoining site was identified in the PBS tank database:

- Carnegie Park Apartments, 200 East 94th Street (southeast).

The database indicates that it is a registered underground storage tank facility. Two 15,000-gallon USTs for no. 1, 2 or 4 fuel oil were installed on 9/1/1985. The PBS permit is active until 5/29/2010. No active spills were reported. Therefore, it is unlikely that this PBS facility has impacted the subject property.

MGP sites

Although not an ASTM requirement to review, the following three sites were identified in the manufactured gas plant (MGP) sites database:

- Con Edison East 99th St. Works, ¼-1/2 mile east-northeast
- Con Edison East 108th St. Station, ½-1 mile northeast

- Con Edison East 111th St. Works, ½-1 mile northeast

Based on distances and since none of these MGP sites appear to be situated hydraulically upgradient, it is not expected that these sites have adversely impacted the subject property.

Orphan Sites Summary

Due to poor or inadequate address information, 43 sites were identified on various databases but were not mapped. These sites are listed on the LTANKS, NY SPILLS, RCRA Generator, NY MANIFEST, and AST databases. However, sufficient information is not provided to determine the potential environmental concerns from these properties.

4.3 Historical Use Information for Property and Adjoining Properties

4.3.1 Sanborn (Fire Insurance) Maps

Noteworthy findings from the review of Sanborn (fire insurance) maps dated 1896, 1911, 1939, 1951, 1979, 1980, 1981, 1983, 1985, 1986, 1988, 1991, 1992, 1993, 1994, 1995 and 1996 (see Appendix B) are presented below:

1896-1911:

The subject property contains a one-story shed at the northeast corner of the lot and is otherwise a vacant lot. The surrounding area is completely developed with residential buildings and stores.

1939:

The subject property is identified as a gasoline station having three 550-gallon buried gasoline tanks. The surrounding area is completely developed with residential buildings and stores. Some larger residential buildings have been constructed to the west-northwest of the site. There are also two auto houses (garages) adjoining the subject property to the northwest.

1951:

No changes to the subject property. No changes to the surrounding area except that a paints store is adjoining the subject property to the southwest.

1979-1980:

The subject property is identified as a filling station. The surrounding area is completely developed with residential buildings and stores.

1981-1988:

No changes to the subject property. No changes to the surrounding area except that a large residential building has been constructed to the northeast of the site.

1991-1994:

The subject property is a vacant lot. No changes to the surrounding area.

1995-1996:

The subject property is developed with a one-story concrete structure. No changes to the surrounding area.

The Sanborn maps indicate that the subject property was historically used as a gasoline station with underground storage tanks between the 1930s and late 1980s or early 1990s. The Sanborn maps indicate that the surrounding area was historically developed with a mix of residential buildings and stores.

4.3.2 Aerial Photographs

No noteworthy findings were provided from the review of aerial photographs dated 1954, 1966, 1975, 1984 and 1994 (see Appendix B). Historically, the area surrounding the subject property has been completely developed.

4.3.3 Historical Topographic Maps

No noteworthy findings were provided from the review of topographic maps dated 1897, 1947, 1966, 1979 and 1995 (see Appendix B). Historically, the area surrounding the subject property has been completely developed.

4.3.4 City Directory

A city directory is a compilation of prior tenants occupying a specified property based on historical telephone book records by address. The city directory search (see Appendix B) did not provide any record of the prior occupants of the subject property.

4.3.5 Historical Reports and Investigations

No prior historical reports or prior investigation reports for the property were provided to D&B for review.

5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

Christine E. Beaver of D&B conducted a site inspection of the parcel of land identified in New York City tax records as Block 1522, Lot 40 on March 29, 2007. The site reconnaissance consisted of a thorough investigation of the subject property and observation of the surrounding area. However, during the site reconnaissance D&B observed that the subject property was being used as a temporary storage area for debris by contractors working on the adjoining building to the northwest at 178-180 East 94th Street, which obscured the ground, particularly in the west portion of the parcel, presenting a limitation. Note that photographs taken during the site inspection are provided in Appendix C.

5.2 General Site Setting

The general site setting is a densely developed urban neighborhood. The surrounding area is characterized by residential properties and residential properties with ground floor retail stores. The site is located in a C2-8 commercial zoning district.

5.3 Perimeter Observations

The subject property is located on the southwest corner of Third Avenue and East 94th Street. The subject property consists of approximately 25 linear feet of frontage along Third Avenue and 36 feet of linear frontage along East 94th Street. Curb cuts for entrance to and exit from the subject property were observed along both sidewalks. The subject property is not enclosed by fencing or other barriers on its north and east sides and is enclosed by the adjoining buildings on its south and west sides.

5.4 Property Observations

During the site reconnaissance, D&B observed that the subject property consists of an undeveloped paved lot. No cracks or staining were observed in the asphalt pavement. Although no structures were present on the site, an outline of a former structure that existed on the property was observed on the exterior wall of the adjoining building to the southwest at 1674 Third Avenue. There was no evidence of utilities connecting to the subject property.

During the site reconnaissance, D&B observed that contractors working on the adjoining building to the northwest at 178-180 East 94th Street were using the subject property as a temporary storage area for debris and materials staging. The on-site materials consisted of roofing materials, metal pipes, garbage bags, plywood, rolls of material, and three 5-gallon containers of cement and adhesive.

6.0 INTERVIEWS

6.1 Interviews with Owners and Occupants

Since the subject property is undeveloped and unoccupied, during the Site inspection D&B interviewed two individuals who identified themselves as the Owner and Building Superintendent of the adjoining properties to the northwest and southwest at 178-180 East 94th Street and 1674 Third Avenue, respectively. Based on the interviews conducted, the subject property has been vacant for approximately the past six months, was used as a farmer's market for at least eight years prior to that during which time there was no building present, was vacant for approximately three years prior to that, and was used as a gasoline station prior to that. The gasoline station reportedly had underground storage tanks that were removed between approximately 1980 and 1982. The gasoline station reportedly did not have a garage that performed auto repairs. The gasoline station reportedly did have a cashier's booth in the southern portion of the property. The individuals interviewed stated that they did not recall the locations of the former pump islands at the gasoline station.

6.2 Interviews with Local Government Officials

D&B submitted a Freedom of Information Letter (FOIL) request to the New York City Department of Environmental Protection (DEP), requesting all environmental records this agency may maintain concerning the subject property. A copy of the FOIL request is provided in Appendix D. Upon receipt of a response from the DEP, pertinent information will be forwarded and an addendum provided, if necessary.

D&B submitted a FOIL request to the Fire Department of New York City (FDNY) requesting information on existing or removed motor vehicle tanks at the subject property. As of the date of this report the receipt of any records is pending. A copy of the FOIL request is provided in Appendix D. Upon receipt of a response from the FDNY, pertinent information will be forwarded and an addendum provided, if necessary.

7.0 FINDINGS AND CONCLUSIONS

D&B performed a Phase I ESA of an approximately 930 sf parcel of land identified in New York City tax records as Block 1522, Lot 40, located at 1676 Third Avenue, in the Borough of Manhattan, New York, New York, in accordance with our March 9, 2007 technical scope of work. The scope of work for the Phase I ESA was completed in conformance with the scope and limitations of “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” guidance document E 1527-05, published by ASTM. Any exceptions to, or deletions from, this practice are described in Section 1.2 of this report.

The purpose of this Phase I ESA was to identify, to the extent feasible, recognized environmental conditions (RECs) associated with the property.

This assessment has identified RECs associated with the property as follows:

- The property was historically used as a gasoline station between the 1930s and 1980s or 1990s. New York State Department of Environmental Conservation (NYSDEC) records indicate that seven underground storage tanks (USTs) for leaded and unleaded gasoline were present on the site that were administratively closed in 1996. D&B submitted a Freedom of Information Letter (FOIL) request to the Fire Department of New York City requesting information on existing or removed motor vehicle tanks at the property. As of the date of this report the receipt of any records is pending. In the absence of documentation verifying that the seven USTs were removed or properly closed in place, D&B recommends that a geophysical survey of the property be completed. Additionally, no information regarding potential impacts from petroleum USTs on soil and groundwater quality conditions underlying the site was available. Therefore, D&B recommends that a limited subsurface investigation be conducted at the site.
- The adjoining properties to the northwest and southwest of the subject property were previously used as or are currently occupied by dry cleaning facilities. The adjoining site uses are of concern since if a spill occurred the potential exists to impact soil and groundwater quality conditions at the site.

8.0 REFERENCES

Environmental Data Resources, Inc., *Radius Map with GeoCheck, Inquiry No. 1889256.2S*, March 28, 2007.

Environmental Data Resources, Inc., *Sanborn Map Report, Inquiry No. 1889256.3S*, March 28, 2007.

Environmental Data Resources, Inc., *Aerial Photo Decade Package, Inquiry No. 1889256.5*, March 28, 2007.

Environmental Data Resources, Inc., *Historical Topographic Map Report, Inquiry No. 1889256.4*, March 28, 2007.

Environmental Data Resources, Inc., *City Directory Abstract, Inquiry No. 1889256.6*, March 28, 2007.

Environmental Data Resources, Inc., *Environmental Lien Search Report, Project No. L07-01967*, March 30, 2007.

9.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environment Professional as defined in §312.10 of 40 CFR Part 312.

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Prepared By:

Christine E. Beaver, Environmental Scientist

Date

Reviewed By:

Albert H. Jaroszewski, Senior Hydrogeologist

Date

10.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

The assignment was completed under the direction of Richard M. Walka, Senior Vice President and Director of the Division of Environmental Remediation and Multimedia Environmental Compliance. Mr. Walka has 30 years of environmental remediation and regulatory experience and has directed, managed and prepared numerous Phase I/Phase II Environmental Site Assessments.

Albert H. Jaroszewski, Senior Hydrogeologist, served as the Project Manager for this assignment. Mr. Jaroszewski has over 20 years of experience in site investigation, impact assessment and remediation associated with petroleum processing storage and distribution facilities, industrial sites, former manufactured gas plant sites, landfills, agricultural sites, research and public service facilities.

Christine E. Beaver, Environmental Scientist, performed the review of the historical records and environmental databases and conducted the site reconnaissance and report writing tasks for this project. Ms. Beaver has over 10 years of experience in the investigation and remediation of contaminated sites. Ms. Beaver has prepared Phase I Environmental Site Assessments for lending institutions and property owners for hundreds of properties located throughout the Boroughs of New York City; Nassau, Suffolk and Westchester Counties; New Jersey, Connecticut and Pennsylvania. She has also performed Phase I Environmental Site Assessments of corridors for transportation agencies in relation to feasibility studies.

The résumés for the above staff members are provided in Appendix E.

APPENDIX A

REGULATORY DATABASE

APPENDIX B

HISTORIC RESEARCH DOCUMENTATION

APPENDIX C

SITE RECONNAISSANCE PHOTOGRAPHS

APPENDIX D

FREEDOM OF INFORMATION REQUESTS

APPENDIX E

RESUMES



Dvirka and Bartilucci

CONSULTING ENGINEERS

330 Crossways Park Drive, Woodbury, New York 11797-2015
516-364-9890 • 718-460-3634 • Fax: 516-364-9045
e-mail: findingsolutions@db-eng.com

Rec'd
7/9

Principals

Nicholas J. Bartilucci, P.E.
President

Henry J. Chlupsa, P.E.
Executive Vice President

Steven A. Fangmann, P.E.
Senior Vice President

Richard M. Waika
Senior Vice President

John A. Mirando, P.E.
Vice President

Garrett M. Byrnes, P.E.
Vice President

Anthony O. Conetta, P.E.
Vice President

Dennis F. Koehler, P.E.
Vice President

Joseph H. Marlurano
Vice President

Kenneth J. Pritchard, P.E.
Vice President

Theodore S. Pyllar, Jr.
Vice President

Brian M. Veith, P.E.
Vice President

Senior Associates

Thomas P. Fox, P.G.

Robert L. Haynie, P.E.

William D. Merklin, P.E.

Michael Neuberger, P.E.

Kenneth P. Wenz, Jr., C.P.G.

Associates

Joseph F. Baader

Steven M. Cabrera

Rudolph F. Cannavale

Christopher M. Clement

Ellen R. DeOrsay

Stefanos J. Eapan, R.A.

Joseph A. Fioraliso, P.E.

Christopher W. Francis

Michael R. Hofgren

Sean Pepling, P.G.

Edward J. Reilly

Daniel Shabat, P.E.

Charles J. Wachsmuth, P.E.

July 2, 2007

Mr. Steven Levine
Bevin Associates, LLC
155 E. 56th Street
New York, NY 10022

Re: Phase II Environmental Site Assessment
1676 Third Avenue
New York, New York
D&B No. 2660-02

Dear Mr. Levine:

Bevin Associates, LLC was retained by Dvirka and Bartilucci Consulting Engineers (D&B) to conduct a Phase II Environmental Site Assessment (ESA) at the property located at 1676 Third Avenue, New York, New York (Block 1522, Lot 40). The currently vacant property is being considered for redevelopment for commercial usage with the construction of a one-story building with a basement. During the Phase II investigation, the property had a paved asphalt surface and was fenced-off on the north and east street-side boundaries. The interior property boundaries to the south and west were commercial and residential buildings.

The purpose of this Phase II ESA was to investigate potential impacts from Recognized Environmental Conditions (RECs) identified in D&B's Phase I ESA Report dated April 2007. The following RECs were identified and investigated:

- The property was historically used as a gasoline station between the 1930's and the 1980's or 1990's. New York State Department of Environmental Conservation (NYSDEC) records indicate that seven underground storage tanks (USTs) used to store leaded and unleaded gasoline were present on the site and were "administratively closed" (i.e., business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed or a duplicate registration was generated) in 1996.
- The adjoining properties to the south and west of the property were previously used as, or are currently occupied by, dry cleaning facilities.

Mr. Steven Levine
Bevin Associates, LLC
July 2, 2007

Page 2

SCOPE OF INVESTIGATION

The Phase II ESA field activities were conducted on May 11, 2007. The scope of the field investigation included a geophysical survey and soil borings, and was managed by a D&B geologist.

Geophysical Survey

The geophysical survey was conducted utilizing a Schonstedt Model 50 magnetometer. The purpose of this magnetometer survey was to investigate the potential presence of USTs at the property. The survey consisted of scanning the site utilizing transects spaced approximately 10 feet apart and conducted in a rectangular pattern parallel to the property boundaries.

Test Borings

Three soil borings were advanced at the property with the objective of collecting soil and groundwater samples. The soil borings were advanced by C.E. Boss Co., Inc., Bronx, New York through a contract with Bevin Associates, LLC as part of a geotechnical program. The three borings (designated B1, B2 and B3) were advanced at the locations depicted on Figure 1 utilizing the hollow stem method of drilling. The depths of the borings ranged between 16 feet and 37 feet below land surface. Split-spoon sampling was conducted at 5-foot intervals to the bottom of each boring. The samples were sensory inspected for staining and odors, and screened for volatile organic vapors (VOV) using a photoionization meter calibrated to 100 parts per million (ppm) of isobutylene in air. Soil samples in each soil boring were selected for analysis as being representative of the most impacted conditions based on sensory inspection, for odor and staining, as well as VOV concentrations.

The soil samples were analyzed for parameters, typically associated with the historical property usage as a gasoline station and nearby dry cleaning facilities. These parameters included Target Analyte List metals, and Target Compound List volatile and semivolatile organic compounds.

To investigate the presence of groundwater, a water level indicator was initially utilized to measure potential water levels within the augers/boreholes. With the absence of any measurable water levels in the boreholes, a temporary well screen, consisting of 20 feet of slotted 1-inch PVC conduit was installed in the boreholes after the augers were removed. Up to 1 hour was allotted for groundwater to recharge into the temporary well.

Mr. Steven Levine
Bevin Associates, LLC
July 2, 2007

Page 3

FINDINGS AND CONCLUSIONS

The magnetometer survey did not identify any significant geophysical anomalies to indicate the presence of USTs at the property. A few minor anomalies, low response intensities in areas less than a foot square, were detected in the northeast corner of the property.

The lithology of the materials encountered in the soil borings was generally as follows:

- a gray silt and clay with brick fragments in the approximate upper 10 feet
- fine sand, trace fine gravel, occasionally moist from depths of approximately 10 feet to 20 feet
- weathered schistose bedrock from a depth of approximately 20 feet

Strong petroleum odors, as well as occasional black-stained zones, were associated with the material above the weathered bedrock in all three borings. The VOV concentrations in this material in each of the three borings were fairly similar and ranged from 1.5 ppm to 21.4 ppm. No odors or staining, or measurable VOV concentrations were associated with the weathered bedrock.

Groundwater was not present within any of the boreholes or in any of the temporary wells indicating that an aquifer, with appreciable transmissive capacity, is not present above the bedrock at the property. Accordingly, no groundwater samples were collected for analysis.

The analytical results for the soil samples collected are summarized in the attached tables and the laboratory report is being provided under separate cover. The tables include NYSDEC Recommended Soil Cleanup Objectives (RSCOs), as provided in Technical and Administrative Guidance Memorandum 4040: *Determination of Soil Cleanup Objectives and Cleanup Levels*. The analytical results along with field findings indicate that the soil at the property above weathered bedrock, to depth of approximately 20 feet below land surface, is significantly contaminated by petroleum constituents primarily consistent with gasoline product.

Elevated concentrations of volatile organic compounds (VOCs), typically associated with gasoline, including benzene, toluene, ethyl benzene and xylenes (BTEX), were detected up to an order of magnitude above RSCO values (see the attached VOC table). The impacts were highest in B-1 on the west side of the property, but exceedances of at least one BTEX component was present at all three test boring locations.

Mr. Steven Levine
Bevin Associates, LLC
July 2, 2007

Page 4

One semivolatile organic compound, naphthalene, was detected in the westernmost sample boring within an order of magnitude of its RSCO. Although naphthalene is a component of gasoline, it would not be expected to reside in the soil at a concentration in excess of its RSCO resulting from a historical gasoline release. It may more likely be associated with fuel oil or petroleum products with heavier hydrocarbon compounds than gasoline and naphthalene is a more predominant constituent.

Elevated concentrations of four metals (copper, iron, nickel and zinc) were also detected in the soil samples. The copper, nickel and zinc impacts are marginal, with concentrations being near their respective RSCO levels. The iron concentrations were an order of magnitude higher than the RSCO. These levels of these metals are similar to those typically associated with urban fill.

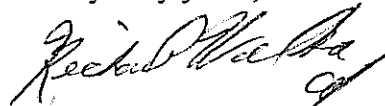
RECOMMENDATIONS

Based on the findings of the Phase II Environmental Site Assessment conducted for the property located at 1676 Third Avenue, New York, New York, the following recommendations are provided:

- Future construction activities should incorporate a Community Air Monitoring Program, consistent with New York State Department of Health requirements, to monitor the potential for dust and volatile organic vapor migration for off-site potential receptors.
- Future construction activities should be conducted with dust and volatile organic vapor control measures and monitoring, consistent with Occupational Safety and Health Administration standards, for site workers.
- Soil excavated during construction activities should be removed from the property and properly disposed off-site in accordance with applicable local, state and federal regulations.

If you have any questions regarding the above, please contact Mr. Albert Jaroszewski or me at (516) 364-9890.

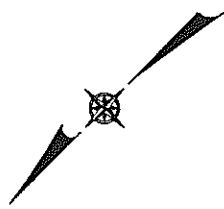
Very truly yours,



Richard M. Walka
Senior Vice President

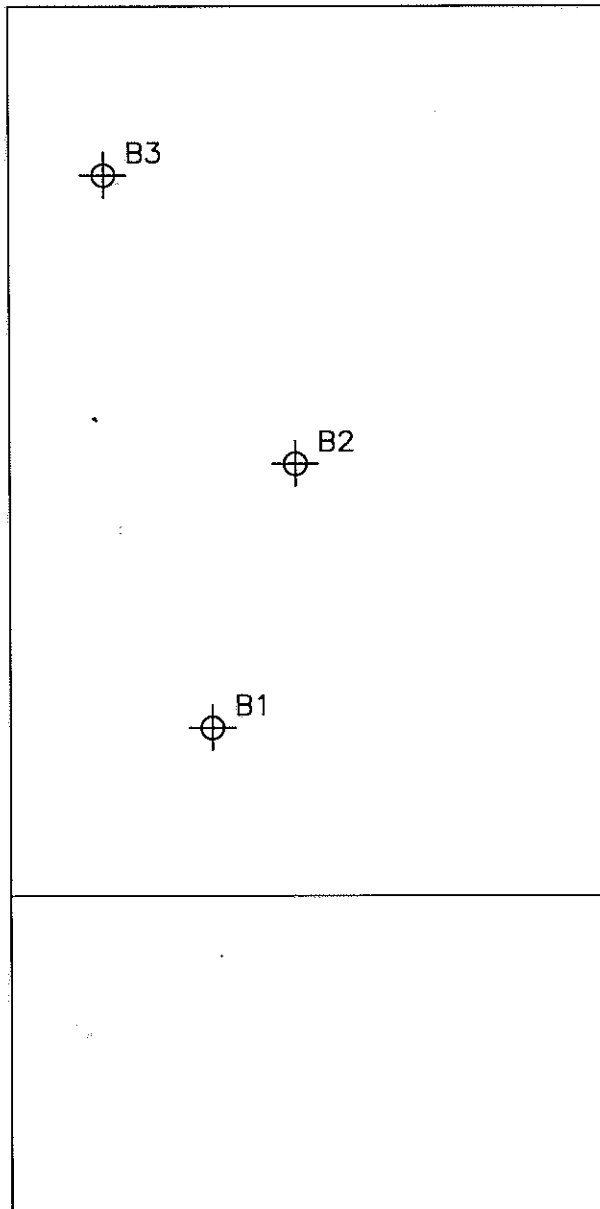
RMW/KBt/jmy
Attachments

♦2660\RMW07LTR.DOC-06(R01)



THIRD AVENUE

E 94th STREET



↑
INFERRED REGIONAL
GROUNDWATER
FLOW DIRECTION

LEGEND:



SOIL BORING LOCATION

1676 THIRD AVENUE, NEW YORK, NY
 PHASE II ENVIRONMENTAL SITE ASSESSMENT
 SOIL SAMPLE RESULTS
 VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	B-1	B-2	B-3	Laboratory	NYSDEC
SAMPLE DEPTH (FEET)	4-6	9-11	9-11	Quantitation	Recommended
DATE OF COLLECTION	5/11/07	5/11/07	5/11/07	Limits	Soil Cleanup
DILUTION FACTOR	1.0	1.0	1.0		Objectives
UNITS	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Dichlorodifluoromethane	U	U	U	10	---
Chloromethane	U	U	U	10	---
Vinyl Chloride	U	U	U	10	200
Bromomethane	U	U	U	10	---
Chloroethane	21	7 J	U	10	1,900
Trichlorofluoromethane	U	U	U	10	---
1,1-Dichloroethene	U	U	U	10	400
1,1,2-Trichloro-1,2,2-trifluoroethane	U	U	U	10	6,000
Acetone	U	35	U	10	200
Carbon Disulfide	U	U	U	10	2,700
Methyl Acetate	U	U	U	10	---
Methylene Chloride	U	U	U	10	100
trans-1,2-Dichloroethene	U	U	U	10	300
Methyl tert-butyl ether	U	U	U	10	---
1,1-Dichloroethane	U	U	U	10	200
2-Butanone	U	U	U	10	300
cis-1,2-Dichloroethene	U	U	U	10	---
Chloroform	U	U	U	10	300
1,1,1-Trichloroethane	U	U	U	10	800
Cyclohexane	U	U	U	10	---
Carbon Tetrachloride	U	U	U	10	600
1,2-Dichloroethane	U	U	U	10	100
Benzene	140	54 U	7 J	10	60
Trichloroethene	U	U	U	10	700
Methylcyclohexane	2,500	500 U	830	10	---
1,2-Dichloropropane	U	U	U	10	---
Bromodichloromethane	U	U	U	10	---
cis-1,3-Dichloropropane	U	U	U	10	---
4-Methyl-2-pentanone	U	U	U	10	1,000
Toluene	8,100	86	3,700	10	1,500
trans-1,3-Dichloropropene	U	U	U	10	---
1,1,2-Trichloroethane	U	U	U	10	---
Tetrachloroethene	U	U	U	10	1,400
2-Hexanone	U	U	U	10	---
Dibromochloromethane	U	U	U	10	---
1,2-Dibromoethane	U	U	U	10	---
Chlorobenzene	U	U	U	10	1,700
Ethylbenzene	32,000	4,400	5,300	10	5,500
Xylene (total)	78,000	11,000	25,000	10	1,200
Styrene	U	U	U	10	---
Bromoform	U	U	U	10	---
Isopropylbenzene	2,800	430	740	10	---
1,1,2,2-Tetrachloroethane	U	U	U	10	600
1,3-Dichlorobenzene	U	U	U	10	1,600
1,4-Dichlorobenzene	U	U	U	10	8,500
1,2-Dichlorobenzene	U	U	U	10	7,900
1,2-Dibromo-3-chloropropane	U	U	U	10	---
1,2,4-Trichlorobenzene	U	U	U	10	3,400
Totals VOCs	123,561	16,512	35,577	--	10,000

QUALIFIERS:

U: Constituent analyzed for but not detected.

J: Compound found at a concentration below the CRDL, value estimated.

Exceeds RSC0

NOTES:

---: Not established.

1676 THIRD AVENUE, NEW YORK, NY
 PHASE II ENVIRONMENTAL SITE ASSESSMENT
 SOIL SAMPLE RESULTS
 SEMI-VOLATILE ORGANIC COMPOUNDS

SAMPLE IDENTIFICATION	B-1	B-2	B-3	Laboratory	NYSDEC
SAMPLE DEPTH (FT)	4-6	9-11	9-11	Quantitation	Recommended
DATE OF COLLECTION	5/11/07	5/11/07	5/11/07	Limits	Soil Cleanup
DILUTION FACTOR	1.0	1.0	1.0	ug/Kg	Objectives
UNITS	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Benzaldehyde	U	U	U	330	---
Phenol	U	U	U	330	30 OR MDL
bis(2-Chloroethyl)ether	U	U	U	330	---
2-Chlorophenol	U	U	U	330	800
2-Methylphenol	U	U	U	330	100 OR MDL
2,2-Oxybis (1-Chloropropane)	U	U	U	330	---
Acetophenone	U	U	U	330	---
4-Methylphenol	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	330	---
Hexachloroethane	U	U	U	330	---
Nitrobenzene	U	U	U	330	200 OR MDL
Isophorone	U	U	U	330	4,400
2-Nitrophenol	U	U	U	330	330 OR MDL
2,4-Dimethylphenol	U	U	U	330	---
bis (2-Chloroethoxy) methane	U	U	U	330	---
2,4-Dichlorophenol	U	U	U	330	400
Naphthalene	18,000	2,500 U	7,000	330	13,000
4-Chloroaniline	U	U	U	330	220 OR MDL
Hexachlorobutadiene	U	U	U	330	---
Caprolactam	U	U	U	330	---
4-Chloro-3-methylphenol	U	U	U	330	240 OR MDL
2-Methylnaphthalene	21,000	3,600 U	10,000	330	36,400
Hexachlorocyclopentadiene	U	U	U	330	---
2,4,6-Trichlorophenol	U	U	U	800	---
2,4,5-Trichlorophenol	U	U	U	330	100
1,1'-Biphenyl	U	U	U	330	---
2-Chloronaphthalene	U	U	U	800	---
2-Nitroaniline	U	U	U	330	430 OR MDL
Dimethylphthalate	U	U	U	330	2,000
2,6-Dinitrotoluene	U	U	U	330	1,000
Acenaphthylene	U	U	U	330	41,000
3-Nitroaniline	U	U	U	800	500 OR MDL
Acenaphthene	U	U	U	330	50,000
2,4-Dinitrophenol	U	U	U	800	200 OR MDL
4-Nitrophenol	U	U	U	800	100 OR MDL
Dibenzofuran	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	330	---
Diethylphthalate	U	U	U	330	7,100
Fluorene	U	U	U	330	50,000
4-Chlorophenyl-phenylether	U	U	U	330	---
4-Nitroaniline	U	U	U	800	---
4,6-Dinitro-2-methylphenol	U	U	U	800	---
N-Nitrosodiphenylamine	U	U	U	330	---
4-Bromophenyl-phenylether	U	U	U	330	---
Hexachlorobenzene	U	U	U	330	410
Atrazine	U	U	U	330	---
Pentachlorophenol	U	U	U	800	1,000 OR MDL
Phenanthrene	550	U	U	330	50,000
Anthracene	U	U	U	330	50,000
Carbazole	U	U	U	330	---
Di-n-butylphthalate	U	U	U	330	8,100
Fluoranthene	520	U	U	330	50,000
Pyrene	490	U	U	330	50,000
Butylbenzylphthalate	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	330	---
Benzo (a) anthracene	U	U	U	330	224 OR MDL
Chrysene	U	U	U	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	330	50,000
Di-n-octylphthalate	U	U	U	330	50,000
Benzo(b)fluoranthene	U	U	U	330	1,100
Benzo(k)fluoranthene	U	U	U	330	1,100
Benzo(a)pyrene	U	U	U	330	61 OR MDL
Indeno(1,2,3-cd)pyrene	U	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	330	14 OR MDL
Benzo(g,h,i)perylene	U	U	U	330	50,000

QUALIFIERS:

U: Compound analyzed for but not detected.

NOTES:

---: Not established.

Result exceeds NYSDEC Recommended Soil Cleanup Objective.

1676 THIRD AVENUE, NEW YORK, NY
PHASE II ENVIRONMENTAL SITE ASSESSMENT
SOIL SAMPLE RESULTS
METALS

SAMPLE ID	B-1	B-2	B-3	Instrument	NYSDEC
SAMPLE DEPTH (FEET)	4-6	9-11	9-11	Detection	Recommended
DATE OF COLLECTION	5/11/07	5/11/07	5/11/07	Limits	Soil Cleanup
DILUTION FACTOR	1.0	1.0	1.0		Objectives
UNITS	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Aluminum	12,200	10,900	9,540	17	SB
Antimony	U	U	U	5.6	SB
Arsenic	2	2.5	0.69	3	7.5 or SB
Barium	44	41.7	78.2	4	300 or SB
Beryllium	U	U	U	0.5	0.16 or SB
Cadmium	U	0.02	U	0.7	10*
Calcium	1,820	1,670	2,020	240	SB
Chromium	18.3	14.7	20.7	0.6	50*
Cobalt	7.4	5.4	9.5	0.9	30 or SB
Copper	22.6	19.3	34.6	4	25 or SB
Iron	18,600	15,300	16,100	26	2,000 or SB
Lead	27.3	11	5.6	4	400
Magnesium	4,320	3,980	3,420	8	SB
Manganese	239	168	243	0.8	SB
Mercury	0.11	12	U	0.1	0.1
Nickel	14.8	14.5	16	0.8	13 or SB
Potassium	1140	1040	2,620	78	SB
Selenium	0.96	1.3	1.2	9	2 or SB
Silver	0.94	U	U	2	SB
Sodium	112	126	112	83	SB
Thallium	1.8	1.2	1.4	3	SB
Vanadium	19.5	14.8	29.6	0.7	150 or SB
Zinc	54.1	72.8	65.7	7	20 or SB

QUALIFIERS:

U: Compound analyzed for but not detected.

NOTES:

SB: Site background.

---: Not established.

*: As per proposed 4/95 NYSDEC TAGM.

 Result exceeds NYSDEC Recommended Soil Cleanup Objective.



330 Crossways Park Drive, Woodbury, New York 11797-2015
516-364-9890 • 718-460-3634 • Fax: 516-364-9045

LETTER OF TRANSMITTAL

TO: Bevin Associates, LLC
C/O LKM Construction
155 East 56th Street
New York, NY 10022

DATE:	7/2/07	JOB NO:	2660
ATTENTION:	Steven Levine		
RE:	1676 Third Avenue Phase II		

WE ARE SENDING YOU

X Attached

☐ Under separate cover via _____ the following items:

☐ Shop Drawings
☐ Copy of letter

☐ Prints
☐ Change Order

☐ Plans

☐ Samples

☐ Specifications

COPIES	DATE	DESCRIPTION
1	June 07	Laboratory Data Report

THESE ARE TRANSMITTED As checked below:

☐ For approval

X For your use

☐ As requested

☐ For review and comment

☐ FOR BIDS DUE _____ 19 _____

☐ Approved as submitted

☐ Approved as noted

☐ Returned for corrections

☐ Resubmit _____ copies for approval

☐ Submit _____ copies for distribution

☐ Return _____ corrected prints

☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS:

Attached is the laboratory analytical report for the findings reported in our June 2, 2007 letter.

COPY TO: File

SIGNED: _____

Albert Jaroszewski

June 5, 2007

Dvirka & Bartilucci
330 Crossways Park Drive
Woodbury, NY 11797
Attn: Ms. Robbin Petrella

RE: Client Project: Bevin Associates
Lab Work Order #: F0609

Dear Ms. Petrella:

Enclosed please find the data report of the required analyses for the samples associated with the above referenced project. If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,



Agnes R. Ng
CLP Project Manager

MITKEM CORPORATION

*** Data Summary Pack ***

Mitkem Corporation

New York State Department of Environmental Conservation Sample Identification and Analytical Requirements Summary

Project Name : NYS Standby Contract – Bevin Associates

SDG : F0609

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
B14-6	F0609-01	OLM4.2_VOA_LOW_S	OLM4.2_SVOA_S		ILM5.3_HG_S	SEE DATA
B14-6	F0609-01	OLM4.2_VOA_MED_S			ILM5.3_ICP_S	
B29-11	F0609-02	OLM4.2_VOA_LOW_S	OLM4.2_SVOA_S		ILM5.3_HG_S	SEE DATA
B29-11	F0609-02	OLM4.2_VOA_MED_S			ILM5.3_ICP_S	
B39-11	F0609-03	OLM4.2_VOA_LOW_S	OLM4.2_SVOA_S		ILM5.3_HG_S	SEE DATA
B39-11	F0609-03	OLM4.2_VOA_MED_S			ILM5.3_ICP_S	

Mitkem Corporation

New York State Department of Environmental Conservation Sample Preparation and Analysis Summary MSVOA

Project Name : NYS Standby Contract -- Bevin Associates

SDG : F0609

Laboratory Sample ID	Matrix	Date Collected	Date Received By Lab	Date Extracted	Date Analyzed
OLM4.2_VOA_LOW_S					
F0609-01B	SL	5/11/2007	5/12/2007	NA	5/18/2007
F0609-02B	SL	5/11/2007	5/12/2007	NA	5/18/2007
F0609-03B	SL	5/11/2007	5/12/2007	NA	5/18/2007
OLM4.2_VOA_MED_S					
F0609-01B	SL	5/11/2007	5/12/2007	5/22/2007	5/22/2007
F0609-02B	SL	5/11/2007	5/12/2007	5/22/2007	5/22/2007
F0609-03B	SL	5/11/2007	5/12/2007	5/22/2007	5/22/2007

Mitkem Corporation

New York State Department of Environmental Conservation Sample Preparation and Analysis Summary MSSEMI

Project Name : NYS Standby Contract – Bevin Associates

SDG : F0609

Laboratory Sample ID	Matrix	Date Collected	Date Received By Lab	Date Extracted	Date Analyzed
OLM4.2_SVOA_S					
F0609-01A	SL	5/11/2007	5/12/2007	5/18/2007	6/1/2007
F0609-01ADL	SL	5/11/2007	5/12/2007	5/18/2007	6/1/2007
F0609-02A	SL	5/11/2007	5/12/2007	5/18/2007	6/1/2007
F0609-02ADL	SL	5/11/2007	5/12/2007	5/18/2007	6/1/2007
F0609-03A	SL	5/11/2007	5/12/2007	5/18/2007	6/1/2007
F0609-03ADL	SL	5/11/2007	5/12/2007	5/18/2007	6/1/2007

Mitkem Corporation

New York State Department of Environmental Conservation Sample Preparation and Analysis Summary MSVOA

Project Name : NYS Standby Contract – Bevin Associates

SDG : F0609

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Low/Medium Level	Dil/Conc Factor
OLM4.2_VOA_LOW_S					
F0609-01B	SL	LM4.2_VOA_LOW	NA	LOW	1
F0609-02B	SL	LM4.2_VOA_LOW	NA	LOW	1
F0609-03B	SL	LM4.2_VOA_LOW	NA	LOW	1
OLM4.2_VOA_MED_S					
F0609-01B	SL	LM4.2_VOA_MED	Methanol	MED	20
F0609-02B	SL	LM4.2_VOA_MED	Methanol	MED	8
F0609-03B	SL	LM4.2_VOA_MED	Methanol	MED	1

Mitkem Corporation

New York State Department of Environmental Conservation Sample Preparation and Analysis Summary MSSEMI

Project Name : NYS Standby Contract – Bevin Associates

SDG : F0609

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxiliary Cleanup	Dil/Conc Factor
OLM4.2_SVOA_S					
F0609-01A	SL	OLM4.2_SVOA_S	3550B	GPC	1
F0609-01ADL	SL	OLM4.2_SVOA_S	3550B	GPC	20
F0609-02A	SL	OLM4.2_SVOA_S	3550B	GPC	1
F0609-02ADL	SL	OLM4.2_SVOA_S	3550B	GPC	2
F0609-03A	SL	OLM4.2_SVOA_S	3550B	GPC	1
F0609-03ADL	SL	OLM4.2_SVOA_S	3550B	GPC	10

Mitkem Corporation

New York State Department of Environmental Conservation Sample Preparation and Analysis Summary ME

Project Name : NYS Standby Contract – Bevin Associates

SDG : F0609

Laboratory Sample ID	Matrix	Metals Requested	Date Received By Lab	Date Analyzed
ILM5.3_HG_S				
F0609-01A	SL	ILM5.3_HG_S	5/12/2007	5/22/2007
F0609-01ADUP	SL	ILM5.3_HG_S	5/12/2007	5/22/2007
F0609-01AMS	SL	ILM5.3_HG_S	5/12/2007	5/22/2007
F0609-02A	SL	ILM5.3_HG_S	5/12/2007	5/22/2007
F0609-03A	SL	ILM5.3_HG_S	5/12/2007	5/22/2007
ILM5.3_ICP_S				
F0609-01A	SL	ILM5.3_ICP_S	5/12/2007	6/1/2007
F0609-01ADUP	SL	ILM5.3_ICP_S	5/12/2007	6/1/2007
F0609-01AMS	SL	ILM5.3_ICP_S	5/12/2007	6/1/2007
F0609-02A	SL	ILM5.3_ICP_S	5/12/2007	6/1/2007
F0609-03A	SL	ILM5.3_ICP_S	5/12/2007	6/1/2007

Analytical Data Package for Dvirka & Bartilucci

Client Project No.: Bevin Associates

SDG# MF0609

Mitkem Work Order ID: F0609

June 5, 2007

Prepared For:

Dvirka & Bartilucci
330 Crossways Park Drive
Woodbury, NY 11797
Attn: Ms. Robbin Petrella

Prepared By:

Mitkem Corporation
175 Metro Center Boulevard
Warwick, RI 02886
(401) 732-3400

SDG Narrative

Mitkem Corporation submits the enclosed data package in response to Dvirka & Bartilucci's Bevin Associates project. Under this deliverable, analysis results are presented for three soil samples that were received on May 14, 2007. Analyses were performed per specifications in the project's contract and the chain of custody forms. Sample Identifications were shortened where necessary due to limitations in data reporting software. Following the narrative is a table of sample identifications for cross-referencing full client sample ID, shortened client sample ID and laboratory sample ID, along with the Mitkem Work Order.

The analyses were performed and reported per NYSDEC ASP (2000 update) requirement for Category B deliverable.

The following observation and/or deviations are observed for the following analyses:

1. Overall observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting.
- M2 peak co-elution.
- M3 rising or falling baseline.
- M4 retention time shift.
- M5 miscellaneous – under this category, the justification is explained.
- M6 software did not integrate peak
- M7 partial peak integration

The enclosed report includes the originals of all data with the exception of logbook pages and certain initial calibrations. Photocopies of logbook pages are included, with the originals maintained on file at the laboratory. The originals of initial calibrations that are shared among several cases are maintained on file at the laboratory, with photocopies included in the data package.

2. Volatile Analysis:

GC column used: 30 m x 0.25 mm id (1.4 um film thickness) DB-624 capillary column

Alkanes were determined as part of tentatively identified compounds. The alkanes are reported on the Alkane Narrative Report following the SDG narrative.

Surrogate recovery: recoveries were within the QC limits with the exception of high recovery of toluene-d8 and bromofluorobenzene in sample B14-6 and high recovery of toluene-d8 in sample B39-11. Samples B14-6, B39-11 and B29-11 were re-analyzed at dilution with low recovery of 1,2-dichloroethane-d4.

Lab control sample: spike recoveries were within the QC limits.

Sample analysis: internal standard area counts were within QC criteria with the exception of samples B39-11DI and B14-6DL. Please note that internal standard area counts were within QC criteria in the initial analysis. Due to the high concentration of target analytes, the following samples were re-analyzed at dilution by the medium-level approach: B-14-6, B29-11 and B39-11. In addition to the medium level analysis, the following samples were further analyzed at dilution: B14-6 (20x) and B29-11 (8x). No other unusual observation was made for the analysis.

3. Semivolatile Analysis:

GC column: 30 m x 0.25 mm id (0.5 um film thickness) DB-5MS capillary column

Alkanes were determined as part of tentatively identified compounds. The alkanes are reported on the Alkane Narrative Report following the SDG narrative.

Surrogate recovery: recoveries were within the QC limits.

Lab control sample: spike recoveries were within the QC limits.

Sample analysis: due to the high concentration of target analytes, the following samples were re-analyzed at dilution: B14-6 (20x), B29-11 (2x) and B39-11 (10x). No other unusual observation was made for the analysis.

4. Metals Analysis:

Mercury was analyzed using a Perkin Elmer Model 100 FIMS cold vapor atomic absorption analyzer. The other elements were analyzed using either a Perkin Elmer Model 3100XL Optima or a Perkin Elmer Model 4300DV ICAP.

Lab control sample: spike recoveries were within the QC limits ples.

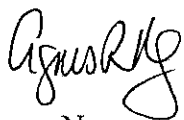
Matrix spike: matrix spike was performed on sample B14-6. Spike recoveries were within the QC limits with the exception of antimony, lead and mercury. Antimony and mercury are flagged with an "N" on the data report forms. A post digest spike was performed and reported for antimony. The spike recovery for lead could not be accurately determined, as the sample concentration was significantly greater than the spike concentration. When the sample concentration is more than four times the spike concentration, it tends to obscure the relatively smaller spike amount; control limits do not apply in this circumstance.

Duplicate: duplicate analysis was performed on sample B14-6. Replicate RPDs were within the QC limits with the exception of lead, zinc and mercury. Lead, zinc and mercury are flagged with an "*" on the data report forms.

Sample analysis: serial dilution was performed on sample B14-6. Percent differences were within the QC limits with the exception of zinc. Zinc is qualified with an "E" on the data report forms. Silver was detected in method blank MB-30257. Please note that silver was not detected in the associated samples. Silver was high in the first CRI. Please note that silver was not detected in the samples. No other unusual observations were made during sample analysis.

All pages in this report have been numbered consecutively, starting with the title page and ending with a page saying only "Last Page of Data Report".

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.



Agnes Ng
CLP Project Manager
06/05/07

ALKANE NARRATIVE REPORT
Report date : 06/04/2007
SDG: MF0609

Client Sample ID: B14-6	Lab Sample ID: F0609-01B	File ID: V5H7576
Compound	RT	Est. Conc. Q

Branched Alkane	5.50	5100 J
Branched Alkane	6.95	5300 J

Client Sample ID: B29-11	Lab Sample ID: F0609-02B	File ID: V5H7577
Compound	RT	Est. Conc. Q

Branched Alkane	3.61	310 J
Cyclic Alkane	4.73	270 J
Branched Alkane	5.51	310 J
Straight-chain Alkane	5.94	510 J
Branched Alkane	7.14	600 J
Branched Alkane	7.30	350 J
Straight-chain Alkane	7.76	250 J

Client Sample ID: B39-11	Lab Sample ID: F0609-03B	File ID: V5H7578
Compound	RT	Est. Conc. Q

Branched Alkane	3.61	0.0
Branched Alkane	5.51	0.0
Straight-chain Alkane	5.94	0.0
Branched Alkane	7.16	0.0
Branched Alkane	7.31	0.0

Client Sample ID: B29-11DL	Lab Sample ID: F0609-02BDL	File ID: V5H7656
Compound	RT	Est. Conc. Q

Branched Alkane	5.32	4300 JD
Branched Alkane	5.49	4100 JD
Branched Alkane	6.93	1400 JD

Client Sample ID: B39-11DL	Lab Sample ID: F0609-03BDL	File ID: V5H7657
Compound	RT	Est. Conc. Q

Branched Alkane	7.29	290 J
Straight-chain Alkane	12.46	360 J

Client Sample ID: B14-6DL	Lab Sample ID: F0609-01BDL	File ID: V5H7658
Compound	RT	Est. Conc. Q

Branched Alkane	7.14	4700 JD
Branched Alkane	12.08	3900 JD
Straight-chain Alkane	12.46	10000 JD

ALKANE NARRATIVE REPORT
Report date : 06/04/2007
SDG: MF0609

Client Sample ID: B14-6	Lab Sample ID: F0609-01A	File ID: S1F2954
Compound	RT	Est. Conc. Q

Straight-chain Alkane	8.21	41000 J
Straight-chain Alkane	10.44	25000 J
Straight-chain Alkane	11.41	15000 J
Straight-chain Alkane	12.31	2800 J
Straight-chain Alkane	13.18	1100 J

Client Sample ID: B29-11	Lab Sample ID: F0609-02A	File ID: S1F2955
Compound	RT	Est. Conc. Q

Branched Alkane	8.38	110 J
Straight-chain Alkane	10.36	300 J
Branched Alkane	10.95	140 J
Straight-chain Alkane	11.36	300 J
Straight-chain Alkane	12.29	500 J

Client Sample ID: B39-11	Lab Sample ID: F0609-03A	File ID: S1F2956
Compound	RT	Est. Conc. Q

Straight-chain Alkane	10.37	390 J
Straight-chain Alkane	11.37	270 J
Straight-chain Alkane	12.29	970 J

Client Sample ID: B14-6DL	Lab Sample ID: F0609-01ADL	File ID: S1F2957
Compound	RT	Est. Conc. Q

Straight-chain Alkane	8.12	14000 JD
Branched Alkane	8.38	5300 JD
Branched Alkane	8.58	4300 JD
Branched Alkane	8.95	7600 JD
Branched Alkane	9.53	2100 JD
Branched Alkane	9.97	8800 JD
Straight-chain Alkane	10.35	12000 JD
Branched Alkane	11.00	2500 JD
Straight-chain Alkane	11.35	5400 JD

Client Sample ID: B29-11DL	Lab Sample ID: F0609-02ADL	File ID: S1F2958
Compound	RT	Est. Conc. Q

Branched Alkane	9.98	960 JD
Straight-chain Alkane	10.35	910 JD
Straight-chain Alkane	11.35	690 JD
Straight-chain Alkane	12.29	580 JD

Client Sample ID: B39-11DL	Lab Sample ID: F0609-03ADL	File ID: S1F2959
Compound	RT	Est. Conc. Q

Straight-chain Alkane	8.11	950 JD

Straight-chain Alkane	10.35	2500	JD
Straight-chain Alkane	11.35	1700	JD
Straight-chain Alkane	12.29	820	JD

Mitkem and Client Sample ID Summary Report*

Mitkem Workorder: F0609

Client Name: Dvirka & Bartilucci

<i>Mitkem Sample ID</i>	<i>Reported Client Sample ID</i>	<i>Full Client Sample ID</i>
F0609-01A	B14-6	B1 4-6'
F0609-01B	B14-6	B1 4-6'
F0609-02A	B29-11	B2 9-11'
F0609-02B	B29-11	B2 9-11'
F0609-03A	B39-11	B3 9-11'
F0609-03B	B39-11	B3 9-11'

**** If client sample ID has not been truncated, the full client sample ID is listed in the column labeled "Reported Client Sample ID"***

Mitkem Corporation

15/May/07 11:52

WorkOrder: F0609

Client ID: DVIRKA_WOODBURY

Project: NYS Standby Contract

Location: BEVIN ASSOCIATES

Comments: N/A

Case:

SDG:

PO: 2660-02

Report Level: ASP-B

EDD:

HC Due: 06/04/07

Fax Due:

Sample ID	HS Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Lab Test Comments	Hold	MS	SEL	Storage
F0609-01A	B14-6	05/11/2007 10:00	05/12/2007	Soil	ILM5.3_HG_S	ILM5.3	☐	☐	☐	H2
					ILM5.3_ICP_S	ILM5.3	☐	☐	☒	H2
					OLM4.2_PH	NYS-Add LCS	☐	☐	☐	H2
					OLM4.2_SVOA_S	NYS-Add LCS	☐	☐	☐	H2
					PMoist		☐	☐	☐	H2
F0609-01B	B14-6	05/11/2007 10:00	05/12/2007	Soil	OLM4.2_VOA_LOW_S	NYS-Add LCS	☐	☐	☐	VOA
F0609-02A	B29-11	05/11/2007 12:00	05/12/2007	Soil	ILM5.3_HG_S	ILM5.3	☐	☐	☐	H2
					ILM5.3_ICP_S	ILM5.3	☐	☐	☒	H2
					OLM4.2_PH	NYS-Add LCS	☐	☐	☐	H2
					OLM4.2_SVOA_S	NYS-Add LCS	☐	☐	☐	H2
					PMoist		☐	☐	☐	H2
F0609-02B	B29-11	05/11/2007 12:00	05/12/2007	Soil	OLM4.2_VOA_LOW_S	NYS-Add LCS	☐	☐	☐	VOA
F0609-03A	B39-11	05/11/2007 13:20	05/12/2007	Soil	ILM5.3_HG_S	ILM5.3	☐	☐	☐	H2
					ILM5.3_ICP_S	ILM5.3	☐	☐	☒	H2
					OLM4.2_PH	NYS-Add LCS	☐	☐	☐	H2

Client Rep: Agnes R Ng

Page 1 of 2

050507

Mitkem Corporation

Client ID: DVIRKA_WOODBURY
 Project: NYS Standby Contract
 Location: BEVIN ASSOCIATES
 Comments: N/A

Report Level: ASP-B
 EDD:
 HC Due: 06/04/07
 Fax Due:

Case:
 SDG:
 PO: 2660-02

Sample ID	HS Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Lab Test Comments	Hold	MS	SEL	Storage
F0609-03A	B39-11	05/11/2007 13:20	05/12/2007	Soil	OLM4.2_SVOA_S	NYS-Add LCS	☐	☐	☐	H2
					PMoist		☐	☐	☐	H2
F0609-03B	B39-11	05/11/2007 13:20	05/12/2007	Soil	OLM4.2_VOA_LOW_S	NYS-Add LCS	☐	☐	☐	VOA

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B14-6

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-01B

Sample wt/vol: 4.3(g/mL) G Lab File ID: V5H7576

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: not dec. 16 Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

75-71-8	Dichlorodifluoromethane	14	U
74-87-3	Chloromethane	14	U
75-01-4	Vinyl Chloride	14	U
74-83-9	Bromomethane	14	U
75-00-3	Chloroethane	21	
75-69-4	Trichlorofluoromethane	14	U
75-35-4	1,1-Dichloroethene	14	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	14	U
67-64-1	Acetone	14	U
75-15-0	Carbon Disulfide	14	U
79-20-9	Methyl Acetate	14	U
75-09-2	Methylene Chloride	14	U
156-60-5	trans-1,2-Dichloroethene	14	U
1634-04-4	Methyl tert-Butyl Ether	14	U
75-34-3	1,1-Dichloroethane	14	U
156-59-2	cis-1,2-Dichloroethene	14	U
78-93-3	2-Butanone	14	U
67-66-3	Chloroform	14	U
71-55-6	1,1,1-Trichloroethane	14	U
110-82-7	Cyclohexane	14	U
56-23-5	Carbon Tetrachloride	14	U
71-43-2	Benzene	140	
107-06-2	1,2-Dichloroethane	14	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B14-6

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-01B

Sample wt/vol: 4.3 (g/mL) G Lab File ID: V5H7576

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: not dec. 16 Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

79-01-6	Trichloroethene	14	U
108-87-2	Methylcyclohexane	2500	E
78-87-5	1,2-Dichloropropane	14	U
75-27-4	Bromodichloromethane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
108-10-1	4-Methyl-2-Pentanone	14	U
108-88-3	Toluene	8100	E
10061-02-6	trans-1,3-Dichloropropene	14	U
79-00-5	1,1,2-Trichloroethane	14	U
127-18-4	Tetrachloroethene	14	U
591-78-6	2-Hexanone	14	U
124-48-1	Dibromochloromethane	14	U
106-93-4	1,2-Dibromoethane	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	32000	E
1330-20-7	Xylene (Total)	78000	E
100-42-5	Styrene	14	U
75-25-2	Bromoform	14	U
98-82-8	Isopropylbenzene	2800	E
79-34-5	1,1,2,2-Tetrachloroethane	14	U
541-73-1	1,3-Dichlorobenzene	14	U
106-46-7	1,4-Dichlorobenzene	14	U
95-50-1	1,2-Dichlorobenzene	14	U
96-12-8	1,2-Dibromo-3-chloropropane	14	U
120-82-1	1,2,4-Trichlorobenzene	14	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B14-6

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-01B

Sample wt/vol: 4.3 (g/mL) G Lab File ID: V5H7576

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: not dec. 16 Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 28

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 763-29-1	1-PENTENE, 2-METHYL-	4.73	4500	NJ
2.	UNKNOWN	5.33	3200	J
3.	UNKNOWN	5.93	5400	J
4.	UNKNOWN	6.07	4000	J
5.	UNKNOWN	6.70	2600	J
6.	UNKNOWN	7.31	3700	J
7.	UNKNOWN	7.77	7200	J
8.	UNKNOWN	10.53	5800	J
9.	UNKNOWN	10.66	2600	J
10. 103-65-1	BENZENE, PROPYL-	10.82	17000	NJ
11. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	10.96	65000	NJ
12. 108-67-8	BENZENE, 1,3,5-TRIMETHYL-	11.07	36000	NJ
13. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	11.29	26000	NJ
14. 95-63-6	BENZENE, 1,2,4-TRIMETHYL-	11.52	61000	NJ
15. 535-77-3	BENZENE, 1-METHYL-3-(1-METHY	11.80	3800	NJ
16. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	11.99	26000	NJ
17. 873-49-4	BENZENE, CYCLOPROPYL-	12.23	28000	NJ
18. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	12.33	18000	NJ
19.	UNKNOWN	12.49	6100	J
20. 1074-55-1	BENZENE, 1-METHYL-4-PROPYL-	12.55	4700	NJ
21. 874-41-9	BENZENE, 1-ETHYL-2,4-DIMETHY	12.66	7200	NJ
22. 527-84-4	BENZENE, 1-METHYL-2-(1-METHY	12.69	5700	NJ
23. 934-80-5	BENZENE, 4-ETHYL-1,2-DIMETHY	12.78	9300	NJ
24. 1560-06-1	BENZENE, 2-BUTENYL-	12.92	6100	NJ
25. 488-23-3	BENZENE, 1,2,3,4-TETRAMETHYL	13.26	4500	NJ
26. 874-41-9	BENZENE, 1-ETHYL-2,4-DIMETHY	13.33	4800	NJ
27. 824-90-8	1-PHENYL-1-BUTENE	13.64	2800	NJ
28. 3454-07-7	BENZENE, 1-ETHENYL-4-ETHYL-	13.84	4500	NJ
29.				
30.				

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B14-6DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-01BDL

Sample wt/vol: 5.1 (g/mL) G Lab File ID: V5H7658

Level: (low/med) MED Date Received: 05/12/07

% Moisture: not dec. 16 Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 20.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 27

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.76	26000	JD
2.	UNKNOWN	6.93	24000	JD
3.	UNKNOWN	7.07	28000	JD
4.	UNKNOWN	7.29	32000	JD
5.	UNKNOWN	7.75	33000	JD
6.	UNKNOWN	8.87	56000	JD
7.	UNKNOWN	9.01	35000	JD
8.	UNKNOWN	10.60	43000	JD
9. 103-65-1	BENZENE, PROPYL-	10.79	59000	NJD
10. 622-96-8	BENZENE, 1-ETHYL-4-METHYL-	10.89	300000	NJD
11. 95-63-6	BENZENE, 1,2,4-TRIMETHYL-	11.00	180000	NJD
12. 622-96-8	BENZENE, 1-ETHYL-4-METHYL-	11.23	86000	NJD
13. 95-63-6	BENZENE, 1,2,4-TRIMETHYL-	11.44	360000	NJD
14. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	11.95	140000	NJD
15. 622-97-9	BENZENE, 1-ETHENYL-4-METHYL-	12.19	130000	NJD
16. 2870-04-4	BENZENE, 2-ETHYL-1,3-DIMETHY	12.30	130000	NJD
17. 1074-55-1	BENZENE, 1-METHYL-4-PROPYL-	12.52	36000	NJD
18. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	12.64	45000	NJD
19. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	12.67	59000	NJD
20. 934-80-5	BENZENE, 4-ETHYL-1,2-DIMETHY	12.76	91000	NJD
21. 1005-64-7	BENZENE, 1-BUTENYL-, (E)-	12.89	52000	NJD
22. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	13.24	62000	NJD
23. 874-41-9	BENZENE, 1-ETHYL-2,4-DIMETHY	13.31	71000	NJD
24.	UNKNOWN	13.45	43000	JD
25. 824-90-8	1-PHENYL-1-BUTENE	13.63	36000	NJD
26. 934-10-1	3-PHENYLBUT-1-ENE	13.82	110000	NJD
27. 4218-48-8	BENZENE, 1-ETHYL-4-(1-METHYL	14.30	32000	NJD
28.				
29.				
30.				

FORM I VOA-TIC

OLM04.3

5515

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B29-11

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02B

Sample wt/vol: 4.5(g/mL) G Lab File ID: V5H7577

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: not dec. 15 Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

75-71-8	Dichlorodifluoromethane	13	U
74-87-3	Chloromethane	13	U
75-01-4	Vinyl Chloride	13	U
74-83-9	Bromomethane	13	U
75-00-3	Chloroethane	7	J
75-69-4	Trichlorofluoromethane	13	U
75-35-4	1,1-Dichloroethene	13	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	13	U
67-64-1	Acetone	35	
75-15-0	Carbon Disulfide	13	U
79-20-9	Methyl Acetate	13	U
75-09-2	Methylene Chloride	13	U
156-60-5	trans-1,2-Dichloroethene	13	U
1634-04-4	Methyl tert-Butyl Ether	13	U
75-34-3	1,1-Dichloroethane	13	U
156-59-2	cis-1,2-Dichloroethene	13	U
78-93-3	2-Butanone	13	U
67-66-3	Chloroform	13	U
71-55-6	1,1,1-Trichloroethane	13	U
110-82-7	Cyclohexane	13	U
56-23-5	Carbon Tetrachloride	13	U
71-43-2	Benzene	54	
107-06-2	1,2-Dichloroethane	13	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B29-11

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02B

Sample wt/vol: 4.5 (g/mL) G Lab File ID: V5H7577

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: not dec. 15 Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

79-01-6	Trichloroethene	13	U
108-87-2	Methylcyclohexane	500	E
78-87-5	1,2-Dichloropropane	13	U
75-27-4	Bromodichloromethane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
108-88-3	Toluene	86	
10061-02-6	trans-1,3-Dichloropropene	13	U
79-00-5	1,1,2-Trichloroethane	13	U
127-18-4	Tetrachloroethene	13	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	13	U
106-93-4	1,2-Dibromoethane	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	4400	E
1330-20-7	Xylene (Total)	11000	E
100-42-5	Styrene	13	U
75-25-2	Bromoform	13	U
98-82-8	Isopropylbenzene	430	E
79-34-5	1,1,2,2-Tetrachloroethane	13	U
541-73-1	1,3-Dichlorobenzene	13	U
106-46-7	1,4-Dichlorobenzene	13	U
95-50-1	1,2-Dichlorobenzene	13	U
96-12-8	1,2-Dibromo-3-chloropropane	13	U
120-82-1	1,2,4-Trichlorobenzene	13	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B29-11

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02B

Sample wt/vol: 4.5 (g/mL) G Lab File ID: V5H7577

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: not dec. 15 Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 23

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.33	340	J
2.	UNKNOWN	5.41	280	J
3.	UNKNOWN	5.76	440	J
4.	UNKNOWN	6.06	410	J
5.	UNKNOWN	7.08	560	J
6.	UNKNOWN	8.89	300	J
7. 103-65-1	BENZENE, PROPYL-	10.79	670	NJ
8. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	10.91	3200	NJ
9. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	11.01	1300	NJ
10. 622-96-8	BENZENE, 1-ETHYL-4-METHYL-	11.24	860	NJ
11. 108-67-8	BENZENE, 1,3,5-TRIMETHYL-	11.48	3300	NJ
12. 95-63-6	BENZENE, 1,2,4-TRIMETHYL-	11.96	1100	NJ
13. 611-15-4	BENZENE, 1-ETHENYL-2-METHYL-	12.20	1400	NJ
14. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	12.31	810	NJ
15. 934-74-7	BENZENE, 1-ETHYL-3,5-DIMETHY	12.64	390	NJ
16. 527-84-4	BENZENE, 1-METHYL-2-(1-METHY	12.67	320	NJ
17. 934-80-5	BENZENE, 4-ETHYL-1,2-DIMETHY	12.77	490	NJ
18. 768-49-0	BENZENE, (2-METHYL-1-PROPENY	12.90	520	NJ
19. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	13.25	310	NJ
20. 488-23-3	BENZENE, 1,2,3,4-TETRAMETHYL	13.31	430	NJ
21. 3333-13-9	BENZENE, 1-METHYL-4-(2-PROPE	13.64	290	NJ
22. 3454-07-7	BENZENE, 1-ETHENYL-4-ETHYL-	13.83	590	NJ
23. 3454-07-7	BENZENE, 1-ETHENYL-4-ETHYL-	14.04	420	NJ
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B29-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02BDL

Sample wt/vol: 4.8 (g/mL) G Lab File ID: V5H7656

Level: (low/med) MED Date Received: 05/12/07

% Moisture: not dec. 15 Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 8.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

75-71-8	Dichlorodifluoromethane	5600	U
74-87-3	Chloromethane	5600	U
75-01-4	Vinyl Chloride	5600	U
74-83-9	Bromomethane	5600	U
75-00-3	Chloroethane	5600	U
75-69-4	Trichlorofluoromethane	5600	U
75-35-4	1,1-Dichloroethene	5600	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5600	U
67-64-1	Acetone	5600	U
75-15-0	Carbon Disulfide	5600	U
79-20-9	Methyl Acetate	5600	U
75-09-2	Methylene Chloride	5600	U
156-60-5	trans-1,2-Dichloroethene	5600	U
1634-04-4	Methyl tert-Butyl Ether	5600	U
75-34-3	1,1-Dichloroethane	5600	U
156-59-2	cis-1,2-Dichloroethene	5600	U
78-93-3	2-Butanone	5600	U
67-66-3	Chloroform	5600	U
71-55-6	1,1,1-Trichloroethane	5600	U
110-82-7	Cyclohexane	5600	U
56-23-5	Carbon Tetrachloride	5600	U
71-43-2	Benzene	5600	U
107-06-2	1,2-Dichloroethane	5600	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B29-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02BDL

Sample wt/vol: 4.8(g/mL) G Lab File ID: V5H7656

Level: (low/med) MED Date Received: 05/12/07

% Moisture: not dec. 15 Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 8.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
79-01-6	Trichloroethene	5600	U
108-87-2	Methylcyclohexane	5600	U
78-87-5	1,2-Dichloropropane	5600	U
75-27-4	Bromodichloromethane	5600	U
10061-01-5	cis-1,3-Dichloropropene	5600	U
108-10-1	4-Methyl-2-Pentanone	5600	U
108-88-3	Toluene	5600	U
10061-02-6	trans-1,3-Dichloropropene	5600	U
79-00-5	1,1,2-Trichloroethane	5600	U
127-18-4	Tetrachloroethene	5600	U
591-78-6	2-Hexanone	5600	U
124-48-1	Dibromochloromethane	5600	U
106-93-4	1,2-Dibromoethane	5600	U
108-90-7	Chlorobenzene	5600	U
100-41-4	Ethylbenzene	57000	D
1330-20-7	Xylene (Total)	170000	D
100-42-5	Styrene	5600	U
75-25-2	Bromoform	5600	U
98-82-8	Isopropylbenzene	6000	D
79-34-5	1,1,2,2-Tetrachloroethane	5600	U
541-73-1	1,3-Dichlorobenzene	5600	U
106-46-7	1,4-Dichlorobenzene	5600	U
95-50-1	1,2-Dichlorobenzene	5600	U
96-12-8	1,2-Dibromo-3-chloropropane	5600	U
120-82-1	1,2,4-Trichlorobenzene	5600	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B29-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02BDL

Sample wt/vol: 4.8 (g/mL) G Lab File ID: V5H7656

Level: (low/med) MED Date Received: 05/12/07

% Moisture: not dec. 15 Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 8.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 27

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	UNKNOWN	5.76	15000	JD
2.	UNKNOWN	5.92	6200	JD
3. 6728-26-3	2-HEXENAL, (E) -	6.51	9500	NJD
4.	UNKNOWN	7.07	14000	JD
5.	UNKNOWN	7.14	11000	JD
6.	UNKNOWN	7.29	11000	JD
7.	UNKNOWN	7.75	19000	JD
8.	UNKNOWN	8.87	29000	JD
9.	UNKNOWN	9.00	18000	JD
10.	UNKNOWN	10.02	14000	JD
11. 103-65-1	BENZENE, PROPYL-	10.78	23000	NJD
12. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	10.88	140000	NJD
13. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	11.00	66000	NJD
14. 622-96-8	BENZENE, 1-ETHYL-4-METHYL-	11.23	31000	NJD
15. 95-63-6	BENZENE, 1,2,4-TRIMETHYL-	11.44	150000	NJD
16. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	11.95	55000	NJD
17.	UNKNOWN	12.18	59000	JD
18. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	12.30	46000	NJD
19.	UNKNOWN	12.46	15000	JD
20. 874-41-9	BENZENE, 1-ETHYL-2,4-DIMETHY	12.66	39000	NJD
21. 934-80-5	BENZENE, 4-ETHYL-1,2-DIMETHY	12.75	34000	NJD
22. 6004-38-2	4,7-METHANO-1H-INDENE, OCTAH	12.93	32000	NJD
23. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	13.24	23000	NJD
24. 488-23-3	BENZENE, 1,2,3,4-TETRAMETHYL	13.31	28000	NJD
25.	UNKNOWN	13.45	17000	JD
26. 934-10-1	3-PHENYLBUT-1-ENE	13.82	40000	NJD
27. 119-64-2	NAPHTHALENE, 1,2,3,4-TETRAHY	14.03	28000	NJD
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B39-11

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-03B

Sample wt/vol: 4.2 (g/mL) G Lab File ID: V5H7578

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: not dec. 10 Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

75-71-8	Dichlorodifluoromethane	13	U
74-87-3	Chloromethane	13	U
75-01-4	Vinyl Chloride	13	U
74-83-9	Bromomethane	13	U
75-00-3	Chloroethane	13	U
75-69-4	Trichlorofluoromethane	13	U
75-35-4	1,1-Dichloroethene	13	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	13	U
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	13	U
79-20-9	Methyl Acetate	13	U
75-09-2	Methylene Chloride	13	U
156-60-5	trans-1,2-Dichloroethene	13	U
1634-04-4	Methyl tert-Butyl Ether	13	U
75-34-3	1,1-Dichloroethane	13	U
156-59-2	cis-1,2-Dichloroethene	13	U
78-93-3	2-Butanone	13	U
67-66-3	Chloroform	13	U
71-55-6	1,1,1-Trichloroethane	13	U
110-82-7	Cyclohexane	13	U
56-23-5	Carbon Tetrachloride	7	J
71-43-2	Benzene	13	U
107-06-2	1,2-Dichloroethane	13	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B39-11

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL

Lab Sample ID: F0609-03B

Sample wt/vol: 4.2(g/mL) G

Lab File ID: V5H7578

Level: (low/med) LOW

Date Received: 05/12/07

% Moisture: not dec. 10

Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

79-01-6	Trichloroethene	13	U
108-87-2	Methylcyclohexane	830	E
78-87-5	1,2-Dichloropropane	13	U
75-27-4	Bromodichloromethane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
108-88-3	Toluene	3700	E
10061-02-6	trans-1,3-Dichloropropene	13	U
79-00-5	1,1,2-Trichloroethane	13	U
127-18-4	Tetrachloroethene	13	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	13	U
106-93-4	1,2-Dibromoethane	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	5300	E
1330-20-7	Xylene (Total)	25000	E
100-42-5	Styrene	13	U
75-25-2	Bromoform	13	U
98-82-8	Isopropylbenzene	740	E
79-34-5	1,1,2,2-Tetrachloroethane	13	U
541-73-1	1,3-Dichlorobenzene	13	U
106-46-7	1,4-Dichlorobenzene	13	U
95-50-1	1,2-Dichlorobenzene	13	U
96-12-8	1,2-Dibromo-3-chloropropane	13	U
120-82-1	1,2,4-Trichlorobenzene	13	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B39-11

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-03B

Sample wt/vol: 4.2 (g/mL) G Lab File ID: V5H7578

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: not dec. 10 Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 26 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.79	2100	J
2.	UNKNOWN	6.08	880	J
3.	UNKNOWN	6.58	730	J
4.	UNKNOWN	7.09	1400	J
5.	UNKNOWN	7.76	480	J
6. 108-38-3	BENZENE, 1,3-DIMETHYL-	9.47	3200	NJ
7.	UNKNOWN	10.51	500	J
8.	UNKNOWN	10.64	250	J
9. 103-65-1	BENZENE, PROPYL-	10.80	620	NJ
10. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	10.94	2400	NJ
11. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	11.03	1300	NJ
12. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	11.27	900	NJ
13. 95-63-6	BENZENE, 1,2,4-TRIMETHYL-	11.51	2400	NJ
14. 108-67-8	BENZENE, 1,3,5-TRIMETHYL-	11.98	1000	NJ
15.	UNKNOWN	12.21	770	J
16. 1074-43-7	BENZENE, 1-METHYL-3-PROPYL-	12.24	580	NJ
17. 527-84-4	BENZENE, 1-METHYL-2-(1-METHY	12.34	1000	NJ
18. 1074-55-1	BENZENE, 1-METHYL-4-PROPYL-	12.54	320	NJ
19. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	12.66	420	NJ
20. 527-84-4	BENZENE, 1-METHYL-2-(1-METHY	12.70	450	NJ
21. 2870-04-4	BENZENE, 2-ETHYL-1,3-DIMETHY	12.79	650	NJ
22. 768-49-0	BENZENE, (2-METHYL-1-PROPENY	12.92	470	NJ
23. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	13.26	460	NJ
24. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	13.33	510	NJ
25. 3454-07-7	BENZENE, 1-ETHENYL-4-ETHYL-	13.65	400	NJ
26.	UNKNOWN	13.85	630	J
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B39-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-03BDL

Sample wt/vol: 5.1 (g/mL) G Lab File ID: V5H7657

Level: (low/med) MED Date Received: 05/12/07

% Moisture: not dec. 10 Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

75-71-8	Dichlorodifluoromethane	600	U
74-87-3	Chloromethane	600	U
75-01-4	Vinyl Chloride	600	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	600	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	600	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	600	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	600	U
79-20-9	Methyl Acetate	600	U
75-09-2	Methylene Chloride	600	U
156-60-5	trans-1,2-Dichloroethene	600	U
1634-04-4	Methyl tert-Butyl Ether	600	U
75-34-3	1,1-Dichloroethane	600	U
156-59-2	cis-1,2-Dichloroethene	600	U
78-93-3	2-Butanone	600	U
67-66-3	Chloroform	600	U
71-55-6	1,1,1-Trichloroethane	600	U
110-82-7	Cyclohexane	600	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	600	U
107-06-2	1,2-Dichloroethane	600	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B39-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-03BDL

Sample wt/vol: 5.1(g/mL) G Lab File ID: V5H7657

Level: (low/med) MED Date Received: 05/12/07

% Moisture: not dec. 10 Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

79-01-6	Trichloroethene	600	U
108-87-2	Methylcyclohexane	1300	D
78-87-5	1,2-Dichloropropane	600	U
75-27-4	Bromodichloromethane	600	U
10061-01-5	cis-1,3-Dichloropropene	600	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	130	DJ
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	600	U
591-78-6	2-Hexanone	600	U
124-48-1	Dibromochloromethane	600	U
106-93-4	1,2-Dibromoethane	600	U
108-90-7	Chlorobenzene	600	U
100-41-4	Ethylbenzene	1700	D
1330-20-7	Xylene (Total)	13000	D
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
98-82-8	Isopropylbenzene	540	DJ
79-34-5	1,1,2,2-Tetrachloroethane	600	U
541-73-1	1,3-Dichlorobenzene	600	U
106-46-7	1,4-Dichlorobenzene	600	U
95-50-1	1,2-Dichlorobenzene	600	U
96-12-8	1,2-Dibromo-3-chloropropane	600	U
120-82-1	1,2,4-Trichlorobenzene	600	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B39-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-03BDL

Sample wt/vol: 5.1 (g/mL) G Lab File ID: V5H7657

Level: (low/med) MED Date Received: 05/12/07

% Moisture: not dec. 10 Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 28

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.76	2000	JD
2.	UNKNOWN	7.07	1700	JD
3.	UNKNOWN	7.14	3400	JD
4.	UNKNOWN	7.75	3200	JD
5.	UNKNOWN	8.87	5300	JD
6.	UNKNOWN	9.01	3200	JD
7.	UNKNOWN	10.60	3500	JD
8. 103-65-1	BENZENE, PROPYL-	10.79	3500	NJD
9. 622-96-8	BENZENE, 1-ETHYL-4-METHYL-	10.89	17000	NJD
10. 95-63-6	BENZENE, 1,2,4-TRIMETHYL-	11.00	11000	NJD
11. 622-96-8	BENZENE, 1-ETHYL-4-METHYL-	11.23	5400	NJD
12. 95-63-6	BENZENE, 1,2,4-TRIMETHYL-	11.44	22000	NJD
13. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	11.95	9400	NJD
14. 1074-43-7	BENZENE, 1-METHYL-3-PROPYL-	12.22	10000	NJD
15. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	12.30	10000	NJD
16. 1074-55-1	BENZENE, 1-METHYL-4-PROPYL-	12.52	2800	NJD
17. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	12.64	3900	NJD
18. 874-41-9	BENZENE, 1-ETHYL-2,4-DIMETHY	12.67	4600	NJD
19. 874-41-9	BENZENE, 1-ETHYL-2,4-DIMETHY	12.76	7600	NJD
20. 768-49-0	BENZENE, (2-METHYL-1-PROPENY	12.89	5600	NJD
21. 527-53-7	BENZENE, 1,2,3,5-TETRAMETHYL	13.24	4900	NJD
22. 527-84-4	BENZENE, 1-METHYL-2-(1-METHY	13.31	6000	NJD
23.	UNKNOWN	13.45	4200	JD
24. 824-90-8	1-PHENYL-1-BUTENE	13.63	3800	NJD
25. 934-10-1	3-PHENYLBUT-1-ENE	13.82	9900	NJD
26. 4218-48-8	BENZENE, 1-ETHYL-4-(1-METHYL	14.30	3700	NJD
27. 6682-71-9	1H-INDENE, 2,3-DIHYDRO-4,7-D	14.42	2700	NJD
28.	UNKNOWN	14.84	2500	JD
29.				
30.				

FORM I VOA-TIC.

OLM04.3

0028

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V5RLCS

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: LCS-29998

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V5H7575

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	54	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	55	
107-06-2	1,2-Dichloroethane	10	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V5RLCS

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: LCS-29998

Sample wt/vol: 5.0(g/mL) G Lab File ID: V5H7575

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

79-01-6	Trichloroethene	56	
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	52	
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	55	
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylene (Total)	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B14-6

Lab Name: MITKEM CORPORATION

Contract: _____

Lab Code: MITKEM Case No.: _____

SAS No.: _____

SDG No.: MF0609

Matrix: (soil/water) SOIL

Lab Sample ID: F0609-01A

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: S1F2954

Level: (low/med) LOW

Date Received: 05/12/07

% Moisture: 16 Decanted: (Y/N) N

Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
100-52-7	Benzaldehyde	390	U
108-95-2	Phenol	390	U
111-44-4	bis(2-Chloroethyl) Ether	390	U
95-57-8	2-Chlorophenol	390	U
95-48-7	2-Methylphenol	390	U
108-60-1	2,2'-oxybis(1-Chloropropane)	390	U
98-86-2	Acetophenone	390	U
106-44-5	4-Methylphenol	390	U
621-64-7	N-Nitroso-di-n-propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	390	U
111-91-1	bis(2-Chloroethoxy) methane	390	U
120-83-2	2,4-Dichlorophenol	390	U
91-20-3	Naphthalene	18000	E
106-47-8	4-Chloroaniline	390	U
87-68-3	Hexachlorobutadiene	390	U
105-60-2	Caprolactam	390	U
59-50-7	4-Chloro-3-Methylphenol	390	U
91-57-6	2-Methylnaphthalene	21000	E
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
95-95-4	2,4,5-Trichlorophenol	980	U
92-52-4	1,1'-Biphenyl	380	J
91-58-7	2-Chloronaphthalene	390	U
88-74-4	2-Nitroaniline	980	U
131-11-3	Dimethylphthalate	390	U
606-20-2	2,6-Dinitrotoluene	390	U
208-96-8	Acenaphthylene	390	U
99-09-2	3-Nitroaniline	980	U
83-32-9	Acenaphthene	150	J

1D
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B14-6

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-01A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S1F2954

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 16 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
51-28-5	2,4-Dinitrophenol	980	U
100-02-7	4-Nitrophenol	980	U
132-64-9	Dibenzofuran	42	J
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
86-73-7	Fluorene	180	J
7005-72-3	4-Chlorophenyl-phenylether	390	U
100-01-6	4-Nitroaniline	980	U
534-52-1	4,6-Dinitro-2-methylphenol	980	U
86-30-6	N-Nitrosodiphenylamine (1)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
1912-24-9	Atrazine	390	U
87-86-5	Pentachlorophenol	980	U
85-01-8	Phenanthrene	550	
120-12-7	Anthracene	160	J
86-74-8	Carbazole	110	J
84-74-2	Di-n-butylphthalate	390	U
206-44-0	Fluoranthene	520	
129-00-0	Pyrene	490	
85-68-7	Butylbenzylphthalate	390	U
91-94-1	3,3'-Dichlorobenzidine	390	U
56-55-3	Benzo(a)anthracene	240	J
218-01-9	Chrysene	250	J
117-81-7	bis(2-Ethylhexyl)phthalate	290	JB
117-84-0	Di-n-octylphthalate	390	U
205-99-2	Benzo(b)fluoranthene	290	J
207-08-9	Benzo(k)fluoranthene	100	J
50-32-8	Benzo(a)pyrene	200	J
193-39-5	Indeno(1,2,3-cd)pyrene	100	J
53-70-3	Dibenzo(a,h)anthracene	390	U
191-24-2	Benzo(g,h,i)perylene	95	J

(1) - Cannot be separated from Diphenylamine

1G
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B14-6

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-01A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S1F2954

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 16 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

Number TICs found: 30

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.65	7000	J
2.	UNKNOWN	7.74	14000	J
3.	UNKNOWN	8.39	7400	J
4. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	8.58	26000	NJ
5. 496-11-7	INDANE	8.76	12000	NJ
6.	UNKNOWN	8.96	41000	J
7. 1074-55-1	BENZENE, 1-METHYL-4-PROPYL-	9.08	7800	NJ
8.	UNKNOWN	9.46	8000	J
9. 934-74-7	BENZENE, 1-ETHYL-3,5-DIMETHY	9.53	16000	NJ
10.	UNKNOWN	9.61	2300	J
11. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	9.68	23000	NJ
12.	UNKNOWN	9.73	20000	J
13. 874-35-1	1H-INDENE, 2,3-DIHYDRO-5-MET	9.95	36000	NJ
14.	UNKNOWN	10.05	21000	J
15. 2050-24-0	BENZENE, 1,3-DIETHYL-5-METHY	10.18	11000	NJ
16.	UNKNOWN	10.26	10000	J
17. 275-51-4	AZULENE	10.54	39000	NJ
18. 17851-27-3	BENZENE, 1-ETHYL-2,4,5-TRIME	10.61	8400	NJ
19. 4810-04-2	BENZENE, 1,3,5-TRIMETHYL-2-P	10.72	4100	NJ
20.	UNKNOWN	10.86	2200	J
21. 56147-63-8	2-ETHYL-2,3-DIHYDRO-1H-INDEN	10.93	12000	NJ
22.	UNKNOWN	10.98	3000	J
23.	UNKNOWN	11.03	4500	J
24. 769-57-3	.ALPHA., .BETA., .BETA.-TRIMET	11.23	4300	NJ
25.	UNKNOWN	11.29	4900	J
26. 50704-01-3	BENZENE, (1,3-DIMETHYL-2-BUT	11.50	2400	NJ
27.	UNKNOWN	11.55	2000	J
28. 90-12-0	NAPHTHALENE, 1-METHYL-	11.83	15000	NJ
29. 582-16-1	NAPHTHALENE, 2,7-DIMETHYL-	12.67	3500	NJ
30. 582-16-1	NAPHTHALENE, 2,7-DIMETHYL-	12.78	3500	NJ

FORM I SV-TIC

OLM04.3

5000

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B14-6DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-01ADL

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S1F2957

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 16 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
100-52-7	Benzaldehyde	7800	U
108-95-2	Phenol	7800	U
111-44-4	bis(2-Chloroethyl) Ether	7800	U
95-57-8	2-Chlorophenol	7800	U
95-48-7	2-Methylphenol	7800	U
108-60-1	2,2'-oxybis(1-Chloropropane)	7800	U
98-86-2	Acetophenone	7800	U
106-44-5	4-Methylphenol	7800	U
621-64-7	N-Nitroso-di-n-propylamine	7800	U
67-72-1	Hexachloroethane	7800	U
98-95-3	Nitrobenzene	7800	U
78-59-1	Isophorone	7800	U
88-75-5	2-Nitrophenol	7800	U
105-67-9	2,4-Dimethylphenol	7800	U
111-91-1	bis(2-Chloroethoxy) methane	7800	U
120-83-2	2,4-Dichlorophenol	7800	U
91-20-3	Naphthalene	28000	D
106-47-8	4-Chloroaniline	7800	U
87-68-3	Hexachlorobutadiene	7800	U
105-60-2	Caprolactam	7800	U
59-50-7	4-Chloro-3-Methylphenol	7800	U
91-57-6	2-Methylnaphthalene	31000	D
77-47-4	Hexachlorocyclopentadiene	7800	U
88-06-2	2,4,6-Trichlorophenol	7800	U
95-95-4	2,4,5-Trichlorophenol	20000	U
92-52-4	1,1'-Biphenyl	7800	U
91-58-7	2-Chloronaphthalene	7800	U
88-74-4	2-Nitroaniline	20000	U
131-11-3	Dimethylphthalate	7800	U
606-20-2	2,6-Dinitrotoluene	7800	U
208-96-8	Acenaphthylene	7800	U
99-09-2	3-Nitroaniline	20000	U
83-32-9	Acenaphthene	7800	U

1D
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B14-6DL

Lab Name: MITKEM CORPORATION

Contract: _____

Lab Code: MITKEM Case No.: _____

SAS No.: _____

SDG No.: MF0609

Matrix: (soil/water) SOIL

Lab Sample ID: F0609-01ADL

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: S1F2957

Level: (low/med) LOW

Date Received: 05/12/07

% Moisture: 16 Decanted: (Y/N) N

Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL)

Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 7.5

Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
51-28-5	2,4-Dinitrophenol	20000	U
100-02-7	4-Nitrophenol	20000	U
132-64-9	Dibenzofuran	7800	U
121-14-2	2,4-Dinitrotoluene	7800	U
84-66-2	Diethylphthalate	7800	U
86-73-7	Fluorene	7800	U
7005-72-3	4-Chlorophenyl-phenylether	7800	U
100-01-6	4-Nitroaniline	20000	U
534-52-1	4,6-Dinitro-2-methylphenol	20000	U
86-30-6	N-Nitrosodiphenylamine (1)	7800	U
101-55-3	4-Bromophenyl-phenylether	7800	U
118-74-1	Hexachlorobenzene	7800	U
1912-24-9	Atrazine	7800	U
87-86-5	Pentachlorophenol	20000	U
85-01-8	Phenanthrene	7800	U
120-12-7	Anthracene	7800	U
86-74-8	Carbazole	7800	U
84-74-2	Di-n-butylphthalate	7800	U
206-44-0	Fluoranthene	7800	U
129-00-0	Pyrene	7800	U
85-68-7	Butylbenzylphthalate	7800	U
91-94-1	3,3'-Dichlorobenzidine	7800	U
56-55-3	Benzo(a)anthracene	7800	U
218-01-9	Chrysene	7800	U
117-81-7	bis(2-Ethylhexyl)phthalate	7800	U
117-84-0	Di-n-octylphthalate	7800	U
205-99-2	Benzo(b)fluoranthene	7800	U
207-08-9	Benzo(k)fluoranthene	7800	U
50-32-8	Benzo(a)pyrene	7800	U
193-39-5	Indeno(1,2,3-cd)pyrene	7800	U
53-70-3	Dibenzo(a,h)anthracene	7800	U
191-24-2	Benzo(g,h,i)perylene	7800	U

(1) - Cannot be separated from Diphenylamine

1G
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B14-6DL

Lab Name: MITKEM CORPORATION Contract: _____
Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609
Matrix: (soil/water) SOIL Lab Sample ID: F0609-01ADL
Sample wt/vol: 30.3 (g/mL) G Lab File ID: S1F2957
Level: (low/med) LOW Date Received: 05/12/07
% Moisture: 16 Decanted: (Y/N) N Date Extracted: 05/18/07
Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07
Injection Volume: 2.0 (uL) Dilution Factor: 20.0
GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 30

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 103-65-1	BENZENE, PROPYL-	7.63	17000	NJD
2. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	7.72	45000	NJD
3. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	7.82	22000	NJD
4. 622-96-8	BENZENE, 1-ETHYL-4-METHYL-	7.95	15000	NJD
5. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	8.16	77000	NJD
6. 36231-13-7	1,2,3,4,5,8-HEXAHYDRONAPHTHA	8.33	6700	NJD
7. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	8.51	24000	NJD
8. 496-11-7	INDANE	8.70	12000	NJD
9. 99-87-6	BENZENE, 1-METHYL-4-(1-METHY	8.78	13000	NJD
10. 1074-17-5	BENZENE, 1-METHYL-2-PROPYL-	8.82	28000	NJD
11. 105-05-5	BENZENE, 1,4-DIETHYL-	8.88	41000	NJD
12. 1074-55-1	BENZENE, 1-METHYL-4-PROPYL-	9.00	7800	NJD
13. 933-98-2	BENZENE, 1-ETHYL-2,3-DIMETHY	9.11	14000	NJD
14. 527-84-4	BENZENE, 1-METHYL-2-(1-METHY	9.14	17000	NJD
15. 934-80-5	BENZENE, 4-ETHYL-1,2-DIMETHY	9.22	30000	NJD
16. 2096-86-8	4-METHYLPHENYL ACETONE	9.39	8200	NJD
17. 99-87-6	BENZENE, 1-METHYL-4-(1-METHY	9.46	6800	NJD
18. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	9.59	12000	NJD
19. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	9.64	16000	NJD
20. 700-12-9	BENZENE, PENTAMETHYL-	9.79	5000	NJD
21. 494-97-3	PYRIDINE, 3-(2-PYRROLIDINYL)	9.84	8600	NJD
22. 824-22-6	1H-INDENE, 2,3-DIHYDRO-4-MET	9.90	11000	NJD
23. 824-90-8	1-PHENYL-1-BUTENE	10.01	23000	NJD
24. 4920-99-4	BENZENE, 1-ETHYL-3-(1-METHYL	10.12	6400	NJD
25. 1595-16-0	BENZENE, 1-METHYL-4-(1-METHY	10.20	5900	NJD
26. 20836-11-7	1H-INDENE, 2,3-DIHYDRO-2,2-DI	10.41	7000	NJD
27. 700-12-9	BENZENE, PENTAMETHYL-	10.55	4700	NJD
28. 4701-36-4	BENZENE, (1-ETHYL-1-PROPENYL	10.88	6100	NJD
29. 6682-71-9	1H-INDENE, 2,3-DIHYDRO-4,7-D	11.05	5000	NJD
30. 90-12-0	NAPHTHALENE, 1-METHYL-	11.77	6500	NJD

FORM I SV-TIC

OLM04.3

6036

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B29-11

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02A

Sample wt/vol: 30.2(g/mL) G Lab File ID: S1F2955

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 15 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.9 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

100-52-7	Benzaldehyde	390	U
108-95-2	Phenol	390	U
111-44-4	bis(2-Chloroethyl) Ether	390	U
95-57-8	2-Chlorophenol	390	U
95-48-7	2-Methylphenol	390	U
108-60-1	2,2'-oxybis(1-Chloropropane)	390	U
98-86-2	Acetophenone	390	U
106-44-5	4-Methylphenol	390	U
621-64-7	N-Nitroso-di-n-propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	390	U
111-91-1	bis(2-Chloroethoxy) methane	390	U
120-83-2	2,4-Dichlorophenol	390	U
91-20-3	Naphthalene	2500	
106-47-8	4-Chloroaniline	390	U
87-68-3	Hexachlorobutadiene	390	U
105-60-2	Caprolactam	390	U
59-50-7	4-Chloro-3-Methylphenol	390	U
91-57-6	2-Methylnaphthalene	3600	E
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
95-95-4	2,4,5-Trichlorophenol	970	U
92-52-4	1,1'-Biphenyl	79	J
91-58-7	2-Chloronaphthalene	390	U
88-74-4	2-Nitroaniline	970	U
131-11-3	Dimethylphthalate	390	U
606-20-2	2,6-Dinitrotoluene	390	U
208-96-8	Acenaphthylene	390	U
99-09-2	3-Nitroaniline	970	U
83-32-9	Acenaphthene	390	U

1D
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B29-11

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S1F2955

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 15 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.9 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
51-28-5	2,4-Dinitrophenol	970	U
100-02-7	4-Nitrophenol	970	U
132-64-9	Dibenzofuran	390	U
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
86-73-7	Fluorene	42	J
7005-72-3	4-Chlorophenyl-phenylether	390	U
100-01-6	4-Nitroaniline	970	U
534-52-1	4,6-Dinitro-2-methylphenol	970	U
86-30-6	N-Nitrosodiphenylamine (1)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
1912-24-9	Atrazine	390	U
87-86-5	Pentachlorophenol	970	U
85-01-8	Phenanthrene	140	J
120-12-7	Anthracene	390	U
86-74-8	Carbazole	390	U
84-74-2	Di-n-butylphthalate	390	U
206-44-0	Fluoranthene	130	J
129-00-0	Pyrene	130	J
85-68-7	Butylbenzylphthalate	390	U
91-94-1	3,3'-Dichlorobenzidine	390	U
56-55-3	Benzo (a) anthracene	54	J
218-01-9	Chrysene	60	J
117-81-7	bis(2-Ethylhexyl)phthalate	360	JB
117-84-0	Di-n-octylphthalate	390	U
205-99-2	Benzo (b) fluoranthene	64	J
207-08-9	Benzo (k) fluoranthene	390	U
50-32-8	Benzo (a) pyrene	44	J
193-39-5	Indeno (1,2,3-cd) pyrene	390	U
53-70-3	Dibenzo (a,h) anthracene	390	U
191-24-2	Benzo (g,h,i) perylene	390	U

(1) - Cannot be separated from Diphenylamine

1G
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B29-11

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S1F2955

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 15 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.9 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 30

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	7.72	430	NJ
2. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	7.82	290	NJ
3. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	8.15	980	NJ
4. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	8.51	400	NJ
5. 496-11-7	INDANE	8.70	220	NJ
6.	UNKNOWN	8.78	280	J
7.	UNKNOWN	8.82	520	J
8. 934-80-5	BENZENE, 4-ETHYL-1,2-DIMETHY	8.88	900	NJ
9. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	9.11	290	NJ
10. 527-84-4	BENZENE, 1-METHYL-2-(1-METHY	9.15	360	NJ
11.	UNKNOWN	9.40	250	J
12. 874-41-9	BENZENE, 1-ETHYL-2,4-DIMETHY	9.46	310	NJ
13. 6004-38-2	4,7-METHANO-1H-INDENE, OCTAH	9.50	260	NJ
14.	UNKNOWN	9.60	520	J
15. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	9.64	670	NJ
16.	UNKNOWN	9.86	500	J
17. 934-10-1	3-PHENYLBUT-1-ENE	9.90	640	NJ
18.	UNKNOWN	9.98	460	J
19.	UNKNOWN	10.12	360	J
20. 1559-81-5	NAPHTHALENE, 1,2,3,4-TETRAHY	10.41	410	NJ
21. 4701-36-4	BENZENE, (1-ETHYL-1-PROPENYL	10.89	450	NJ
22.	UNKNOWN	11.01	210	J
23. 1680-51-9	NAPHTHALENE, 1,2,3,4-TETRAHY	11.25	200	NJ
24. 90-12-0	NAPHTHALENE, 1-METHYL-	11.78	490	NJ
25. 1127-76-0	NAPHTHALENE, 1-ETHYL-	12.53	340	NJ
26. 582-16-1	NAPHTHALENE, 2,7-DIMETHYL-	12.65	590	NJ
27. 569-41-5	NAPHTHALENE, 1,8-DIMETHYL-	12.77	620	NJ
28. 575-43-9	NAPHTHALENE, 1,6-DIMETHYL-	12.81	440	NJ
29. 57-10-3	N-HEXADECANOIC ACID	16.66	1000	NJ
30. 57-11-4	OCTADECANOIC ACID	17.97	1100	NJ

FORM I SV-TIC

OLM04.3

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B29-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02ADL

Sample wt/vol: 30.2(g/mL) G Lab File ID: S1F2958

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 15 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/01/07

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.9 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

100-52-7	Benzaldehyde	770	U
108-95-2	Phenol	770	U
111-44-4	bis(2-Chloroethyl) Ether	770	U
95-57-8	2-Chlorophenol	770	U
95-48-7	2-Methylphenol	770	U
108-60-1	2,2'-oxybis(1-Chloropropane)	770	U
98-86-2	Acetophenone	770	U
106-44-5	4-Methylphenol	770	U
621-64-7	N-Nitroso-di-n-propylamine	770	U
67-72-1	Hexachloroethane	770	U
98-95-3	Nitrobenzene	770	U
78-59-1	Isophorone	770	U
88-75-5	2-Nitrophenol	770	U
105-67-9	2,4-Dimethylphenol	770	U
111-91-1	bis(2-Chloroethoxy)methane	770	U
120-83-2	2,4-Dichlorophenol	770	U
91-20-3	Naphthalene	2600	D
106-47-8	4-Chloroaniline	770	U
87-68-3	Hexachlorobutadiene	770	U
105-60-2	Caprolactam	770	U
59-50-7	4-Chloro-3-Methylphenol	770	U
91-57-6	2-Methylnaphthalene	3600	D
77-47-4	Hexachlorocyclopentadiene	770	U
88-06-2	2,4,6-Trichlorophenol	770	U
95-95-4	2,4,5-Trichlorophenol	1900	U
92-52-4	1,1'-Biphenyl	91	DJ
91-58-7	2-Chloronaphthalene	770	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethylphthalate	770	U
606-20-2	2,6-Dinitrotoluene	770	U
208-96-8	Acenaphthylene	770	U
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	770	U

1D
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B29-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02ADL

Sample wt/vol: 30.2(g/mL) G Lab File ID: S1F2958

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 15 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/01/07

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.9 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	770	U
121-14-2	2,4-Dinitrotoluene	770	U
84-66-2	Diethylphthalate	770	U
86-73-7	Fluorene	770	U
7005-72-3	4-Chlorophenyl-phenylether	770	U
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	770	U
101-55-3	4-Bromophenyl-phenylether	770	U
118-74-1	Hexachlorobenzene	770	U
1912-24-9	Atrazine	770	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	150	DJ
120-12-7	Anthracene	770	U
86-74-8	Carbazole	770	U
84-74-2	Di-n-butylphthalate	770	U
206-44-0	Fluoranthene	130	DJ
129-00-0	Pyrene	130	DJ
85-68-7	Butylbenzylphthalate	770	U
91-94-1	3,3'-Dichlorobenzidine	770	U
56-55-3	Benzo(a)anthracene	770	U
218-01-9	Chrysene	770	U
117-81-7	bis(2-Ethylhexyl)phthalate	360	DJB
117-84-0	Di-n-octylphthalate	770	U
205-99-2	Benzo(b)fluoranthene	770	U
207-08-9	Benzo(k)fluoranthene	770	U
50-32-8	Benzo(a)pyrene	770	U
193-39-5	Indeno(1,2,3-cd)pyrene	770	U
53-70-3	Dibenzo(a,h)anthracene	770	U
191-24-2	Benzo(g,h,i)perylene	770	U

(1) - Cannot be separated from Diphenylamine

1D
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B29-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02ADL

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S1F2958

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 15 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.9 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	770	U
121-14-2	2,4-Dinitrotoluene	770	U
84-66-2	Diethylphthalate	770	U
86-73-7	Fluorene	770	U
7005-72-3	4-Chlorophenyl-phenylether	770	U
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	770	U
101-55-3	4-Bromophenyl-phenylether	770	U
118-74-1	Hexachlorobenzene	770	U
1912-24-9	Atrazine	770	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	150	DJ
120-12-7	Anthracene	770	U
86-74-8	Carbazole	770	U
84-74-2	Di-n-butylphthalate	770	U
206-44-0	Fluoranthene	130	DJ
129-00-0	Pyrene	130	DJ
85-68-7	Butylbenzylphthalate	770	U
91-94-1	3,3'-Dichlorobenzidine	770	U
56-55-3	Benzo (a) anthracene	770	U
218-01-9	Chrysene	770	U
117-81-7	bis (2-Ethylhexyl) phthalate	360	DJB
117-84-0	Di-n-octylphthalate	770	U
205-99-2	Benzo (b) fluoranthene	770	U
207-08-9	Benzo (k) fluoranthene	770	U
50-32-8	Benzo (a) pyrene	770	U
193-39-5	Indeno (1,2,3-cd) pyrene	770	U
53-70-3	Dibenzo (a,h) anthracene	770	U
191-24-2	Benzo (g,h,i) perylene	770	U

(1) - Cannot be separated from Diphenylamine

1G
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B29-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-02ADL

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S1F2958

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 15 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.9 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 30

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 103-65-1	BENZENE, PROPYL-	7.63	760	NJD
2. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	7.72	1600	NJD
3. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	7.82	970	NJD
4. 622-96-8	BENZENE, 1-ETHYL-4-METHYL-	7.94	560	NJD
5. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	8.15	3600	NJD
6. 95-63-6	BENZENE, 1,2,4-TRIMETHYL-	8.50	1500	NJD
7. 496-11-7	INDANE	8.70	960	NJD
8.	UNKNOWN	8.78	1200	JD
9. 1074-43-7	BENZENE, 1-METHYL-3-PROPYL-	8.81	1900	NJD
10. 934-74-7	BENZENE, 1-ETHYL-3,5-DIMETHY	8.87	3200	NJD
11.	UNKNOWN	8.95	770	JD
12. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	9.10	1100	NJD
13. 527-84-4	BENZENE, 1-METHYL-2-(1-METHY	9.14	1300	NJD
14.	UNKNOWN	9.39	1100	JD
15.	UNKNOWN	9.46	610	JD
16. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	9.59	880	NJD
17.	UNKNOWN	9.85	950	JD
18. 824-90-8	1-PHENYL-1-BUTENE	9.90	1100	NJD
19. 824-90-8	1-PHENYL-1-BUTENE	10.01	1600	NJD
20. 2050-24-0	BENZENE, 1,3-DIETHYL-5-METHY	10.12	710	NJD
21. 119-64-2	NAPHTHALENE, 1,2,3,4-TETRAHY	10.18	1100	NJD
22. 6682-71-9	1H-INDENE, 2,3-DIHYDRO-4,7-D	10.41	820	NJD
23. 4218-48-8	BENZENE, 1-ETHYL-4-(1-METHYL	10.55	750	NJD
24.	UNKNOWN	10.88	940	JD
25.	UNKNOWN	11.00	550	JD
26. 90-12-0	NAPHTHALENE, 1-METHYL-	11.77	830	NJD
27. 582-16-1	NAPHTHALENE, 2,7-DIMETHYL-	12.63	660	NJD
28. 575-41-7	NAPHTHALENE, 1,3-DIMETHYL-	12.75	720	NJD
29. 57-10-3	N-HEXADECANOIC ACID	16.64	830	NJD
30. 57-11-4	OCTADECANOIC ACID	17.96	830	NJD

FORM I SV-TIC

OLM04.3

0042

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B39-11

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-03A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S1F2956

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 10 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

100-52-7	Benzaldehyde	360	U
108-95-2	Phenol	64	J
111-44-4	bis(2-Chloroethyl) Ether	360	U
95-57-8	2-Chlorophenol	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(1-Chloropropane)	360	U
98-86-2	Acetophenone	360	U
106-44-5	4-Methylphenol	64	J
621-64-7	N-Nitroso-di-n-propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy) methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
91-20-3	Naphthalene	7000	E
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
105-60-2	Caprolactam	360	U
59-50-7	4-Chloro-3-Methylphenol	360	U
91-57-6	2-Methylnaphthalene	10000	E
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	920	U
92-52-4	1,1'-Biphenyl	360	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	920	U
131-11-3	Dimethylphthalate	360	U
606-20-2	2,6-Dinitrotoluene	360	U
208-96-8	Acenaphthylene	360	U
99-09-2	3-Nitroaniline	920	U
83-32-9	Acenaphthene	49	J

1D
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B39-11

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-03A

Sample wt/vol: 30.2(g/mL) G Lab File ID: S1F2956

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 10 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/01/07

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

51-28-5	2,4-Dinitrophenol	920	U
100-02-7	4-Nitrophenol	920	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
86-73-7	Fluorene	51	J
7005-72-3	4-Chlorophenyl-phenylether	360	U
100-01-6	4-Nitroaniline	920	U
534-52-1	4,6-Dinitro-2-methylphenol	920	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
1912-24-9	Atrazine	920	U
87-86-5	Pentachlorophenol	120	J
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
86-74-8	Carbazole	360	U
84-74-2	Di-n-butylphthalate	360	U
206-44-0	Fluoranthene	80	J
129-00-0	Pyrene	82	J
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3'-Dichlorobenzidine	360	U
56-55-3	Benzo(a)anthracene	360	U
218-01-9	Chrysene	360	U
117-81-7	bis(2-Ethylhexyl)phthalate	260	JB
117-84-0	Di-n-octylphthalate	360	U
205-99-2	Benzo(b)fluoranthene	360	U
207-08-9	Benzo(k)fluoranthene	360	U
50-32-8	Benzo(a)pyrene	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	360	U
53-70-3	Dibenzo(a,h)anthracene	360	U
191-24-2	Benzo(g,h,i)perylene	360	U

(1) - Cannot be separated from Diphenylamine

1G
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B39-11

Lab Name: MITKEM CORPORATION Contract: _____
Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609
Matrix: (soil/water) SOIL Lab Sample ID: F0609-03A
Sample wt/vol: 30.2 (g/mL) G Lab File ID: S1F2956
Level: (low/med) LOW Date Received: 05/12/07
% Moisture: 10 Decanted: (Y/N) N Date Extracted: 05/18/07
Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 30

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 103-65-1	BENZENE, PROPYL-	7.63	230	NJ
2. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	7.72	750	NJ
3. 622-96-8	BENZENE, 1-ETHYL-4-METHYL-	7.96	280	NJ
4. 108-67-8	BENZENE, 1,3,5-TRIMETHYL-	8.18	1700	NJ
5.	UNKNOWN	8.45	160	J
6. 95-63-6	BENZENE, 1,2,4-TRIMETHYL-	8.51	550	NJ
7. 496-11-7	INDANE	8.70	260	NJ
8.	UNKNOWN	8.78	320	J
9. 1074-43-7	BENZENE, 1-METHYL-3-PROPYL-	8.82	710	NJ
10.	UNKNOWN	9.13	490	J
11. 527-84-4	BENZENE, 1-METHYL-2-(1-METHY	9.16	430	NJ
12.	UNKNOWN	9.41	160	J
13. 933-98-2	BENZENE, 1-ETHYL-2,3-DIMETHY	9.47	310	NJ
14.	UNKNOWN	9.61	580	J
15. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	9.66	730	NJ
16.	UNKNOWN	9.78	240	J
17.	UNKNOWN	9.86	310	J
18. 824-22-6	1H-INDENE, 2,3-DIHYDRO-4-MET	9.91	540	NJ
19.	UNKNOWN	10.13	300	J
20.	UNKNOWN	10.21	330	J
21. 700-12-9	BENZENE, PENTAMETHYL-	10.56	220	NJ
22.	UNKNOWN	10.68	110	J
23. 4701-36-4	BENZENE, (1-ETHYL-1-PROPENYL	10.89	330	NJ
24. 6682-71-9	1H-INDENE, 2,3-DIHYDRO-4,7-D	11.06	320	NJ
25.	UNKNOWN	11.25	170	J
26. 90-12-0	NAPHTHALENE, 1-METHYL-	11.79	650	NJ
27.	UNKNOWN	11.90	450	J
28.	UNKNOWN	11.96	590	J
29. 1127-76-0	NAPHTHALENE, 1-ETHYL-	12.53	780	NJ
30. 581-40-8	NAPHTHALENE, 2,3-DIMETHYL-	12.77	1300	NJ

FORM I SV-TIC

OLM04.3

6645

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B39-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-03ADL

Sample wt/vol: 30.2(g/mL) G Lab File ID: S1F2959

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 10 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/01/07

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

100-52-7	Benzaldehyde	3600	U
108-95-2	Phenol	3600	U
111-44-4	bis(2-Chloroethyl) Ether	3600	U
95-57-8	2-Chlorophenol	3600	U
95-48-7	2-Methylphenol	3600	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3600	U
98-86-2	Acetophenone	3600	U
106-44-5	4-Methylphenol	3600	U
621-64-7	N-Nitroso-di-n-propylamine	3600	U
67-72-1	Hexachloroethane	3600	U
98-95-3	Nitrobenzene	3600	U
78-59-1	Isophorone	3600	U
88-75-5	2-Nitrophenol	3600	U
105-67-9	2,4-Dimethylphenol	3600	U
111-91-1	bis(2-Chloroethoxy)methane	3600	U
120-83-2	2,4-Dichlorophenol	3600	U
91-20-3	Naphthalene	7700	D
106-47-8	4-Chloroaniline	3600	U
87-68-3	Hexachlorobutadiene	3600	U
105-60-2	Caprolactam	3600	U
59-50-7	4-Chloro-3-Methylphenol	3600	U
91-57-6	2-Methylnaphthalene	10000	D
77-47-4	Hexachlorocyclopentadiene	3600	U
88-06-2	2,4,6-Trichlorophenol	3600	U
95-95-4	2,4,5-Trichlorophenol	9200	U
92-52-4	1,1'-Biphenyl	3600	U
91-58-7	2-Chloronaphthalene	3600	U
88-74-4	2-Nitroaniline	9200	U
131-11-3	Dimethylphthalate	3600	U
606-20-2	2,6-Dinitrotoluene	3600	U
208-96-8	Acenaphthylene	3600	U
99-09-2	3-Nitroaniline	9200	U
83-32-9	Acenaphthene	3600	U

1D
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B39-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-03ADL

Sample wt/vol: 30.2(g/mL) G Lab File ID: S1F2959

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 10 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/01/07

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
51-28-5	2,4-Dinitrophenol	9200	U
100-02-7	4-Nitrophenol	9200	U
132-64-9	Dibenzofuran	3600	U
121-14-2	2,4-Dinitrotoluene	3600	U
84-66-2	Diethylphthalate	3600	U
86-73-7	Fluorene	3600	U
7005-72-3	4-Chlorophenyl-phenylether	3600	U
100-01-6	4-Nitroaniline	9200	U
534-52-1	4,6-Dinitro-2-methylphenol	9200	U
86-30-6	N-Nitrosodiphenylamine (1)	3600	U
101-55-3	4-Bromophenyl-phenylether	3600	U
118-74-1	Hexachlorobenzene	3600	U
1912-24-9	Atrazine	3600	U
87-86-5	Pentachlorophenol	9200	U
85-01-8	Phenanthrene	3600	U
120-12-7	Anthracene	3600	U
86-74-8	Carbazole	3600	U
84-74-2	Di-n-butylphthalate	3600	U
206-44-0	Fluoranthene	3600	U
129-00-0	Pyrene	3600	U
85-68-7	Butylbenzylphthalate	3600	U
91-94-1	3,3'-Dichlorobenzidine	3600	U
56-55-3	Benzo(a)anthracene	3600	U
218-01-9	Chrysene	3600	U
117-81-7	bis(2-Ethylhexyl)phthalate	3600	U
117-84-0	Di-n-octylphthalate	3600	U
205-99-2	Benzo(b)fluoranthene	3600	U
207-08-9	Benzo(k)fluoranthene	3600	U
50-32-8	Benzo(a)pyrene	3600	U
193-39-5	Indeno(1,2,3-cd)pyrene	3600	U
53-70-3	Dibenzo(a,h)anthracene	3600	U
191-24-2	Benzo(g,h,i)perylene	3600	U

(1) - Cannot be separated from Diphenylamine

1G
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B39-11DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-03ADL

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S1F2959

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: 10 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 30

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.63	2200	JD
2. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	7.72	6000	NJD
3. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	7.82	4200	NJD
4. 622-96-8	BENZENE, 1-ETHYL-4-METHYL-	7.95	2600	NJD
5. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	8.15	16000	NJD
6. 95-63-6	BENZENE, 1,2,4-TRIMETHYL-	8.50	5200	NJD
7. 496-11-7	INDANE	8.70	2200	NJD
8.	UNKNOWN	8.77	3000	JD
9. 1074-43-7	BENZENE, 1-METHYL-3-PROPYL-	8.81	6800	NJD
10. 934-74-7	BENZENE, 1-ETHYL-3,5-DIMETHY	8.87	11000	NJD
11.	UNKNOWN	8.95	1300	JD
12. 934-74-7	BENZENE, 1-ETHYL-3,5-DIMETHY	9.10	3900	NJD
13. 535-77-3	BENZENE, 1-METHYL-3-(1-METHY	9.14	3700	NJD
14.	UNKNOWN	9.39	1600	JD
15. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	9.59	2900	NJD
16. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	9.63	4200	NJD
17. 13632-94-5	BENZENE, 1,4-DIETHYL-2-METHY	9.79	1400	NJD
18.	UNKNOWN	9.85	2200	JD
19. 824-22-6	1H-INDENE, 2,3-DIHYDRO-4-MET	9.90	2800	NJD
20.	UNKNOWN	9.95	1900	JD
21. 824-90-8	1-PHENYL-1-BUTENE	10.00	6700	NJD
22.	UNKNOWN	10.12	1700	JD
23. 1595-16-0	BENZENE, 1-METHYL-4-(1-METHY	10.19	1900	NJD
24. 20836-11-7	1H-INDENE, 2,3-DIHYDRO-2,2-DI	10.40	2400	NJD
25. 4701-36-4	BENZENE, (1-ETHYL-1-PROPENYL	10.87	1500	NJD
26. 6682-71-9	1H-INDENE, 2,3-DIHYDRO-4,7-D	11.05	1800	NJD
27.	UNKNOWN	11.25	1000	JD
28. 90-12-0	NAPHTHALENE, 1-METHYL-	11.77	2800	NJD
29. 575-37-1	NAPHTHALENE, 1,7-DIMETHYL-	12.62	1200	NJD
30. 575-43-9	NAPHTHALENE, 1,6-DIMETHYL-	12.75	1300	NJD

FORM I SV-TIC

OLM04.3

0048

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S1RLCS

Lab Name: MITKEM CORPORATION

Contract: _____

Lab Code: MITKEM Case No.: _____

SAS No.: _____

SDG No.: MF0609

Matrix: (soil/water) SOIL

Lab Sample ID: LCS-29995

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: S1F2953

Level: (low/med) LOW

Date Received: _____

% Moisture: 0 Decanted: (Y/N) N

Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

100-52-7	Benzaldehyde	330	U
108-95-2	Phenol	2000	
111-44-4	bis(2-Chloroethyl) Ether	330	U
95-57-8	2-Chlorophenol	1900	
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
98-86-2	Acetophenone	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	1300	
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
105-60-2	Caprolactam	330	U
59-50-7	4-Chloro-3-Methylphenol	2000	
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	830	U
92-52-4	1,1'-Biphenyl	330	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	330	U
606-20-2	2,6-Dinitrotoluene	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	1200	

1D
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S1RLCS

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: LCS-29995

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S1F2953

Level: (low/med) LOW Date Received: _____

% Moisture: 0 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____ Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
51-28-5	2,4-Dinitrophenol	830	U
100-02-7	4-Nitrophenol	2100	
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	1300	
84-66-2	Diethylphthalate	330	U
86-73-7	Fluorene	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
1912-24-9	Atrazine	330	U
87-86-5	Pentachlorophenol	2100	
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	980	
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	120	JB
117-84-0	Di-n-octylphthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenzo(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B14-6DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-01BDL

Sample wt/vol: 5.1 (g/mL) G Lab File ID: V5H7658

Level: (low/med) MED Date Received: 05/12/07

% Moisture: not dec. 16 Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 20.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

75-71-8	Dichlorodifluoromethane	14000	U
74-87-3	Chloromethane	14000	U
75-01-4	Vinyl Chloride	14000	U
74-83-9	Bromomethane	14000	U
75-00-3	Chloroethane	14000	U
75-69-4	Trichlorofluoromethane	14000	U
75-35-4	1,1-Dichloroethene	14000	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	14000	U
67-64-1	Acetone	14000	U
75-15-0	Carbon Disulfide	14000	U
79-20-9	Methyl Acetate	14000	U
75-09-2	Methylene Chloride	14000	U
156-60-5	trans-1,2-Dichloroethene	14000	U
1634-04-4	Methyl tert-Butyl Ether	14000	U
75-34-3	1,1-Dichloroethane	14000	U
156-59-2	cis-1,2-Dichloroethene	14000	U
78-93-3	2-Butanone	14000	U
67-66-3	Chloroform	14000	U
71-55-6	1,1,1-Trichloroethane	14000	U
110-82-7	Cyclohexane	14000	U
56-23-5	Carbon Tetrachloride	14000	U
71-43-2	Benzene	14000	U
107-06-2	1,2-Dichloroethane	14000	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B14-6DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: F0609-01BDL

Sample wt/vol: 5.1 (g/mL) G Lab File ID: V5H7658

Level: (low/med) MED Date Received: 05/12/07

% Moisture: not dec. 16 Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 20.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

79-01-6	Trichloroethene	14000	U
108-87-2	Methylcyclohexane	14000	D
78-87-5	1,2-Dichloropropane	14000	U
75-27-4	Bromodichloromethane	14000	U
10061-01-5	cis-1,3-Dichloropropene	14000	U
108-10-1	4-Methyl-2-Pentanone	14000	U
108-88-3	Toluene	11000	DJ
10061-02-6	trans-1,3-Dichloropropene	14000	U
79-00-5	1,1,2-Trichloroethane	14000	U
127-18-4	Tetrachloroethene	14000	U
591-78-6	2-Hexanone	14000	U
124-48-1	Dibromochloromethane	14000	U
106-93-4	1,2-Dibromoethane	14000	U
108-90-7	Chlorobenzene	14000	U
100-41-4	Ethylbenzene	67000	D
1330-20-7	Xylene (Total)	390000	D
100-42-5	Styrene	14000	U
75-25-2	Bromoform	14000	U
98-82-8	Isopropylbenzene	10000	DJ
79-34-5	1,1,2,2-Tetrachloroethane	14000	U
541-73-1	1,3-Dichlorobenzene	14000	U
106-46-7	1,4-Dichlorobenzene	14000	U
95-50-1	1,2-Dichlorobenzene	14000	U
96-12-8	1,2-Dibromo-3-chloropropane	14000	U
120-82-1	1,2,4-Trichlorobenzene	14000	U

INORGANIC ANALYSIS DATA SHEET

B14-6

Lab Name: Mitkem CorporationContract: 2660-02Lab Code: MITKEM Case No.: _____NRAS No.: _____ SDG No.: MF0609Matrix (soil/water): SOILLab Sample ID: F0609-01Level (low/med): MEDDate Received: 05/12/2007% Solids: 84.2Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12200			P
7440-36-0	Antimony	5.6	U	N	P
7440-38-2	Arsenic	2.0			P
7440-39-3	Barium	44.0			P
7440-41-7	Beryllium	0.47	U		P
7440-43-9	Cadmium	0.47	U		P
7440-70-2	Calcium	1820			P
7440-47-3	Chromium	18.3			P
7440-48-4	Cobalt	7.4			P
7440-50-8	Copper	22.6			P
7439-89-6	Iron	18600			P
7439-92-1	Lead	27.3		*	P
7439-95-4	Magnesium	4320			P
7439-96-5	Manganese	239			P
7439-97-6	Mercury	0.11	J	N*	CV
7440-02-0	Nickel	14.8			P
7440-09-7	Potassium	1140			P
7782-49-2	Selenium	0.96	J		P
7440-22-4	Silver	0.94	U		P
7440-23-5	Sodium	112	J		P
7440-28-0	Thallium	1.8	J		P
7440-62-2	Vanadium	19.5			P
7440-66-6	Zinc	54.1		*E	P

Color Before GREY

Clarity Before: _____

Texture: MEDIUMColor After: YELLOWClarity After: CLEAR

Artifacts: _____

Comments:

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

B29-11

Lab Name: Mitkem CorporationContract: 2660-02Lab Code: MITKEM Case No.: _____NRAS No.: _____ SDG No.: MF0609Matrix (soil/water): SOILLab Sample ID: F0609-02Level (low/med): MEDDate Received: 05/12/2007% Solids: 84.7Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10900			P
7440-36-0	Antimony	6.4	U	N	P
7440-38-2	Arsenic	2.5			P
7440-39-3	Barium	41.7			P
7440-41-7	Beryllium	0.53	U		P
7440-43-9	Cadmium	0.022	J		P
7440-70-2	Calcium	1670			P
7440-47-3	Chromium	14.7			P
7440-48-4	Cobalt	5.4			P
7440-50-8	Copper	19.3			P
7439-89-6	Iron	15300			P
7439-92-1	Lead	11.0		*	P
7439-95-4	Magnesium	3980			P
7439-96-5	Manganese	168			P
7439-97-6	Mercury	0.12	U	N*	CV
7440-02-0	Nickel	14.5			P
7440-09-7	Potassium	1040			P
7782-49-2	Selenium	1.3	J		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	126	J		P
7440-28-0	Thallium	1.2	J		P
7440-62-2	Vanadium	14.8			P
7440-66-6	Zinc	72.8		*E	P

Color Before GREY

Clarity Before: _____

Texture: MEDIUMColor After: YELLOWClarity After: CLEAR

Artifacts: _____

Comments:

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

B39-11

Lab Name: Mitkem CorporationContract: 2660-02Lab Code: MITKEM

Case No.: _____

NRAS No.: _____

SDG No.: MF0609Matrix (soil/water): SOILLab Sample ID: F0609-03Level (low/med): MEDDate Received: 05/12/2007% Solids: 89.7Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9540			P
7440-36-0	Antimony	6.4	U	N	P
7440-38-2	Arsenic	0.69	J		P
7440-39-3	Barium	78.2			P
7440-41-7	Beryllium	0.54	U		P
7440-43-9	Cadmium	0.54	U		P
7440-70-2	Calcium	2020			P
7440-47-3	Chromium	20.7			P
7440-48-4	Cobalt	9.5			P
7440-50-8	Copper	34.6			P
7439-89-6	Iron	16100			P
7439-92-1	Lead	5.6		*	P
7439-95-4	Magnesium	3420			P
7439-96-5	Manganese	243			P
7439-97-6	Mercury	0.097	U	N*	CV
7440-02-0	Nickel	16.0			P
7440-09-7	Potassium	2620			P
7782-49-2	Selenium	1.2	J		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	112	J		P
7440-28-0	Thallium	1.4	J		P
7440-62-2	Vanadium	29.6			P
7440-66-6	Zinc	65.7		*E	P

Color Before BROWN

Clarity Before: _____

Texture: MEDIUMColor After: YELLOWClarity After: CLEAR

Artifacts: _____

Comments:

USEPA - CLP
7-IN
LABORATORY CONTROL SAMPLE

Lab Name: Mitkem Corporation Contract: 2660-02
 Lab Code: MITKEM Case No.: _____ NRAS No.: _____ SDG No.: MF0609
 Solid LCS Source: _____ LCS(D) ID: _____
 Aqueous LCS Source: _____ LCS-30048

Analyte	Aqueous (ug/L)			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits		%R
Mercury				3.9	4.1		2.6	5.2	105

USEPA - CLP
7-IN
LABORATORY CONTROL SAMPLE

Lab Name: Mitkem Corporation Contract: 2660-02
 Lab Code: MITKEM Case No.: _____ NRAS No.: _____ SDG No.: MF0609
 Solid LCS Source: _____ LCS(D) ID: _____
 Aqueous LCS Source: _____ LCS-30257

Analyte	Aqueous (ug/L)			Solid (mg/kg)					%R
	True	Found	%R	True	Found	C	Limits		
Aluminum				7360.0	7646.8		4329.9	10399.7	104
Antimony				78.2	43.0		6	165.0	55
Arsenic				197.0	201.3		159	236.0	102
Barium				645.0	698.8		534	756.0	108
Beryllium				68.9	70.2		56.5	81.2	102
Cadmium				77.3	78.3		60.8	93.8	101
Calcium				4080.0	4705.7		3239.9	4920.1	115
Chromium				129.0	131.7		104	154.0	102
Cobalt				115.0	123.3		94.1	136.0	107
Copper				94.6	101.6		76.6	113.0	107
Iron				15100.0	11565.2		7020	23299.3	77
Lead				106.0	105.6		86.6	125.0	100
Magnesium				2370.0	2516.1		1850	2890.0	106
Manganese				326.0	344.9		265	387.0	106
Nickel				211.0	222.9		174	248.0	106
Potassium				2490.0	2531.0		1819.9	3160.1	102
Selenium				104.0	100.3		80.5	127.0	96
Silver				155.0	133.2		103	207.0	86
Sodium				722.0	735.0		462	982.0	102
Thallium				132.0	137.4		102	162.0	104
Vanadium				148.0	144.0		114	182.0	97
Zinc				150.0	155.2		119	181.0	103

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	VBLK5R	106	98	104		0
02	V5RLCS	102	97	105		0
03	B14-6	216*	147*	90		2
04	B29-11	121	88	84		0
05	B39-11	151*	99	79		1
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (TOL) = Toluene-d8 (84-138)
 SMC2 (BFB) = Bromofluorobenzene (59-113)
 SMC3 (DCE) = 1,2-Dichloroethane-d4 (70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Level: (low/med) MED

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	VBLK5U	107	89	91		0
02	B29-11DL	101	73	59*		1
03	B39-11DL	103	73	57*		1
04	B14-6DL	101	71	56*		1
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (TOL) = Toluene-d8 (84-138)
 SMC2 (BFB) = Bromofluorobenzene (59-113)
 SMC3 (DCE) = 1,2-Dichloroethane-d4 (70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
	=====	=====	=====	=====	=====	=====
01	VBLK5I	104	103	97		0
02	VHBLK5I	106	101	99		0
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (TOL) = Toluene-d8 (88-110)
 SMC2 (BFB) = Bromofluorobenzene (86-115)
 SMC3 (DCE) = 1,2-Dichloroethane-d4 (76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	SBLK1R	71	75	109	85	74	71	76	77	0
02	S1RLCS	74	74	109	87	81	77	78	79	0
03	B14-6	94	67	98	98	86	80	76	79	0
04	B29-11	63	69	106	75	71	67	73	71	0
05	B39-11	66	68	100	61	48	26	55	68	0
06	B14-6DL	82	64	100	74	65	70	60	73	0
07	B29-11DL	75	72	104	80	71	71	72	72	0
08	B39-11DL	72	66	101	71	45	23	51	64	0
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (23-120)
 S2 (FBP) = 2-Fluorobiphenyl (30-115)
 S3 (TPH) = Terphenyl-d14 (18-137)
 S4 (PHL) = Phenol-d5 (24-113)
 S5 (2FP) = 2-Fluorophenol (25-121)
 S6 (TBP) = 2,4,6-Tribromophenol (19-122)
 S7 (2CP) = 2-Chlorophenol-d4 (20-130) (advisory)
 S8 (DCB) = 1,2-Dichlorobenzene-d4 (20-130) (advisory)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract: _____
 Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609
 Matrix Spike - Sample No.: V5RLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	50		54	108	59-172
Benzene	50		55	110	66-142
Trichloroethene	50		56	112	62-137
Toluene	50		52	104	59-139
Chlorobenzene	50		55	110	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS: _____

FORM III VOA

0000

FORM 3
SOIL SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract: _____
 Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609
 Matrix Spike - Sample No.: S1RLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Phenol	2500		2000	80	26- 90
2-Chlorophenol	2500		1900	76	25-102
N-Nitroso-di-n-prop. (1)	1700		1300	76	41-126
4-Chloro-3-Methylphenol	2500		2000	80	26-103
Acenaphthene	1700		1200	71	31-137
4-Nitrophenol	2500		2100	84	11-114
2,4-Dinitrotoluene	1700		1300	76	28- 89
Pentachlorophenol	2500		2100	84	17-109
Pyrene	1700		980	58	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits

RPD: 0 out of 0 outside limits
 Spike Recovery: 0 out of 9 outside limits

COMMENTS: _____

FORM III SV

0001

USEPA - CLP

5A-IN

EPA SAMPLE NO.

MATRIX SPIKE SAMPLE RECOVERY

B14-6S

Lab Name: Mitkem Corporation

Contract: 2660-02

Lab Code: MITKEM

Case No.:

NRAS No.:

SDG No.: MF0609

Matrix (soil/water): SOIL

Level (low/med): MED

% Solids for Sample: 84.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Antimony	75-125	3.0545 J	5.6000 U	18.70	16	N	P
Arsenic	75-125	8.6381	1.9623	7.48	89		P
Barium	75-125	441.4075	44.0416	374.06	106		P
Beryllium	75-125	9.1743	0.4700 U	9.35	98		P
Cadmium	75-125	9.0934	0.4700 U	9.35	97		P
Chromium	75-125	54.3155	18.3003	37.41	96		P
Cobalt	75-125	100.9987	7.3663	93.52	100		P
Copper	75-125	69.6138	22.5805	46.76	101		P
Lead		29.7592	27.2999	3.74	66		P
Manganese	75-125	341.4323	238.6096	93.52	110		P
Nickel	75-125	108.1757	14.8464	93.52	100		P
Selenium	75-125	8.9620	0.9607 J	9.35	86		P
Silver	75-125	9.5698	0.9400 U	9.35	102		P
Thallium	75-125	11.0976	1.7517 J	9.35	100		P
Vanadium	75-125	108.1255	19.5270	93.52	95		P
Zinc	75-125	151.8395	54.1427	93.52	104		P
Mercury	75-125	1.5982	0.1059 J	1.13	132	N	CV

Comments:

USEPA - CLP

5B-IN

EPA SAMPLE NO.

POST-DIGESTION SPIKE SAMPLE RECOVERY

B14-6A

Lab Name: Mitkem CorporationContract: 2660-02Lab Code: MITKEM Case No.: _____

NRAS No.: _____

SDG No.: MF0609Matrix (soil/water): SOILLevel (low/med): MED

Concentration Units (ug/L or mg/kg dry weight): ug/L

Analyte	Control Limit %R	Spike Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Antimony		97.29	0.22 U	120.0	81		P

Comments:

USEPA - CLP

6-IN

EPA SAMPLE NO.

DUPLICATES

B14-6D

Lab Name: Mitkem Corporation

Contract: 2660-02

Lab Code: MITKEM Case No.:

NRAS No.:

SDG No.: MF0609

Matrix (soil/water): SOIL

Level (low/med): MED

% Solids for Sample: 84.2

% Solids for Duplicate: 84.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		12173.1675		12152.4283		0		P
Antimony		5.6000	U	5.6000	U			P
Arsenic	0.9	1.9623		2.2265		13		P
Barium	19.0	44.0416		48.1581		9		P
Beryllium		0.4700	U	0.4700	U			P
Cadmium		0.4700	U	0.0336	J	200		P
Calcium	470.0	1817.9449		1869.0147		3		P
Chromium		18.3003		19.8724		8		P
Cobalt	4.7	7.3663		6.6598		10		P
Copper		22.5805		24.5975		9		P
Iron		18646.3623		19145.0515		3		P
Lead		27.2999		53.9611		66	*	P
Magnesium		4318.8002		4139.0616		4		P
Manganese		238.6096		258.9358		8		P
Nickel	3.7	14.8464		14.6938		1		P
Potassium	470.0	1139.4126		1125.9343		1		P
Selenium		0.9607	J	0.9332	J	3		P
Silver		0.9400	U	0.9400	U			P
Sodium		111.8970	J	116.4719	J	4		P
Thallium		1.7517	J	1.8948	J	8		P
Vanadium	4.7	19.5270		20.7234		6		P
Zinc		54.1427		68.3602		23	*	P
Mercury	0.1	0.1059	J	0.3583		109	*	CV

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK5R

Lab Name: MITKEM CORPORATION Contract: _____
 Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609
 Lab File ID: V5H7574 Lab Sample ID: MB-29998
 Date Analyzed: 05/18/07 Time Analyzed: 1121
 GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y
 Instrument ID: V5

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	V5RLCS	LCS-29998	V5H7575	1201
02	B14-6	F0609-01B	V5H7576	1231
03	B29-11	F0609-02B	V5H7577	1301
04	B39-11	F0609-03B	V5H7578	1331
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK5R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: MB-29998

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V5H7574

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK5R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: MB-29998

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V5H7574

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

79-01-6	Trichloroethene	10	U
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylene (Total)	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBK5R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: MB-29998

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V5H7574

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/18/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK5U

Lab Name: MITKEM CORPORATION Contract: _____
 Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609
 Lab File ID: V5H7650 Lab Sample ID: MB-30068
 Date Analyzed: 05/22/07 Time Analyzed: 1441
 GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N
 Instrument ID: V5

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	B29-11DL	F0609-02BDL	V5H7656	1806
02	B39-11DL	F0609-03BDL	V5H7657	1835
03	B14-6DL	F0609-01BDL	V5H7658	1905
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBK5U

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: MB-30068

Sample wt/vol: 4.0(g/mL) G Lab File ID: V5H7650

Level: (low/med) MED Date Received: 05/17/07

% Moisture: not dec. _____ Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000(uL) Soil Aliquot Volume: 100(uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

75-71-8	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	1300	U
75-01-4	Vinyl Chloride	1300	U
74-83-9	Bromomethane	1300	U
75-00-3	Chloroethane	1300	U
75-69-4	Trichlorofluoromethane	1300	U
75-35-4	1,1-Dichloroethene	1300	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1300	U
67-64-1	Acetone	1300	U
75-15-0	Carbon Disulfide	1300	U
79-20-9	Methyl Acetate	1300	U
75-09-2	Methylene Chloride	1300	U
156-60-5	trans-1,2-Dichloroethene	1300	U
1634-04-4	Methyl tert-Butyl Ether	1300	U
75-34-3	1,1-Dichloroethane	1300	U
156-59-2	cis-1,2-Dichloroethene	1300	U
78-93-3	2-Butanone	1300	U
67-66-3	Chloroform	1300	U
71-55-6	1,1,1-Trichloroethane	1300	U
110-82-7	Cyclohexane	1300	U
56-23-5	Carbon Tetrachloride	1300	U
71-43-2	Benzene	1300	U
107-06-2	1,2-Dichloroethane	1300	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK5U

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: MB-30068

Sample wt/vol: 4.0 (g/mL) G Lab File ID: V5H7650

Level: (low/med) MED Date Received: 05/17/07

% Moisture: not dec. _____ Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

79-01-6	Trichloroethene	1300	U
108-87-2	Methylcyclohexane	1300	U
78-87-5	1,2-Dichloropropane	1300	U
75-27-4	Bromodichloromethane	1300	U
10061-01-5	cis-1,3-Dichloropropene	1300	U
108-10-1	4-Methyl-2-Pentanone	1300	U
108-88-3	Toluene	1300	U
10061-02-6	trans-1,3-Dichloropropene	1300	U
79-00-5	1,1,2-Trichloroethane	1300	U
127-18-4	Tetrachloroethene	1300	U
591-78-6	2-Hexanone	1300	U
124-48-1	Dibromochloromethane	1300	U
106-93-4	1,2-Dibromoethane	1300	U
108-90-7	Chlorobenzene	1300	U
100-41-4	Ethylbenzene	1300	U
1330-20-7	Xylene (Total)	1300	U
100-42-5	Styrene	1300	U
75-25-2	Bromoform	1300	U
98-82-8	Isopropylbenzene	1300	U
79-34-5	1,1,2,2-Tetrachloroethane	1300	U
541-73-1	1,3-Dichlorobenzene	1300	U
106-46-7	1,4-Dichlorobenzene	1300	U
95-50-1	1,2-Dichlorobenzene	1300	U
96-12-8	1,2-Dibromo-3-chloropropane	1300	U
120-82-1	1,2,4-Trichlorobenzene	1300	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK5U

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: MB-30068

Sample wt/vol: 4.0 (g/mL) G Lab File ID: V5H7650

Level: (low/med) MED Date Received: 05/17/07

% Moisture: not dec. _____ Date Analyzed: 05/22/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK5I

Lab Name: MITKEM CORPORATION

Contract: _____

Lab Code: MITKEM Case No.: _____

SAS No.: _____ SDG No.: MF0609

Lab File ID: V5H7962

Lab Sample ID: MB-30305

Date Analyzed: 06/02/07

Time Analyzed: 2303

GC Column: DB-624 ID: 0.25 (mm)

Heated Purge: (Y/N) N

Instrument ID: V5

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO. =====	LAB SAMPLE ID =====	LAB FILE ID =====	TIME ANALYZED =====
01	VHBLK5I	VHBLK5I	V5H7962A	2332
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK5I

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) WATER Lab Sample ID: MB-30305

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V5H7962

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/02/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND		
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBK5I

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) WATER Lab Sample ID: MB-30305

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V5H7962

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/02/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO. COMPOUND

79-01-6	Trichloroethene	10	U
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylene (Total)	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	2	J

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK5I

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) WATER Lab Sample ID: MB-30305

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V5H7962

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/02/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLK5I

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) WATER Lab Sample ID: VHBLK5I

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V5H7962A

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: not dec. _____ Date Analyzed: 06/02/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO. COMPOUND

75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLK5I

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) WATER Lab Sample ID: VHBLK5I

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V5H7962A

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: not dec. _____ Date Analyzed: 06/02/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO. COMPOUND

79-01-6	Trichloroethene	10	U
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylene (Total)	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VHBLK5I

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) WATER Lab Sample ID: VHBLK5I

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V5H7962A

Level: (low/med) LOW Date Received: 05/12/07

% Moisture: not dec. _____ Date Analyzed: 06/02/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK1R

Lab Name: MITKEM CORPORATION

Contract: _____

Lab Code: MITKEM Case No.: _____

SAS No.: _____ SDG No.: MF0609

Lab File ID: S1F2952

Lab Sample ID: MB-29995

Instrument ID: S1

Date Extracted: 05/18/07

Matrix: (soil/water) SOIL

Date Analyzed: 06/01/07

Level: (low/med) LOW

Time Analyzed: 1659

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	B14-6	F0609-01A	S1F2954	06/01/07
02	B29-11	F0609-02A	S1F2955	06/01/07
03	B39-11	F0609-03A	S1F2956	06/01/07
04	B14-6DL	F0609-01ADL	S1F2957	06/01/07
05	B29-11DL	F0609-02ADL	S1F2958	06/01/07
06	B39-11DL	F0609-03ADL	S1F2959	06/01/07
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: MB-29995

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S1F2952

Level: (low/med) LOW Date Received: _____

% Moisture: 0 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____ Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
100-52-7	Benzaldehyde	330	U
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl) Ether	330	U
95-57-8	2-Chlorophenol	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
98-86-2	Acetophenone	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
105-60-2	Caprolactam	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	830	U
92-52-4	1,1'-Biphenyl	330	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	330	U
606-20-2	2,6-Dinitrotoluene	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	330	U

1D
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: MB-29995

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S1F2952

Level: (low/med) LOW Date Received: _____

% Moisture: 0 Decanted: (Y/N) N Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____ Extraction: (Type) SONC

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO. COMPOUND

51-28-5	2,4-Dinitrophenol	830	U
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
86-73-7	Fluorene	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
1912-24-9	Atrazine	330	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo (a) anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	120	J
117-84-0	Di-n-octylphthalate	330	U
205-99-2	Benzo (b) fluoranthene	330	U
207-08-9	Benzo (k) fluoranthene	330	U
50-32-8	Benzo (a) pyrene	330	U
193-39-5	Indeno (1,2,3-cd) pyrene	330	U
53-70-3	Dibenzo (a,h) anthracene	330	U
191-24-2	Benzo (g,h,i) perylene	330	U

(1) - Cannot be separated from Diphenylamine

1G
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK1R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609

Matrix: (soil/water) SOIL Lab Sample ID: MB-29995

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S1F2952

Level: (low/med) LOW Date Received: _____

% Moisture: _____ Decanted: (Y/N) _____ Date Extracted: 05/18/07

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/01/07

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____ Extraction: (Type) SONC

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	19.67	70	J
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

USEPA - CLP

3-IN

BLANKS

Lab Name: Mitkem CorporationContract: 2660-02Lab Code: MITKEM

Case No.: _____

NRAS No.: _____

SDG No.: MF0609Preparation Blank Matrix (soil/water): SOIL

Method Blank ID:

MB-30048Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		M
Mercury	0.015	J	-0.062	J	-0.070	J	-0.071	J	-0.038	CV

USEPA - CLP

3-IN

BLANKS

Lab Name: Mitkem CorporationContract: 2660-02Lab Code: MITKEM

Case No.: _____

NRAS No.: _____

SDG No.: MF0609Preparation Blank Matrix (soil/water): SOIL

Method Blank ID:

MB-30257Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Potassium	3.866	J	6.274	J	-11.452	J	5.343	J	4.075	J	P
Sodium	11.547	J	11.348	J	4.524	J	16.991	J	10.017	J	P

USEPA - CLP

3-IN

BLANKS

Lab Name: Mitkem CorporationContract: 2660-02Lab Code: MITKEM

Case No.: _____

NRAS No.: _____

SDG No.: MF0609Preparation Blank Matrix (soil/water): SOIL

Method Blank ID:

MB-30257Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum	1.897	J	200.000	U	-2.852	J	7.382	J	2.875	J	P
Antimony	1.483	J	1.383	J	2.259	J	0.604	J	0.356	J	P
Arsenic	2.735	J	3.001	J	1.058	J	3.209	J	-0.075	B	P
Barium	200.000	U	200.000	U	200.000	U	200.000	U	0.148	J	P
Beryllium	0.015	J	0.015	J	0.012	J	-0.006	J	0.500	U	P
Cadmium	5.000	U	0.069	J	0.048	J	5.000	U	0.500	U	P
Calcium	-62.007	J	-72.006	J	-55.868	J	-105.603	J	500.000	U	P
Chromium	0.052	J	-0.048	J	-0.123	J	-0.132	J	0.075	J	P
Cobalt	0.115	J	50.000	U	50.000	U	0.101	J	-0.015	B	P
Copper	25.000	U	25.000	U	25.000	U	25.000	U	0.843	J	P
Iron	-2.883	J	-4.562	J	-4.447	J	-4.818	J	5.777	J	P
Lead	0.148	J	-1.048	J	-1.646	J	-0.863	J	0.333	J	P
Magnesium	2.934	J	-3.140	J	5000.000	U	5000.000	U	1.895	B	P
Manganese	15.000	U	15.000	U	15.000	U	15.000	U	0.993	J	P
Nickel	0.205	J	0.303	J	0.123	J	0.134	J	0.063	B	P
Selenium	-1.762	J	-1.463	J	-2.424	J	-1.011	J	-0.286	B	P
Silver	4.096	J	2.847	J	0.428	J	0.269	J	1.005		P
Thallium	2.880	J	2.767	J	1.461	J	2.940	J	0.122	J	P
Vanadium	-0.020	J	50.000	U	0.231	J	0.287	J	5.000	U	P
Zinc	60.000	U	60.000	U	60.000	U	60.000	U	2.509	J	P

USEPA - CLP

3-IN

BLANKS

Lab Name: Mitkem Corporation Contract: 2660-02Lab Code: MITKEM Case No.: _____ NRAS No.: _____ SDG No.: MF0609

Preparation Blank Matrix (soil/water): _____ Method Blank ID: _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Antimony	-1.549	J	-2.004	J	-0.953	J					

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION

Contract: _____

Lab Code: MITKEM Case No.: _____

SAS No.: _____ SDG No.: MF0609

EPA Sample No. (VSTD050##): VSTD0505R

Date Analyzed: 05/18/07

Lab File ID (Standard): V5H7573

Time Analyzed: 1036

Instrument ID: V5

Heated Purge: (Y/N) Y

GC Column: DB-624 ID: 0.25 (mm)

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	25473	5.03	131018	6.03	105792	9.12
UPPER LIMIT	50946	5.53	262036	6.53	211584	9.62
LOWER LIMIT	12737	4.53	65509	5.53	52896	8.62
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE						
=====	=====	=====	=====	=====	=====	=====
01 VBLK5R	32138	5.04	162902	6.03	132255	9.13
02 V5RLCS	24622	5.04	126711	6.03	106135	9.13
03 B14-6	27684	5.04	116406	6.04	74472	9.15
04 B29-11	33799	5.04	176941	6.03	138573	9.13
05 B39-11	35750	5.04	174781	6.04	132329	9.14
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION

Contract: _____

Lab Code: MITKEM Case No.: _____

SAS No.: _____ SDG No.: MF0609

EPA Sample No. (VSTD050##): VSTD0505U

Date Analyzed: 05/22/07

Lab File ID (Standard): V5H7641

Time Analyzed: 0930

Instrument ID: V5

Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

	IS1 (BCM) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	24028	5.03	122705	6.03	105992	9.12
UPPER LIMIT	48056	5.53	245410	6.53	211984	9.62
LOWER LIMIT	12014	4.53	61353	5.53	52996	8.62
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE						
=====	=====	=====	=====	=====	=====	=====
01 VBLK5U	24884	5.04	105892	6.03	77073	9.12
02 B29-11DL	34678	5.04	186117	6.03	149884	9.12
03 B39-11DL	58870*	5.04	297277*	6.03	236377*	9.13
04 B14-6DL	59082*	5.04	311257*	6.03	245437*	9.13
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract: _____
 Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MF0609
 EPA Sample No. (VSTD050##): VSTD0505I Date Analyzed: 06/02/07
 Lab File ID (Standard): V5H7961A Time Analyzed: 2234
 Instrument ID: V5 Heated Purge: (Y/N) N
 GC Column: DB-624 ID: 0.25 (mm)

	IS1 (BCM)	RT #	IS2 (DFB)	RT #	IS3 (CBZ)	RT #
	AREA #		AREA #		AREA #	
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	32617	4.93	164590	5.93	134970	9.01
UPPER LIMIT	65234	5.43	329180	6.43	269940	9.51
LOWER LIMIT	16309	4.43	82295	5.43	67485	8.51
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE						
=====	=====	=====	=====	=====	=====	=====
01 VBLK5I	42102	4.93	211723	5.93	162564	9.01
02 VHBLK5I	40979	4.93	201270	5.92	151063	9.01
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
 AREA LOWER LIMIT = - 50% of internal standard area
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION

Contract: _____

Lab Code: MITKEM Case No.: _____

SAS No.: _____ SDG No.: MF0609

EPA Sample No. (SSTD050##): SSTD0501H

Date Analyzed: 06/01/07

Lab File ID (Standard): S1F2951

Time Analyzed: 1610

Instrument ID: S1

GC Column: DB-5MS ID: 0.25 (mm)

	IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	324043	8.42	1172524	10.44	642904	13.35
UPPER LIMIT	648086	8.92	2345048	10.94	1285808	13.85
LOWER LIMIT	162022	7.92	586262	9.94	321452	12.85
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 SBLK1R	449984	8.42	1651152	10.44	864336	13.34
02 S1RLCS	487200	8.42	1767402	10.44	984176	13.34
03 B14-6	386210	8.47	1432376	10.52	842607	13.35
04 B29-11	421408	8.42	1470763	10.45	860745	13.34
05 B39-11	427429	8.42	1370364	10.45	810822	13.34
06 B14-6DL	472254	8.42	1516127	10.44	893197	13.33
07 B29-11DL	482917	8.42	1578562	10.44	910412	13.34
08 B39-11DL	480117	8.42	1659992	10.44	929084	13.34
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION

Contract: _____

Lab Code: MITKEM Case No.: _____

SAS No.: _____ SDG No.: MF0609

EPA Sample No. (SSTD050##): SSTD0501H

Date Analyzed: 06/01/07

Lab File ID (Standard): S1F2951

Time Analyzed: 1610

Instrument ID: S1

GC Column: DB-5MS ID: 0.25 (mm)

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1003063	15.82	1105663	20.24	868149	23.29
UPPER LIMIT	2006126	16.32	2211326	20.74	1736298	23.79
LOWER LIMIT	501532	15.32	552832	19.74	434075	22.79
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 SBLK1R	1274897	15.83	1396594	20.24	1043945	23.29
02 S1RLCS	1459348	15.83	1556927	20.24	1186463	23.29
03 B14-6	1095851	15.83	1254463	20.25	900426	23.30
04 B29-11	1257458	15.82	1293970	20.24	916766	23.29
05 B39-11	1238043	15.82	1350932	20.24	952853	23.28
06 B14-6DL	1288835	15.82	1342202	20.24	956743	23.27
07 B29-11DL	1330483	15.82	1494957	20.24	1065268	23.28
08 B39-11DL	1344258	15.82	1416431	20.23	1010366	23.28
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

ENVIRONMENTAL MAINTENANCE CONTRACTORS, INC.

Environmental Consulting and Remedial / Abatement Services

- * Asbestos Testing and Removal * Lead Based Paint (XRF) Testing * Underground Storage Tank Removal Services*
 - * Indoor Air Quality Testing * Mold Abatement Service * Hazardous Material Testing and Abatement *
 - * Environmental Phase I and II Assessments *
-

February 20, 2012

Ryan M. Piper
Engineering Geologist I
NYS Department of Environmental Conservation
Spill Prevention and Response Programs
Division of Environmental Remediation

**Re: NYS DEC Spill Case: 11-08991 – Soil Sample Analysis Report
for 1676 3rd Ave., New York City, NY 10011**

Dear Mr. Piper:

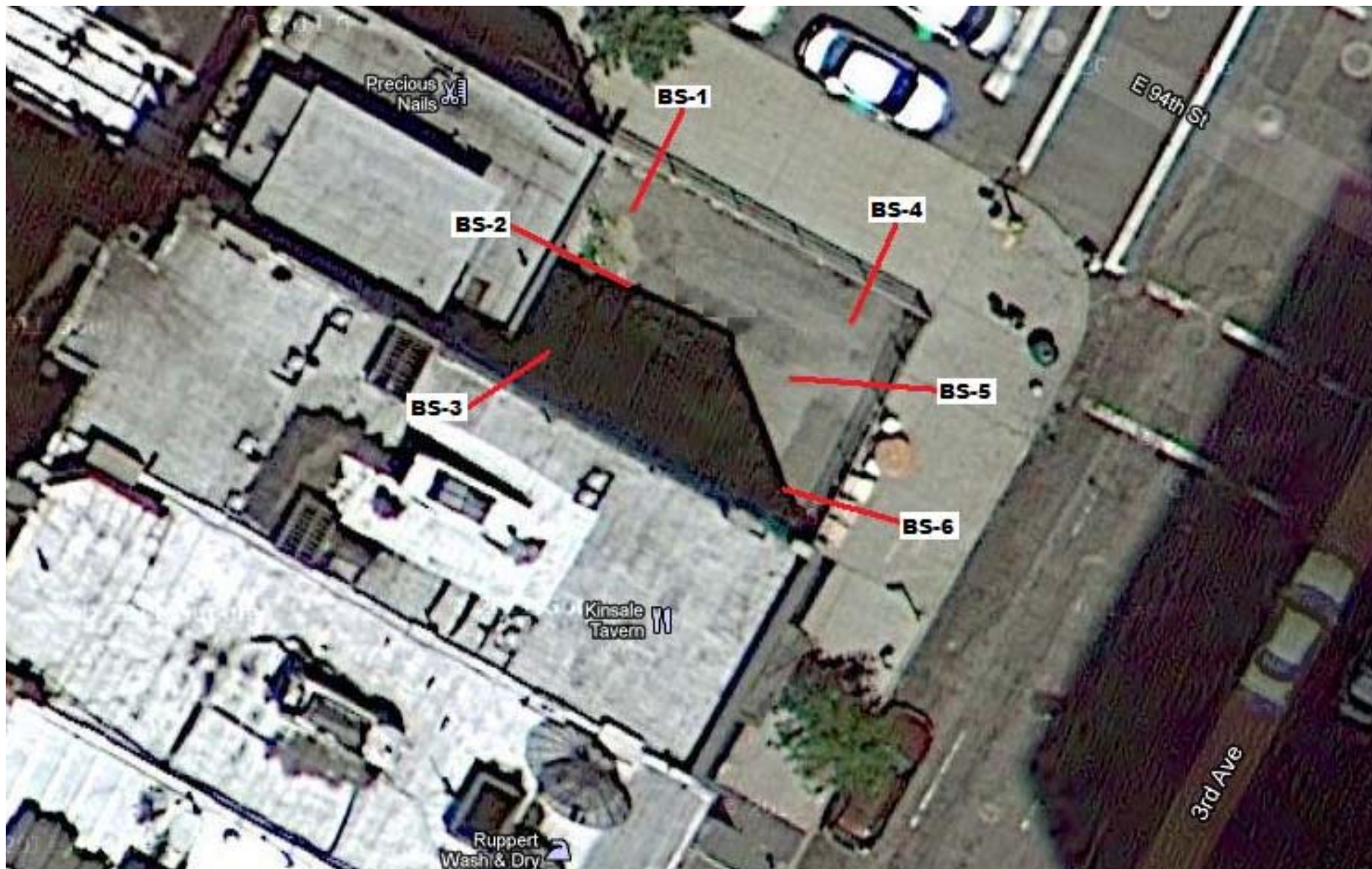
On February 8, 2012 excavation was completed and performed as per the “Scope of Work” provided. End point samples were collected and analyzed. (See attached copy of the soil sample results and sample locations for your review).

Please provide us with your feedback upon your review.

Should you have any questions please don’t hesitate to contact me.

Sincerely,
Environmental Maintenance Contractors, Inc.
Richard Stumbo
President

Attachments: Soil Sample Results, Sample Locations/Drawing and Analytical Results



1676 3rd Avenue, New York City, NY
Soil Sample Locations



Friday, February 17, 2012

Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Project ID: 1676 THIRD AVE NYC NY
Sample ID#s: BB42286 - BB42291

This laboratory is in compliance with the QA/QC procedures outlined in EPA 600/4-79-019, Handbook for Analytical Quality in Water and Waste Water, March 1979, SW846 QA/QC and NELAC requirements of procedures used.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

February 17, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time
02/08/12 10:50
02/09/12 16:42

Laboratory Data

SDG ID: GBB42286
Phoenix ID: BB42286

Project ID: 1676 THIRD AVE NYC NY

Client ID: BS-1

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	85		%	02/09/12		JL	E160.3
Soil Extraction for SVOA	Completed			02/09/12		MB/FR	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,1,1-Trichloroethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,1,2,2-Tetrachloroethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,1,2-Trichloroethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloroethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloroethene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloropropene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,2,3-Trichlorobenzene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,2,3-Trichloropropane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,2,4-Trichlorobenzene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,2,4-Trimethylbenzene	41000	1500	ug/Kg	02/10/12		H/J	SW8260
1,2-Dibromo-3-chloropropane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichlorobenzene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichloroethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichloropropane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,3,5-Trimethylbenzene	14000	1500	ug/Kg	02/10/12		H/J	SW8260
1,3-Dichlorobenzene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,3-Dichloropropane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
1,4-Dichlorobenzene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
2,2-Dichloropropane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
2-Chlorotoluene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
2-Hexanone	ND	7400	ug/Kg	02/10/12		H/J	SW8260
2-Isopropyltoluene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
4-Chlorotoluene	ND	1500	ug/Kg	02/10/12		H/J	SW8260

Client ID: BS-1

Parameter	Result	RL	Units	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	7400	ug/Kg	02/10/12		H/J	SW8260
Acetone	ND	7400	ug/Kg	02/10/12		H/J	SW8260
Acrylonitrile	ND	2900	ug/Kg	02/10/12		H/J	SW8260
Benzene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Bromobenzene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Bromochloromethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Bromodichloromethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Bromoform	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Bromomethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Carbon Disulfide	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Carbon tetrachloride	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Chlorobenzene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Chloroethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Chloroform	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Chloromethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Dibromochloromethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Dibromoethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Dibromomethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Dichlorodifluoromethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Ethylbenzene	7400	1500	ug/Kg	02/10/12		H/J	SW8260
Hexachlorobutadiene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Isopropylbenzene	1600	1500	ug/Kg	02/10/12		H/J	SW8260
m&p-Xylene	31000	1500	ug/Kg	02/10/12		H/J	SW8260
Methyl Ethyl Ketone	ND	7400	ug/Kg	02/10/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	2900	ug/Kg	02/10/12		H/J	SW8260
Methylene chloride	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Naphthalene	8500	1500	ug/Kg	02/10/12		H/J	SW8260
n-Butylbenzene	2700	1500	ug/Kg	02/10/12		H/J	SW8260
n-Propylbenzene	6000	1500	ug/Kg	02/10/12		H/J	SW8260
o-Xylene	5800	1500	ug/Kg	02/10/12		H/J	SW8260
p-Isopropyltoluene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
sec-Butylbenzene	29000	1500	ug/Kg	02/10/12		H/J	SW8260
Styrene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
tert-Butylbenzene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Tetrachloroethene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	2900	ug/Kg	02/10/12		H/J	SW8260
Toluene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Total Xylenes	36800	1500	ug/Kg	02/10/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	2900	ug/Kg	02/10/12		H/J	SW8260
Trichloroethene	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Trichlorofluoromethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Trichlorotrifluoroethane	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Vinyl chloride	ND	1500	ug/Kg	02/10/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	99		%	02/10/12		H/J	70 - 130 %
% Bromofluorobenzene	105		%	02/10/12		H/J	70 - 130 %

Client ID: BS-1

Parameter	Result	RL	Units	Date	Time	By	Reference
% Dibromofluoromethane	99		%	02/10/12		H/J	70 - 130 %
% Toluene-d8	98		%	02/10/12		H/J	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,2-Dichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,3-Dichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,4-Dichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4-Dichlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4-Dimethylphenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrophenol	ND	620	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrotoluene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,6-Dinitrotoluene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Chloronaphthalene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Chlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Methylnaphthalene	6600	270	ug/Kg	02/10/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Nitroaniline	ND	620	ug/Kg	02/10/12		DD	SW 8270
2-Nitrophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	390	ug/Kg	02/10/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	270	ug/Kg	02/10/12		DD	SW 8270
3-Nitroaniline	ND	620	ug/Kg	02/10/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	390	ug/Kg	02/10/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
4-Chloroaniline	ND	270	ug/Kg	02/10/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	02/10/12		DD	SW 8270
4-Nitroaniline	ND	620	ug/Kg	02/10/12		DD	SW 8270
4-Nitrophenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Acenaphthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Acenaphthylene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Acetophenone	ND	270	ug/Kg	02/10/12		DD	SW 8270
Aniline	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Anthracene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Azobenzene	ND	390	ug/Kg	02/10/12		DD	SW 8270
Benz(a)anthracene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzidine	ND	470	ug/Kg	02/10/12		DD	SW 8270
Benzo(a)pyrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzo(b)fluoranthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzo(ghi)perylene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzo(k)fluoranthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzoic acid	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Benzyl butyl phthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	390	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	02/10/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Carbazole	ND	580	ug/Kg	02/10/12		DD	SW 8270

Client ID: BS-1

Parameter	Result	RL	Units	Date	Time	By	Reference
Chrysene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Dibenzofuran	ND	270	ug/Kg	02/10/12		DD	SW 8270
Diethyl phthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Dimethylphthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Di-n-butylphthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Di-n-octylphthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Fluoranthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Fluorene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobutadiene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachloroethane	ND	270	ug/Kg	02/10/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Isophorone	ND	270	ug/Kg	02/10/12		DD	SW 8270
Naphthalene	6100	270	ug/Kg	02/10/12		DD	SW 8270
Nitrobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodimethylamine	ND	390	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	390	ug/Kg	02/10/12		DD	SW 8270
Pentachloronitrobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Pentachlorophenol	ND	390	ug/Kg	02/10/12		DD	SW 8270
Phenanthrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Phenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
Pyrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Pyridine	ND	390	ug/Kg	02/10/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	123		%	02/10/12		DD	15 - 130 %
% 2-Fluorobiphenyl	100		%	02/10/12		DD	15 - 130 %
% 2-Fluorophenol	99		%	02/10/12		DD	15 - 130 %
% Nitrobenzene-d5	99		%	02/10/12		DD	15 - 130 %
% Phenol-d5	102		%	02/10/12		DD	15 - 130 %
% Terphenyl-d14	100		%	02/10/12		DD	15 - 130 %

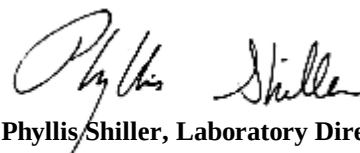
Comments:

Elevated reporting limits for volatiles due to the presence of target and non-target compounds.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

This report must not be reproduced except in full as defined by the attached chain of custody.


Phyllis Shiller, Laboratory Director

February 17, 2012



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

February 17, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time
02/08/12 10:53
02/09/12 16:42

Laboratory Data

SDG ID: GBB42286
Phoenix ID: BB42287

Project ID: 1676 THIRD AVE NYC NY

Client ID: BS-2

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	91		%	02/09/12		JL	E160.3
Soil Extraction for SVOA	Completed			02/09/12		MB/FR	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,1,1-Trichloroethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,1,2,2-Tetrachloroethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,1,2-Trichloroethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,1-Dichloroethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,1-Dichloroethene	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,1-Dichloropropene	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,2,3-Trichlorobenzene	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,2,3-Trichloropropane	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,2,4-Trichlorobenzene	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,2,4-Trimethylbenzene	11000	1400	ug/Kg	02/13/12		H/J	SW8260
1,2-Dibromo-3-chloropropane	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,2-Dichlorobenzene	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,2-Dichloroethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,2-Dichloropropane	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,3,5-Trimethylbenzene	4000	270	ug/Kg	02/13/12		H/J	SW8260
1,3-Dichlorobenzene	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,3-Dichloropropane	ND	270	ug/Kg	02/13/12		H/J	SW8260
1,4-Dichlorobenzene	ND	270	ug/Kg	02/13/12		H/J	SW8260
2,2-Dichloropropane	ND	270	ug/Kg	02/13/12		H/J	SW8260
2-Chlorotoluene	ND	270	ug/Kg	02/13/12		H/J	SW8260
2-Hexanone	ND	1400	ug/Kg	02/13/12		H/J	SW8260
2-Isopropyltoluene	ND	270	ug/Kg	02/13/12		H/J	SW8260
4-Chlorotoluene	ND	270	ug/Kg	02/13/12		H/J	SW8260

Client ID: BS-2

Parameter	Result	RL	Units	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	1400	ug/Kg	02/13/12		H/J	SW8260
Acetone	ND	1400	ug/Kg	02/13/12		H/J	SW8260
Acrylonitrile	ND	550	ug/Kg	02/13/12		H/J	SW8260
Benzene	ND	270	ug/Kg	02/13/12		H/J	SW8260
Bromobenzene	ND	270	ug/Kg	02/13/12		H/J	SW8260
Bromochloromethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
Bromodichloromethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
Bromoform	ND	270	ug/Kg	02/13/12		H/J	SW8260
Bromomethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
Carbon Disulfide	ND	270	ug/Kg	02/13/12		H/J	SW8260
Carbon tetrachloride	ND	270	ug/Kg	02/13/12		H/J	SW8260
Chlorobenzene	ND	270	ug/Kg	02/13/12		H/J	SW8260
Chloroethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
Chloroform	ND	270	ug/Kg	02/13/12		H/J	SW8260
Chloromethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	270	ug/Kg	02/13/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	270	ug/Kg	02/13/12		H/J	SW8260
Dibromochloromethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
Dibromoethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
Dibromomethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
Dichlorodifluoromethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
Ethylbenzene	6900	270	ug/Kg	02/13/12		H/J	SW8260
Hexachlorobutadiene	ND	270	ug/Kg	02/13/12		H/J	SW8260
Isopropylbenzene	1600	270	ug/Kg	02/13/12		H/J	SW8260
m&p-Xylene	7600	270	ug/Kg	02/13/12		H/J	SW8260
Methyl Ethyl Ketone	ND	1400	ug/Kg	02/13/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	550	ug/Kg	02/13/12		H/J	SW8260
Methylene chloride	ND	270	ug/Kg	02/13/12		H/J	SW8260
Naphthalene	4500	270	ug/Kg	02/13/12		H/J	SW8260
n-Butylbenzene	2500	270	ug/Kg	02/13/12		H/J	SW8260
n-Propylbenzene	5600	270	ug/Kg	02/13/12		H/J	SW8260
o-Xylene	3600	270	ug/Kg	02/13/12		H/J	SW8260
p-Isopropyltoluene	490	270	ug/Kg	02/13/12		H/J	SW8260
sec-Butylbenzene	1100	270	ug/Kg	02/13/12		H/J	SW8260
Styrene	ND	270	ug/Kg	02/13/12		H/J	SW8260
tert-Butylbenzene	ND	270	ug/Kg	02/13/12		H/J	SW8260
Tetrachloroethene	ND	270	ug/Kg	02/13/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	550	ug/Kg	02/13/12		H/J	SW8260
Toluene	400	270	ug/Kg	02/13/12		H/J	SW8260
Total Xylenes	11200	270	ug/Kg	02/13/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	270	ug/Kg	02/13/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	270	ug/Kg	02/13/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	550	ug/Kg	02/13/12		H/J	SW8260
Trichloroethene	ND	270	ug/Kg	02/13/12		H/J	SW8260
Trichlorofluoromethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
Trichlorotrifluoroethane	ND	270	ug/Kg	02/13/12		H/J	SW8260
Vinyl chloride	ND	270	ug/Kg	02/13/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	98		%	02/13/12		H/J	70 - 130 %
% Bromofluorobenzene	102		%	02/13/12		H/J	70 - 130 %

Client ID: BS-2

Parameter	Result	RL	Units	Date	Time	By	Reference
% Dibromofluoromethane	98		%	02/13/12		H/J	70 - 130 %
% Toluene-d8	97		%	02/13/12		H/J	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
1,2-Dichlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
1,3-Dichlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
1,4-Dichlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,4-Dichlorophenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,4-Dimethylphenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrophenol	ND	580	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrotoluene	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,6-Dinitrotoluene	ND	250	ug/Kg	02/10/12		DD	SW 8270
2-Chloronaphthalene	ND	250	ug/Kg	02/10/12		DD	SW 8270
2-Chlorophenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
2-Methylnaphthalene	4500	250	ug/Kg	02/10/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	250	ug/Kg	02/10/12		DD	SW 8270
2-Nitroaniline	ND	580	ug/Kg	02/10/12		DD	SW 8270
2-Nitrophenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	360	ug/Kg	02/10/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	250	ug/Kg	02/10/12		DD	SW 8270
3-Nitroaniline	ND	580	ug/Kg	02/10/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	360	ug/Kg	02/10/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
4-Chloroaniline	ND	250	ug/Kg	02/10/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	250	ug/Kg	02/10/12		DD	SW 8270
4-Nitroaniline	ND	580	ug/Kg	02/10/12		DD	SW 8270
4-Nitrophenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Acenaphthene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Acenaphthylene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Acetophenone	ND	250	ug/Kg	02/10/12		DD	SW 8270
Aniline	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Anthracene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Azobenzene	ND	360	ug/Kg	02/10/12		DD	SW 8270
Benz(a)anthracene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Benzidine	ND	430	ug/Kg	02/10/12		DD	SW 8270
Benzo(a)pyrene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Benzo(b)fluoranthene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Benzo(ghi)perylene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Benzo(k)fluoranthene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Benzoic acid	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Benzyl butyl phthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	250	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	360	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	250	ug/Kg	02/10/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Carbazole	ND	540	ug/Kg	02/10/12		DD	SW 8270

Parameter	Result	RL	Units	Date	Time	By	Reference
Chrysene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Dibenzofuran	ND	250	ug/Kg	02/10/12		DD	SW 8270
Diethyl phthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Dimethylphthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Di-n-butylphthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Di-n-octylphthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Fluoranthene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Fluorene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobutadiene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Hexachloroethane	ND	250	ug/Kg	02/10/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Isophorone	ND	250	ug/Kg	02/10/12		DD	SW 8270
Naphthalene	3600	250	ug/Kg	02/10/12		DD	SW 8270
Nitrobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodimethylamine	ND	360	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	250	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	360	ug/Kg	02/10/12		DD	SW 8270
Pentachloronitrobenzene	ND	360	ug/Kg	02/10/12		DD	SW 8270
Pentachlorophenol	ND	360	ug/Kg	02/10/12		DD	SW 8270
Phenanthrene	310	250	ug/Kg	02/10/12		DD	SW 8270
Phenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
Pyrene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Pyridine	ND	360	ug/Kg	02/10/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	78		%	02/10/12		DD	15 - 130 %
% 2-Fluorobiphenyl	81		%	02/10/12		DD	15 - 130 %
% 2-Fluorophenol	78		%	02/10/12		DD	15 - 130 %
% Nitrobenzene-d5	86		%	02/10/12		DD	15 - 130 %
% Phenol-d5	81		%	02/10/12		DD	15 - 130 %
% Terphenyl-d14	102		%	02/10/12		DD	15 - 130 %

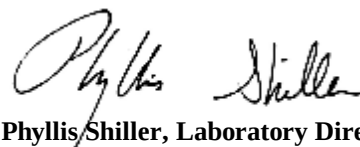
Comments:

Elevated reporting limits for volatiles due to the presence of target and non-target compounds.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

February 17, 2012



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

February 17, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time
02/08/12 10:57
02/09/12 16:42

Laboratory Data

SDG ID: GBB42286
Phoenix ID: BB42288

Project ID: 1676 THIRD AVE NYC NY

Client ID: BS-3

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	89		%	02/09/12		JL	E160.3
Soil Extraction for SVOA	Completed			02/09/12		MB/FR	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,1,1-Trichloroethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,1,2,2-Tetrachloroethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,1,2-Trichloroethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,1-Dichloroethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,1-Dichloroethene	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,1-Dichloropropene	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,2,3-Trichlorobenzene	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,2,3-Trichloropropane	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,2,4-Trichlorobenzene	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,2,4-Trimethylbenzene	680	140	ug/Kg	02/13/12		H/J	SW8260
1,2-Dibromo-3-chloropropane	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,2-Dichlorobenzene	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,2-Dichloroethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,2-Dichloropropane	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,3,5-Trimethylbenzene	200	140	ug/Kg	02/13/12		H/J	SW8260
1,3-Dichlorobenzene	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,3-Dichloropropane	ND	140	ug/Kg	02/13/12		H/J	SW8260
1,4-Dichlorobenzene	ND	140	ug/Kg	02/13/12		H/J	SW8260
2,2-Dichloropropane	ND	140	ug/Kg	02/13/12		H/J	SW8260
2-Chlorotoluene	ND	140	ug/Kg	02/13/12		H/J	SW8260
2-Hexanone	ND	700	ug/Kg	02/13/12		H/J	SW8260
2-Isopropyltoluene	ND	140	ug/Kg	02/13/12		H/J	SW8260
4-Chlorotoluene	ND	140	ug/Kg	02/13/12		H/J	SW8260

Client ID: BS-3

Parameter	Result	RL	Units	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	700	ug/Kg	02/13/12		H/J	SW8260
Acetone	ND	700	ug/Kg	02/13/12		H/J	SW8260
Acrylonitrile	ND	280	ug/Kg	02/13/12		H/J	SW8260
Benzene	ND	140	ug/Kg	02/13/12		H/J	SW8260
Bromobenzene	ND	140	ug/Kg	02/13/12		H/J	SW8260
Bromochloromethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
Bromodichloromethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
Bromoform	ND	140	ug/Kg	02/13/12		H/J	SW8260
Bromomethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
Carbon Disulfide	ND	140	ug/Kg	02/13/12		H/J	SW8260
Carbon tetrachloride	ND	140	ug/Kg	02/13/12		H/J	SW8260
Chlorobenzene	ND	140	ug/Kg	02/13/12		H/J	SW8260
Chloroethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
Chloroform	ND	140	ug/Kg	02/13/12		H/J	SW8260
Chloromethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	140	ug/Kg	02/13/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	140	ug/Kg	02/13/12		H/J	SW8260
Dibromochloromethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
Dibromoethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
Dibromomethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
Dichlorodifluoromethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
Ethylbenzene	ND	140	ug/Kg	02/13/12		H/J	SW8260
Hexachlorobutadiene	ND	140	ug/Kg	02/13/12		H/J	SW8260
Isopropylbenzene	ND	140	ug/Kg	02/13/12		H/J	SW8260
m&p-Xylene	150	140	ug/Kg	02/13/12		H/J	SW8260
Methyl Ethyl Ketone	ND	700	ug/Kg	02/13/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	280	ug/Kg	02/13/12		H/J	SW8260
Methylene chloride	ND	140	ug/Kg	02/13/12		H/J	SW8260
Naphthalene	ND	140	ug/Kg	02/13/12		H/J	SW8260
n-Butylbenzene	350	140	ug/Kg	02/13/12		H/J	SW8260
n-Propylbenzene	220	140	ug/Kg	02/13/12		H/J	SW8260
o-Xylene	ND	140	ug/Kg	02/13/12		H/J	SW8260
p-Isopropyltoluene	ND	140	ug/Kg	02/13/12		H/J	SW8260
sec-Butylbenzene	150	140	ug/Kg	02/13/12		H/J	SW8260
Styrene	ND	140	ug/Kg	02/13/12		H/J	SW8260
tert-Butylbenzene	ND	140	ug/Kg	02/13/12		H/J	SW8260
Tetrachloroethene	ND	140	ug/Kg	02/13/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	280	ug/Kg	02/13/12		H/J	SW8260
Toluene	ND	140	ug/Kg	02/13/12		H/J	SW8260
Total Xylenes	150	140	ug/Kg	02/13/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	140	ug/Kg	02/13/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	140	ug/Kg	02/13/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	280	ug/Kg	02/13/12		H/J	SW8260
Trichloroethene	ND	140	ug/Kg	02/13/12		H/J	SW8260
Trichlorofluoromethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
Trichlorotrifluoroethane	ND	140	ug/Kg	02/13/12		H/J	SW8260
Vinyl chloride	ND	140	ug/Kg	02/13/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	101		%	02/13/12		H/J	70 - 130 %
% Bromofluorobenzene	99		%	02/13/12		H/J	70 - 130 %

Client ID: BS-3

Parameter	Result	RL	Units	Date	Time	By	Reference
% Dibromofluoromethane	97		%	02/13/12		H/J	70 - 130 %
% Toluene-d8	95		%	02/13/12		H/J	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
1,2-Dichlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
1,3-Dichlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
1,4-Dichlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,4-Dichlorophenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,4-Dimethylphenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrophenol	ND	580	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrotoluene	ND	250	ug/Kg	02/10/12		DD	SW 8270
2,6-Dinitrotoluene	ND	250	ug/Kg	02/10/12		DD	SW 8270
2-Chloronaphthalene	ND	250	ug/Kg	02/10/12		DD	SW 8270
2-Chlorophenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
2-Methylnaphthalene	ND	250	ug/Kg	02/10/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	250	ug/Kg	02/10/12		DD	SW 8270
2-Nitroaniline	ND	580	ug/Kg	02/10/12		DD	SW 8270
2-Nitrophenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	360	ug/Kg	02/10/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	250	ug/Kg	02/10/12		DD	SW 8270
3-Nitroaniline	ND	580	ug/Kg	02/10/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	360	ug/Kg	02/10/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
4-Chloroaniline	ND	250	ug/Kg	02/10/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	250	ug/Kg	02/10/12		DD	SW 8270
4-Nitroaniline	ND	580	ug/Kg	02/10/12		DD	SW 8270
4-Nitrophenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Acenaphthene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Acenaphthylene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Acetophenone	ND	250	ug/Kg	02/10/12		DD	SW 8270
Aniline	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Anthracene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Azobenzene	ND	360	ug/Kg	02/10/12		DD	SW 8270
Benz(a)anthracene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Benzidine	ND	440	ug/Kg	02/10/12		DD	SW 8270
Benzo(a)pyrene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Benzo(b)fluoranthene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Benzo(ghi)perylene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Benzo(k)fluoranthene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Benzoic acid	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Benzyl butyl phthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	250	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	360	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	250	ug/Kg	02/10/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Carbazole	ND	550	ug/Kg	02/10/12		DD	SW 8270

Client ID: BS-3

Parameter	Result	RL	Units	Date	Time	By	Reference
Chrysene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Dibenzofuran	ND	250	ug/Kg	02/10/12		DD	SW 8270
Diethyl phthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Dimethylphthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Di-n-butylphthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Di-n-octylphthalate	ND	250	ug/Kg	02/10/12		DD	SW 8270
Fluoranthene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Fluorene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobutadiene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Hexachloroethane	ND	250	ug/Kg	02/10/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Isophorone	ND	250	ug/Kg	02/10/12		DD	SW 8270
Naphthalene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Nitrobenzene	ND	250	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodimethylamine	ND	360	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	250	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	360	ug/Kg	02/10/12		DD	SW 8270
Pentachloronitrobenzene	ND	360	ug/Kg	02/10/12		DD	SW 8270
Pentachlorophenol	ND	360	ug/Kg	02/10/12		DD	SW 8270
Phenanthrene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Phenol	ND	250	ug/Kg	02/10/12		DD	SW 8270
Pyrene	ND	250	ug/Kg	02/10/12		DD	SW 8270
Pyridine	ND	360	ug/Kg	02/10/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	110		%	02/10/12		DD	15 - 130 %
% 2-Fluorobiphenyl	87		%	02/10/12		DD	15 - 130 %
% 2-Fluorophenol	87		%	02/10/12		DD	15 - 130 %
% Nitrobenzene-d5	84		%	02/10/12		DD	15 - 130 %
% Phenol-d5	88		%	02/10/12		DD	15 - 130 %
% Terphenyl-d14	114		%	02/10/12		DD	15 - 130 %

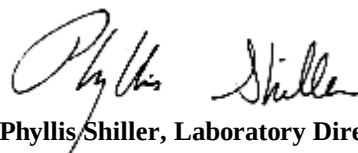
Comments:

Elevated reporting limits for volatiles due to the presence of target and non-target compounds.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

This report must not be reproduced except in full as defined by the attached chain of custody.


Phyllis Shiller, Laboratory Director**February 17, 2012**



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

February 17, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time
02/08/12 13:50
02/09/12 16:42

Laboratory Data

SDG ID: GBB42286
Phoenix ID: BB42289

Project ID: 1676 THIRD AVE NYC NY

Client ID: BS-4

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	85		%	02/09/12		JL	E160.3
Soil Extraction for SVOA	Completed			02/09/12		MB/FR	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,1,1-Trichloroethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,1,2,2-Tetrachloroethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,1,2-Trichloroethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloroethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloroethene	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloropropene	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,2,3-Trichlorobenzene	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,2,3-Trichloropropane	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,2,4-Trichlorobenzene	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,2,4-Trimethylbenzene	32000	2900	ug/Kg	02/10/12		H/J	SW8260
1,2-Dibromo-3-chloropropane	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichlorobenzene	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichloroethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichloropropane	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,3,5-Trimethylbenzene	8800	290	ug/Kg	02/10/12		H/J	SW8260
1,3-Dichlorobenzene	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,3-Dichloropropane	ND	290	ug/Kg	02/10/12		H/J	SW8260
1,4-Dichlorobenzene	ND	290	ug/Kg	02/10/12		H/J	SW8260
2,2-Dichloropropane	ND	290	ug/Kg	02/10/12		H/J	SW8260
2-Chlorotoluene	ND	290	ug/Kg	02/10/12		H/J	SW8260
2-Hexanone	ND	1500	ug/Kg	02/10/12		H/J	SW8260
2-Isopropyltoluene	ND	290	ug/Kg	02/10/12		H/J	SW8260
4-Chlorotoluene	ND	290	ug/Kg	02/10/12		H/J	SW8260

Client ID: BS-4

Parameter	Result	RL	Units	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Acetone	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Acrylonitrile	ND	590	ug/Kg	02/10/12		H/J	SW8260
Benzene	ND	290	ug/Kg	02/10/12		H/J	SW8260
Bromobenzene	ND	290	ug/Kg	02/10/12		H/J	SW8260
Bromochloromethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
Bromodichloromethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
Bromoform	ND	290	ug/Kg	02/10/12		H/J	SW8260
Bromomethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
Carbon Disulfide	ND	290	ug/Kg	02/10/12		H/J	SW8260
Carbon tetrachloride	ND	290	ug/Kg	02/10/12		H/J	SW8260
Chlorobenzene	ND	290	ug/Kg	02/10/12		H/J	SW8260
Chloroethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
Chloroform	ND	290	ug/Kg	02/10/12		H/J	SW8260
Chloromethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	290	ug/Kg	02/10/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	290	ug/Kg	02/10/12		H/J	SW8260
Dibromochloromethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
Dibromoethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
Dibromomethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
Dichlorodifluoromethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
Ethylbenzene	3900	290	ug/Kg	02/10/12		H/J	SW8260
Hexachlorobutadiene	ND	290	ug/Kg	02/10/12		H/J	SW8260
Isopropylbenzene	950	290	ug/Kg	02/10/12		H/J	SW8260
m&p-Xylene	17000	290	ug/Kg	02/10/12		H/J	SW8260
Methyl Ethyl Ketone	ND	1500	ug/Kg	02/10/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	590	ug/Kg	02/10/12		H/J	SW8260
Methylene chloride	ND	290	ug/Kg	02/10/12		H/J	SW8260
Naphthalene	5600	290	ug/Kg	02/10/12		H/J	SW8260
n-Butylbenzene	1700	290	ug/Kg	02/10/12		H/J	SW8260
n-Propylbenzene	3100	290	ug/Kg	02/10/12		H/J	SW8260
o-Xylene	6400	290	ug/Kg	02/10/12		H/J	SW8260
p-Isopropyltoluene	610	290	ug/Kg	02/10/12		H/J	SW8260
sec-Butylbenzene	670	290	ug/Kg	02/10/12		H/J	SW8260
Styrene	ND	290	ug/Kg	02/10/12		H/J	SW8260
tert-Butylbenzene	ND	290	ug/Kg	02/10/12		H/J	SW8260
Tetrachloroethene	ND	290	ug/Kg	02/10/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	590	ug/Kg	02/10/12		H/J	SW8260
Toluene	510	290	ug/Kg	02/10/12		H/J	SW8260
Total Xylenes	23400	290	ug/Kg	02/10/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	290	ug/Kg	02/10/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	290	ug/Kg	02/10/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	590	ug/Kg	02/10/12		H/J	SW8260
Trichloroethene	ND	290	ug/Kg	02/10/12		H/J	SW8260
Trichlorofluoromethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
Trichlorotrifluoroethane	ND	290	ug/Kg	02/10/12		H/J	SW8260
Vinyl chloride	ND	290	ug/Kg	02/10/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	102		%	02/10/12		H/J	70 - 130 %
% Bromofluorobenzene	105		%	02/10/12		H/J	70 - 130 %

Client ID: BS-4

Parameter	Result	RL	Units	Date	Time	By	Reference
% Dibromofluoromethane	104		%	02/10/12		H/J	70 - 130 %
% Toluene-d8	96		%	02/10/12		H/J	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,2-Dichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,3-Dichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,4-Dichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4-Dichlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4-Dimethylphenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrophenol	ND	620	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrotoluene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,6-Dinitrotoluene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Chloronaphthalene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Chlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Methylnaphthalene	3600	270	ug/Kg	02/10/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Nitroaniline	ND	620	ug/Kg	02/10/12		DD	SW 8270
2-Nitrophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	390	ug/Kg	02/10/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	270	ug/Kg	02/10/12		DD	SW 8270
3-Nitroaniline	ND	620	ug/Kg	02/10/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	390	ug/Kg	02/10/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
4-Chloroaniline	ND	270	ug/Kg	02/10/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	02/10/12		DD	SW 8270
4-Nitroaniline	ND	620	ug/Kg	02/10/12		DD	SW 8270
4-Nitrophenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Acenaphthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Acenaphthylene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Acetophenone	ND	270	ug/Kg	02/10/12		DD	SW 8270
Aniline	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Anthracene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Azobenzene	ND	390	ug/Kg	02/10/12		DD	SW 8270
Benz(a)anthracene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzidine	ND	460	ug/Kg	02/10/12		DD	SW 8270
Benzo(a)pyrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzo(b)fluoranthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzo(ghi)perylene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzo(k)fluoranthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzoic acid	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Benzyl butyl phthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	390	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	02/10/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Carbazole	ND	580	ug/Kg	02/10/12		DD	SW 8270

Client ID: BS-4

Parameter	Result	RL	Units	Date	Time	By	Reference
Chrysene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Dibenzofuran	ND	270	ug/Kg	02/10/12		DD	SW 8270
Diethyl phthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Dimethylphthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Di-n-butylphthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Di-n-octylphthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Fluoranthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Fluorene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobutadiene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachloroethane	ND	270	ug/Kg	02/10/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Isophorone	ND	270	ug/Kg	02/10/12		DD	SW 8270
Naphthalene	2400	270	ug/Kg	02/10/12		DD	SW 8270
Nitrobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodimethylamine	ND	390	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	390	ug/Kg	02/10/12		DD	SW 8270
Pentachloronitrobenzene	ND	390	ug/Kg	02/10/12		DD	SW 8270
Pentachlorophenol	ND	390	ug/Kg	02/10/12		DD	SW 8270
Phenanthrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Phenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
Pyrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Pyridine	ND	390	ug/Kg	02/10/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	114		%	02/10/12		DD	15 - 130 %
% 2-Fluorobiphenyl	93		%	02/10/12		DD	15 - 130 %
% 2-Fluorophenol	93		%	02/10/12		DD	15 - 130 %
% Nitrobenzene-d5	92		%	02/10/12		DD	15 - 130 %
% Phenol-d5	94		%	02/10/12		DD	15 - 130 %
% Terphenyl-d14	100		%	02/10/12		DD	15 - 130 %

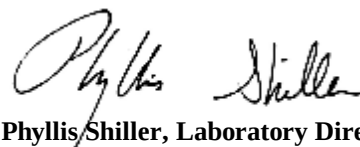
Comments:

Elevated reporting limits for volatiles due to the presence of target and non-target compounds.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

This report must not be reproduced except in full as defined by the attached chain of custody.


Phyllis Shiller, Laboratory Director

February 17, 2012



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

February 17, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time
02/08/12 13:55
02/09/12 16:42

Laboratory Data

SDG ID: GBB42286
Phoenix ID: BB42290

Project ID: 1676 THIRD AVE NYC NY

Client ID: BS-5

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	89		%	02/09/12		JL	E160.3
Soil Extraction for SVOA	Completed			02/09/12		MB/FR	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,1,1-Trichloroethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,1,2,2-Tetrachloroethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,1,2-Trichloroethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloroethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloroethene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloropropene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,2,3-Trichlorobenzene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,2,3-Trichloropropane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,2,4-Trichlorobenzene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,2,4-Trimethylbenzene	53000	5600	ug/Kg	02/10/12		H/J	SW8260
1,2-Dibromo-3-chloropropane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichlorobenzene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichloroethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichloropropane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,3,5-Trimethylbenzene	17000	1400	ug/Kg	02/10/12		H/J	SW8260
1,3-Dichlorobenzene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,3-Dichloropropane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
1,4-Dichlorobenzene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
2,2-Dichloropropane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
2-Chlorotoluene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
2-Hexanone	ND	7000	ug/Kg	02/10/12		H/J	SW8260
2-Isopropyltoluene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
4-Chlorotoluene	ND	1400	ug/Kg	02/10/12		H/J	SW8260

Client ID: BS-5

Parameter	Result	RL	Units	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	7000	ug/Kg	02/10/12		H/J	SW8260
Acetone	ND	7000	ug/Kg	02/10/12		H/J	SW8260
Acrylonitrile	ND	2800	ug/Kg	02/10/12		H/J	SW8260
Benzene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Bromobenzene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Bromochloromethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Bromodichloromethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Bromoform	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Bromomethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Carbon Disulfide	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Carbon tetrachloride	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Chlorobenzene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Chloroethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Chloroform	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Chloromethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Dibromochloromethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Dibromoethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Dibromomethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Dichlorodifluoromethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Ethylbenzene	11000	1400	ug/Kg	02/10/12		H/J	SW8260
Hexachlorobutadiene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Isopropylbenzene	2000	1400	ug/Kg	02/10/12		H/J	SW8260
m&p-Xylene	47000	1400	ug/Kg	02/10/12		H/J	SW8260
Methyl Ethyl Ketone	ND	7000	ug/Kg	02/10/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	2800	ug/Kg	02/10/12		H/J	SW8260
Methylene chloride	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Naphthalene	7800	1400	ug/Kg	02/10/12		H/J	SW8260
n-Butylbenzene	2600	1400	ug/Kg	02/10/12		H/J	SW8260
n-Propylbenzene	7000	1400	ug/Kg	02/10/12		H/J	SW8260
o-Xylene	17000	1400	ug/Kg	02/10/12		H/J	SW8260
p-Isopropyltoluene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
sec-Butylbenzene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Styrene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
tert-Butylbenzene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Tetrachloroethene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	2800	ug/Kg	02/10/12		H/J	SW8260
Toluene	6200	1400	ug/Kg	02/10/12		H/J	SW8260
Total Xylenes	64000	1400	ug/Kg	02/10/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	2800	ug/Kg	02/10/12		H/J	SW8260
Trichloroethene	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Trichlorofluoromethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Trichlorotrifluoroethane	ND	1400	ug/Kg	02/10/12		H/J	SW8260
Vinyl chloride	ND	1400	ug/Kg	02/10/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	98		%	02/10/12		H/J	70 - 130 %
% Bromofluorobenzene	97		%	02/10/12		H/J	70 - 130 %

Client ID: BS-5

Parameter	Result	RL	Units	Date	Time	By	Reference
% Dibromofluoromethane	93		%	02/10/12		H/J	70 - 130 %
% Toluene-d8	97		%	02/10/12		H/J	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	260	ug/Kg	02/10/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	260	ug/Kg	02/10/12		DD	SW 8270
1,2-Dichlorobenzene	ND	260	ug/Kg	02/10/12		DD	SW 8270
1,3-Dichlorobenzene	ND	260	ug/Kg	02/10/12		DD	SW 8270
1,4-Dichlorobenzene	ND	260	ug/Kg	02/10/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	260	ug/Kg	02/10/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	260	ug/Kg	02/10/12		DD	SW 8270
2,4-Dichlorophenol	ND	260	ug/Kg	02/10/12		DD	SW 8270
2,4-Dimethylphenol	ND	260	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrophenol	ND	590	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrotoluene	ND	260	ug/Kg	02/10/12		DD	SW 8270
2,6-Dinitrotoluene	ND	260	ug/Kg	02/10/12		DD	SW 8270
2-Chloronaphthalene	ND	260	ug/Kg	02/10/12		DD	SW 8270
2-Chlorophenol	ND	260	ug/Kg	02/10/12		DD	SW 8270
2-Methylnaphthalene	6300	260	ug/Kg	02/10/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	260	ug/Kg	02/10/12		DD	SW 8270
2-Nitroaniline	ND	590	ug/Kg	02/10/12		DD	SW 8270
2-Nitrophenol	ND	260	ug/Kg	02/10/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	370	ug/Kg	02/10/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	260	ug/Kg	02/10/12		DD	SW 8270
3-Nitroaniline	ND	590	ug/Kg	02/10/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	370	ug/Kg	02/10/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	260	ug/Kg	02/10/12		DD	SW 8270
4-Chloroaniline	ND	260	ug/Kg	02/10/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	260	ug/Kg	02/10/12		DD	SW 8270
4-Nitroaniline	ND	590	ug/Kg	02/10/12		DD	SW 8270
4-Nitrophenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Acenaphthene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Acenaphthylene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Acetophenone	ND	260	ug/Kg	02/10/12		DD	SW 8270
Aniline	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Anthracene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Azobenzene	ND	370	ug/Kg	02/10/12		DD	SW 8270
Benz(a)anthracene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Benzidine	ND	450	ug/Kg	02/10/12		DD	SW 8270
Benzo(a)pyrene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Benzo(b)fluoranthene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Benzo(ghi)perylene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Benzo(k)fluoranthene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Benzoic acid	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Benzyl butyl phthalate	ND	260	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	260	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	370	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	260	ug/Kg	02/10/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	260	ug/Kg	02/10/12		DD	SW 8270
Carbazole	ND	560	ug/Kg	02/10/12		DD	SW 8270

Client ID: BS-5

Parameter	Result	RL	Units	Date	Time	By	Reference
Chrysene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Dibenzofuran	ND	260	ug/Kg	02/10/12		DD	SW 8270
Diethyl phthalate	ND	260	ug/Kg	02/10/12		DD	SW 8270
Dimethylphthalate	ND	260	ug/Kg	02/10/12		DD	SW 8270
Di-n-butylphthalate	ND	260	ug/Kg	02/10/12		DD	SW 8270
Di-n-octylphthalate	ND	260	ug/Kg	02/10/12		DD	SW 8270
Fluoranthene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Fluorene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobenzene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobutadiene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Hexachloroethane	ND	260	ug/Kg	02/10/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Isophorone	ND	260	ug/Kg	02/10/12		DD	SW 8270
Naphthalene	5100	260	ug/Kg	02/10/12		DD	SW 8270
Nitrobenzene	ND	260	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodimethylamine	ND	370	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	260	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	370	ug/Kg	02/10/12		DD	SW 8270
Pentachloronitrobenzene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Pentachlorophenol	ND	370	ug/Kg	02/10/12		DD	SW 8270
Phenanthrene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Phenol	ND	260	ug/Kg	02/10/12		DD	SW 8270
Pyrene	ND	260	ug/Kg	02/10/12		DD	SW 8270
Pyridine	ND	260	ug/Kg	02/10/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	102		%	02/10/12		DD	15 - 130 %
% 2-Fluorobiphenyl	84		%	02/10/12		DD	15 - 130 %
% 2-Fluorophenol	82		%	02/10/12		DD	15 - 130 %
% Nitrobenzene-d5	82		%	02/10/12		DD	15 - 130 %
% Phenol-d5	82		%	02/10/12		DD	15 - 130 %
% Terphenyl-d14	87		%	02/10/12		DD	15 - 130 %

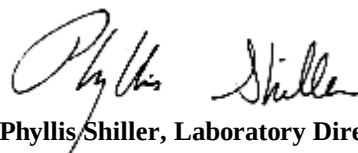
Comments:

Elevated reporting limits for volatiles due to the presence of target and non-target compounds.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

This report must not be reproduced except in full as defined by the attached chain of custody.


Phyllis Shiller, Laboratory Director**February 17, 2012**



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

February 17, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

02/08/12

Time

14:45

02/09/12

16:42

Laboratory Data

SDG ID: GBB42286

Phoenix ID: BB42291

Project ID: 1676 THIRD AVE NYC NY

Client ID: BS-6

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	87		%	02/09/12		JL	E160.3
Soil Extraction for SVOA	Completed			02/09/12		MB/FR	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,1,1-Trichloroethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,1,2,2-Tetrachloroethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,1,2-Trichloroethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloroethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloroethene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,1-Dichloropropene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,2,3-Trichlorobenzene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,2,3-Trichloropropane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,2,4-Trichlorobenzene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,2,4-Trimethylbenzene	45000	2900	ug/Kg	02/10/12		H/J	SW8260
1,2-Dibromo-3-chloropropane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichlorobenzene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichloroethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,2-Dichloropropane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,3,5-Trimethylbenzene	15000	1100	ug/Kg	02/10/12		H/J	SW8260
1,3-Dichlorobenzene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,3-Dichloropropane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
1,4-Dichlorobenzene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
2,2-Dichloropropane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
2-Chlorotoluene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
2-Hexanone	ND	5700	ug/Kg	02/10/12		H/J	SW8260
2-Isopropyltoluene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
4-Chlorotoluene	ND	1100	ug/Kg	02/10/12		H/J	SW8260

Client ID: BS-6

Parameter	Result	RL	Units	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	5700	ug/Kg	02/10/12		H/J	SW8260
Acetone	ND	5700	ug/Kg	02/10/12		H/J	SW8260
Acrylonitrile	ND	2300	ug/Kg	02/10/12		H/J	SW8260
Benzene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Bromobenzene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Bromochloromethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Bromodichloromethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Bromoform	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Bromomethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Carbon Disulfide	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Carbon tetrachloride	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Chlorobenzene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Chloroethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Chloroform	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Chloromethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Dibromochloromethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Dibromoethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Dibromomethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Dichlorodifluoromethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Ethylbenzene	8800	1100	ug/Kg	02/10/12		H/J	SW8260
Hexachlorobutadiene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Isopropylbenzene	2000	1100	ug/Kg	02/10/12		H/J	SW8260
m&p-Xylene	33000	1100	ug/Kg	02/10/12		H/J	SW8260
Methyl Ethyl Ketone	ND	5700	ug/Kg	02/10/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	2300	ug/Kg	02/10/12		H/J	SW8260
Methylene chloride	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Naphthalene	6300	1100	ug/Kg	02/10/12		H/J	SW8260
n-Butylbenzene	2600	1100	ug/Kg	02/10/12		H/J	SW8260
n-Propylbenzene	7500	1100	ug/Kg	02/10/12		H/J	SW8260
o-Xylene	10000	1100	ug/Kg	02/10/12		H/J	SW8260
p-Isopropyltoluene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
sec-Butylbenzene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Styrene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
tert-Butylbenzene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Tetrachloroethene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	2300	ug/Kg	02/10/12		H/J	SW8260
Toluene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Total Xylenes	43000	1100	ug/Kg	02/10/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	2300	ug/Kg	02/10/12		H/J	SW8260
Trichloroethene	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Trichlorofluoromethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Trichlorotrifluoroethane	ND	1100	ug/Kg	02/10/12		H/J	SW8260
Vinyl chloride	ND	1100	ug/Kg	02/10/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	100		%	02/10/12		H/J	70 - 130 %
% Bromofluorobenzene	100		%	02/10/12		H/J	70 - 130 %

Client ID: BS-6

Parameter	Result	RL	Units	Date	Time	By	Reference
% Dibromofluoromethane	86		%	02/10/12		H/J	70 - 130 %
% Toluene-d8	97		%	02/10/12		H/J	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,2-Dichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,3-Dichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
1,4-Dichlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4-Dichlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4-Dimethylphenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrophenol	ND	610	ug/Kg	02/10/12		DD	SW 8270
2,4-Dinitrotoluene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2,6-Dinitrotoluene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Chloronaphthalene	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Chlorophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Methylnaphthalene	5200	270	ug/Kg	02/10/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	270	ug/Kg	02/10/12		DD	SW 8270
2-Nitroaniline	ND	610	ug/Kg	02/10/12		DD	SW 8270
2-Nitrophenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	380	ug/Kg	02/10/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	270	ug/Kg	02/10/12		DD	SW 8270
3-Nitroaniline	ND	610	ug/Kg	02/10/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	380	ug/Kg	02/10/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
4-Chloroaniline	ND	270	ug/Kg	02/10/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	02/10/12		DD	SW 8270
4-Nitroaniline	ND	610	ug/Kg	02/10/12		DD	SW 8270
4-Nitrophenol	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Acenaphthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Acenaphthylene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Acetophenone	ND	270	ug/Kg	02/10/12		DD	SW 8270
Aniline	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Anthracene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Azobenzene	ND	380	ug/Kg	02/10/12		DD	SW 8270
Benz(a)anthracene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzidine	ND	450	ug/Kg	02/10/12		DD	SW 8270
Benzo(a)pyrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzo(b)fluoranthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzo(ghi)perylene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzo(k)fluoranthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Benzoic acid	ND	1100	ug/Kg	02/10/12		DD	SW 8270
Benzyl butyl phthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	380	ug/Kg	02/10/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	02/10/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Carbazole	ND	570	ug/Kg	02/10/12		DD	SW 8270

Client ID: BS-6

Parameter	Result	RL	Units	Date	Time	By	Reference
Chrysene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Dibenzofuran	ND	270	ug/Kg	02/10/12		DD	SW 8270
Diethyl phthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Dimethylphthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Di-n-butylphthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Di-n-octylphthalate	ND	270	ug/Kg	02/10/12		DD	SW 8270
Fluoranthene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Fluorene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachlorobutadiene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Hexachloroethane	ND	270	ug/Kg	02/10/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Isophorone	ND	270	ug/Kg	02/10/12		DD	SW 8270
Naphthalene	3700	270	ug/Kg	02/10/12		DD	SW 8270
Nitrobenzene	ND	270	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodimethylamine	ND	380	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	02/10/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	380	ug/Kg	02/10/12		DD	SW 8270
Pentachloronitrobenzene	ND	380	ug/Kg	02/10/12		DD	SW 8270
Pentachlorophenol	ND	380	ug/Kg	02/10/12		DD	SW 8270
Phenanthrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Phenol	ND	270	ug/Kg	02/10/12		DD	SW 8270
Pyrene	ND	270	ug/Kg	02/10/12		DD	SW 8270
Pyridine	ND	380	ug/Kg	02/10/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	117		%	02/10/12		DD	15 - 130 %
% 2-Fluorobiphenyl	94		%	02/10/12		DD	15 - 130 %
% 2-Fluorophenol	94		%	02/10/12		DD	15 - 130 %
% Nitrobenzene-d5	91		%	02/10/12		DD	15 - 130 %
% Phenol-d5	93		%	02/10/12		DD	15 - 130 %
% Terphenyl-d14	109		%	02/10/12		DD	15 - 130 %

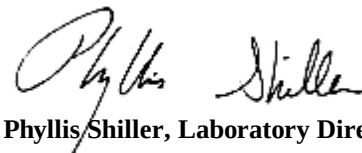
Comments:

Elevated reporting limits for volatiles due to the presence of target and non-target compounds.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director
February 17, 2012



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



QA/QC Report

February 17, 2012

QA/QC Data

SDG I.D.: GBB42286

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 194143, QC Sample No: BB42213 (BB42286, BB42287, BB42288, BB42289, BB42290, BB42291)									
Semivolatiles - Soil									
1,2,4,5-Tetrachlorobenzene	ND	91	89	2.2	102	101	1.0	30 - 130	30
1,2,4-Trichlorobenzene	ND	81	81	0.0	97	95	2.1	30 - 130	30
1,2-Dichlorobenzene	ND	81	80	1.2	94	91	3.2	30 - 130	30
1,3-Dichlorobenzene	ND	74	74	0.0	89	88	1.1	30 - 130	30
1,4-Dichlorobenzene	ND	77	78	1.3	92	90	2.2	30 - 130	30
2,4,5-Trichlorophenol	ND	93	92	1.1	108	104	3.8	30 - 130	30
2,4,6-Trichlorophenol	ND	95	93	2.1	111	106	4.6	30 - 130	30
2,4-Dichlorophenol	ND	95	95	0.0	113	111	1.8	30 - 130	30
2,4-Dimethylphenol	ND	45	46	2.2	54	53	1.9	30 - 130	30
2,4-Dinitrophenol	ND	9.5	9.8	3.1	NC	NC	NC	30 - 130	30
2,4-Dinitrotoluene	ND	97	99	2.0	97	88	9.7	30 - 130	30
2,6-Dinitrotoluene	ND	96	97	1.0	103	97	6.0	30 - 130	30
2-Chloronaphthalene	ND	89	89	0.0	101	100	1.0	30 - 130	30
2-Chlorophenol	ND	80	81	1.2	100	98	2.0	30 - 130	30
2-Methylnaphthalene	ND	91	91	0.0	115	112	2.6	30 - 130	30
2-Methylphenol (o-cresol)	ND	81	81	0.0	91	88	3.4	30 - 130	30
2-Nitroaniline	ND	>150	>150	NC	NC	NC	NC	30 - 130	30
2-Nitrophenol	ND	87	86	1.2	93	86	7.8	30 - 130	30
3&4-Methylphenol (m&p-cresol)	ND	82	84	2.4	99	95	4.1	30 - 130	30
3,3'-Dichlorobenzidine	ND	>150	>150	NC	94	97	3.1	30 - 130	30
3-Nitroaniline	ND	>150	>150	NC	115	113	1.8	30 - 130	30
4,6-Dinitro-2-methylphenol	ND	52	54	3.8	5.5	NC	NC	30 - 130	30
4-Bromophenyl phenyl ether	ND	94	94	0.0	115	115	0.0	30 - 130	30
4-Chloro-3-methylphenol	ND	98	99	1.0	118	117	0.9	30 - 130	30
4-Chloroaniline	ND	59	59	0.0	32	34	6.1	30 - 130	30
4-Chlorophenyl phenyl ether	ND	96	97	1.0	108	106	1.9	30 - 130	30
4-Nitroaniline	ND	98	99	1.0	112	110	1.8	30 - 130	30
4-Nitrophenol	ND	93	95	2.1	88	82	7.1	30 - 130	30
Acenaphthene	ND	89	89	0.0	103	100	3.0	30 - 130	30
Acenaphthylene	ND	90	90	0.0	105	103	1.9	30 - 130	30
Acetophenone	ND	82	82	0.0	100	97	3.0	30 - 130	30
Aniline	ND	N/A	N/A	NC	N/A	N/A	NC	30 - 130	30
Anthracene	ND	94	94	0.0	107	105	1.9	30 - 130	30
Azobenzene	ND	94	96	2.1	103	99	4.0	30 - 130	30
Benz(a)anthracene	ND	97	96	1.0	107	104	2.8	30 - 130	30
Benzidine	ND	143	144	0.7	4.5	6.1	30.2	30 - 130	30
Benzo(a)pyrene	ND	96	95	1.0	103	103	0.0	30 - 130	30
Benzo(b)fluoranthene	ND	96	92	4.3	145	149	2.7	30 - 130	30
Benzo(ghi)perylene	ND	110	113	2.7	56	48	15.4	30 - 130	30
Benzo(k)fluoranthene	ND	100	101	1.0	140	142	1.4	30 - 130	30
Benzoic acid	ND	N/A	N/A	NC	N/A	N/A	NC	30 - 130	30

QA/QC Data

SDG I.D.: GBB42286

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzyl butyl phthalate	ND	102	100	2.0	133	135	1.5	30 - 130	30	m
Bis(2-chloroethoxy)methane	ND	81	83	2.4	101	98	3.0	30 - 130	30	
Bis(2-chloroethyl)ether	ND	77	78	1.3	97	94	3.1	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	79	80	1.3	98	96	2.1	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	118	116	1.7	140	139	0.7	30 - 130	30	m
Carbazole	ND	149	>150	NC	123	119	3.3	30 - 130	30	
Chrysene	ND	94	95	1.1	99	95	4.1	30 - 130	30	l
Dibenz(a,h)anthracene	ND	132	136	3.0	59	51	14.5	30 - 130	30	
Dibenzofuran	ND	93	93	0.0	112	109	2.7	30 - 130	30	
Diethyl phthalate	ND	99	99	0.0	109	107	1.9	30 - 130	30	
Dimethylphthalate	ND	94	95	1.1	106	102	3.8	30 - 130	30	
Di-n-butylphthalate	ND	94	95	1.1	109	107	1.9	30 - 130	30	
Di-n-octylphthalate	ND	106	107	0.9	114	111	2.7	30 - 130	30	
Fluoranthene	ND	93	93	0.0	88	84	4.7	30 - 130	30	
Fluorene	ND	102	102	0.0	113	110	2.7	30 - 130	30	
Hexachlorobenzene	ND	98	97	1.0	108	109	0.9	30 - 130	30	
Hexachlorobutadiene	ND	88	88	0.0	101	100	1.0	30 - 130	30	
Hexachlorocyclopentadiene	ND	79	77	2.6	NC	NC	NC	30 - 130	30	
Hexachloroethane	ND	79	79	0.0	50	42	17.4	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	122	125	2.4	62	54	13.8	30 - 130	30	
Isophorone	ND	68	69	1.5	85	84	1.2	30 - 130	30	
Naphthalene	ND	84	85	1.2	115	113	1.8	30 - 130	30	
Nitrobenzene	ND	85	85	0.0	101	98	3.0	30 - 130	30	
N-Nitrosodimethylamine	ND	72	70	2.8	88	86	2.3	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	88	85	3.5	102	100	2.0	30 - 130	30	
N-Nitrosodiphenylamine	ND	111	111	0.0	114	109	4.5	30 - 130	30	
Pentachloronitrobenzene	ND	103	101	2.0	93	83	11.4	30 - 130	30	
Pentachlorophenol	ND	87	90	3.4	88	83	5.8	30 - 130	30	
Phenanthrene	ND	99	98	1.0	107	105	1.9	30 - 130	30	
Phenol	ND	93	91	2.2	106	103	2.9	30 - 130	30	
Pyrene	ND	95	96	1.0	83	80	3.7	30 - 130	30	
Pyridine	ND	57	56	1.8	60	59	1.7	30 - 130	30	
% 2,4,6-Tribromophenol	99	113	111	1.8	122	120	1.7	15 - 130	30	m
% 2-Fluorobiphenyl	76	86	86	0.0	92	90	2.2	30 - 130	30	
% 2-Fluorophenol	78	84	84	0.0	99	96	3.1	15 - 130	30	
% Nitrobenzene-d5	74	86	86	0.0	97	94	3.1	30 - 130	30	
% Phenol-d5	77	87	87	0.0	100	97	3.0	15 - 130	30	
% Terphenyl-d14	74	79	80	1.3	75	72	4.1	30 - 130	30	

QA/QC Batch 194236, QC Sample No: BB42339 (BB42286)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	116	106	9.0				70 - 130	30
1,1,1-Trichloroethane	ND	116	102	12.8				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	109	106	2.8				70 - 130	30
1,1,2-Trichloroethane	ND	117	106	9.9				70 - 130	30
1,1-Dichloroethane	ND	114	102	11.1				70 - 130	30
1,1-Dichloroethene	ND	102	104	1.9				70 - 130	30
1,1-Dichloropropene	ND	120	90	28.6				70 - 130	30
1,2,3-Trichlorobenzene	ND	115	110	4.4				70 - 130	30
1,2,3-Trichloropropane	ND	119	113	5.2				70 - 130	30
1,2,4-Trichlorobenzene	ND	112	102	9.3				70 - 130	30
1,2,4-Trimethylbenzene	ND	115	102	12.0				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	124	123	0.8				70 - 130	30

QA/QC Data

SDG I.D.: GBB42286

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2-Dichlorobenzene	ND	111	100	10.4				70 - 130	30	
1,2-Dichloroethane	ND	121	102	17.0				70 - 130	30	
1,2-Dichloropropane	ND	121	102	17.0				70 - 130	30	
1,3,5-Trimethylbenzene	ND	116	105	10.0				70 - 130	30	
1,3-Dichlorobenzene	ND	112	98	13.3				70 - 130	30	
1,3-Dichloropropane	ND	116	107	8.1				70 - 130	30	
1,4-Dichlorobenzene	ND	111	97	13.5				70 - 130	30	
2,2-Dichloropropane	ND	116	105	10.0				70 - 130	30	
2-Chlorotoluene	ND	115	101	13.0				70 - 130	30	
2-Hexanone	ND	>150	130	NC				70 - 130	30	I
2-Isopropyltoluene	ND	116	102	12.8				70 - 130	30	
4-Chlorotoluene	ND	110	95	14.6				70 - 130	30	
4-Methyl-2-pentanone	ND	137	122	11.6				70 - 130	30	I
Acetone	ND	97	95	2.1				70 - 130	30	
Acrylonitrile	ND	111	105	5.6				70 - 130	30	
Benzene	ND	127	93	30.9				70 - 130	30	r
Bromobenzene	ND	116	102	12.8				70 - 130	30	
Bromochloromethane	ND	118	102	14.5				70 - 130	30	
Bromodichloromethane	ND	126	108	15.4				70 - 130	30	
Bromoform	ND	119	110	7.9				70 - 130	30	
Bromomethane	ND	95	94	1.1				70 - 130	30	
Carbon Disulfide	ND	110	113	2.7				70 - 130	30	
Carbon tetrachloride	ND	136	94	36.5				70 - 130	30	I,r
Chlorobenzene	ND	113	99	13.2				70 - 130	30	
Chloroethane	ND	103	104	1.0				70 - 130	30	
Chloroform	ND	117	104	11.8				70 - 130	30	
Chloromethane	ND	95	104	9.0				70 - 130	30	
cis-1,2-Dichloroethene	ND	118	102	14.5				70 - 130	30	
cis-1,3-Dichloropropene	ND	120	107	11.5				70 - 130	30	
Dibromochloromethane	ND	123	111	10.3				70 - 130	30	
Dibromoethane	ND	120	109	9.6				70 - 130	30	
Dibromomethane	ND	118	105	11.7				70 - 130	30	
Dichlorodifluoromethane	ND	93	75	21.4				70 - 130	30	
Ethylbenzene	ND	120	101	17.2				70 - 130	30	
Hexachlorobutadiene	ND	113	99	13.2				70 - 130	30	
Isopropylbenzene	ND	118	102	14.5				70 - 130	30	
m&p-Xylene	ND	116	101	13.8				70 - 130	30	
Methyl ethyl ketone	ND	127	94	29.9				70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	112	105	6.5				70 - 130	30	
Methylene chloride	ND	104	110	5.6				70 - 130	30	
Naphthalene	ND	115	118	2.6				70 - 130	30	
n-Butylbenzene	ND	120	103	15.2				70 - 130	30	
n-Propylbenzene	ND	111	95	15.5				70 - 130	30	
o-Xylene	ND	119	103	14.4				70 - 130	30	
p-Isopropyltoluene	ND	122	107	13.1				70 - 130	30	
sec-Butylbenzene	ND	116	99	15.8				70 - 130	30	
Styrene	ND	121	103	16.1				70 - 130	30	
tert-Butylbenzene	ND	117	102	13.7				70 - 130	30	
Tetrachloroethene	ND	112	98	13.3				70 - 130	30	
Tetrahydrofuran (THF)	ND	108	104	3.8				70 - 130	30	
Toluene	ND	117	102	13.7				70 - 130	30	
trans-1,2-Dichloroethene	ND	105	108	2.8				70 - 130	30	
trans-1,3-Dichloropropene	ND	124	108	13.8				70 - 130	30	

QA/QC Data

SDG I.D.: GBB42286

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
trans-1,4-dichloro-2-butene	ND	117	106	9.9				70 - 130	30
Trichloroethene	ND	117	103	12.7				70 - 130	30
Trichlorofluoromethane	ND	118	122	3.3				70 - 130	30
Trichlorotrifluoroethane	ND	102	107	4.8				70 - 130	30
Vinyl chloride	ND	100	100	0.0				70 - 130	30
% 1,2-dichlorobenzene-d4	100	99	100	1.0				70 - 130	30
% Bromofluorobenzene	97	102	99	3.0				70 - 130	30
% Dibromofluoromethane	94	105	98	6.9				70 - 130	30
% Toluene-d8	92	101	100	1.0				70 - 130	30

Comment:

The MS/MSD are not reported for this batch.

QA/QC Batch 194300, QC Sample No: BB42343 (BB42289 (50X) , BB42290 (250X) , BB42291)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	107	108	0.9	94	93	1.1	70 - 130	30	
1,1,1-Trichloroethane	ND	105	104	1.0	101	101	0.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	86	102	17.0	97	87	10.9	70 - 130	30	
1,1,2-Trichloroethane	ND	98	110	11.5	91	85	6.8	70 - 130	30	
1,1-Dichloroethane	ND	93	110	16.7	103	85	19.1	70 - 130	30	
1,1-Dichloroethene	ND	104	99	4.9	103	104	1.0	70 - 130	30	
1,1-Dichloropropene	ND	102	100	2.0	95	98	3.1	70 - 130	30	
1,2,3-Trichlorobenzene	ND	91	96	5.3	63	57	10.0	70 - 130	30	m
1,2,3-Trichloropropane	ND	94	109	14.8	95	88	7.7	70 - 130	30	
1,2,4-Trichlorobenzene	ND	83	83	0.0	60	57	5.1	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	96	96	0.0	80	81	1.2	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	96	124	25.5	97	82	16.8	70 - 130	30	
1,2-Dichlorobenzene	ND	92	95	3.2	79	75	5.2	70 - 130	30	
1,2-Dichloroethane	ND	98	107	8.8	91	88	3.4	70 - 130	30	
1,2-Dichloropropane	ND	101	107	5.8	92	92	0.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	99	98	1.0	86	89	3.4	70 - 130	30	
1,3-Dichlorobenzene	ND	91	91	0.0	78	74	5.3	70 - 130	30	
1,3-Dichloropropane	ND	98	107	8.8	90	85	5.7	70 - 130	30	
1,4-Dichlorobenzene	ND	88	89	1.1	77	72	6.7	70 - 130	30	
2,2-Dichloropropane	ND	99	99	0.0	91	93	2.2	70 - 130	30	
2-Chlorotoluene	ND	98	97	1.0	86	86	0.0	70 - 130	30	
2-Hexanone	ND	88	101	13.8	<40	<40	NC	70 - 130	30	m
2-Isopropyltoluene	ND	98	98	0.0	88	92	4.4	70 - 130	30	
4-Chlorotoluene	ND	91	88	3.4	83	80	3.7	70 - 130	30	
4-Methyl-2-pentanone	ND	83	102	20.5	66	60	9.5	70 - 130	30	m
Acetone	ND	73	79	7.9	<40	<40	NC	70 - 130	30	m
Acrylonitrile	ND	88	110	22.2	81	69	16.0	70 - 130	30	m
Benzene	ND	104	105	1.0	92	92	0.0	70 - 130	30	
Bromobenzene	ND	98	100	2.0	86	82	4.8	70 - 130	30	
Bromochloromethane	ND	97	106	8.9	93	85	9.0	70 - 130	30	
Bromodichloromethane	ND	103	110	6.6	93	92	1.1	70 - 130	30	
Bromoform	ND	103	117	12.7	92	87	5.6	70 - 130	30	
Bromomethane	ND	103	91	12.4	85	93	9.0	70 - 130	30	
Carbon Disulfide	ND	112	107	4.6	95	93	2.1	70 - 130	30	
Carbon tetrachloride	ND	109	103	5.7	98	105	6.9	70 - 130	30	
Chlorobenzene	ND	98	98	0.0	88	86	2.3	70 - 130	30	
Chloroethane	ND	102	97	5.0	100	105	4.9	70 - 130	30	
Chloroform	ND	96	109	12.7	99	86	14.1	70 - 130	30	
Chloromethane	ND	95	87	8.8	88	95	7.7	70 - 130	30	

QA/QC Data

SDG I.D.: GBB42286

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
cis-1,2-Dichloroethene	ND	104	102	1.9	92	92	0.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	100	104	3.9	82	83	1.2	70 - 130	30	
Dibromochloromethane	ND	105	113	7.3	95	90	5.4	70 - 130	30	
Dibromoethane	ND	97	108	10.7	92	84	9.1	70 - 130	30	
Dibromomethane	ND	95	108	12.8	93	86	7.8	70 - 130	30	
Dichlorodifluoromethane	ND	77	72	6.7	94	98	4.2	70 - 130	30	
Ethylbenzene	ND	100	99	1.0	89	90	1.1	70 - 130	30	
Hexachlorobutadiene	ND	92	89	3.3	73	83	12.8	70 - 130	30	
Isopropylbenzene	ND	100	97	3.0	91	94	3.2	70 - 130	30	
m&p-Xylene	ND	100	98	2.0	87	87	0.0	70 - 130	30	
Methyl ethyl ketone	ND	73	85	15.2	<40	<40	NC	70 - 130	30	m
Methyl t-butyl ether (MTBE)	ND	104	114	9.2	102	101	1.0	70 - 130	30	
Methylene chloride	ND	108	103	4.7	96	92	4.3	70 - 130	30	
Naphthalene	ND	100	110	9.5	72	64	11.8	70 - 130	30	m
n-Butylbenzene	ND	94	88	6.6	77	81	5.1	70 - 130	30	
n-Propylbenzene	ND	93	90	3.3	89	89	0.0	70 - 130	30	
o-Xylene	ND	100	100	0.0	89	88	1.1	70 - 130	30	
p-Isopropyltoluene	ND	100	97	3.0	84	87	3.5	70 - 130	30	
sec-Butylbenzene	ND	98	95	3.1	89	93	4.4	70 - 130	30	
Styrene	ND	99	99	0.0	81	80	1.2	70 - 130	30	
tert-Butylbenzene	ND	100	98	2.0	94	97	3.1	70 - 130	30	
Tetrachloroethene	ND	100	95	5.1	93	95	2.1	70 - 130	30	
Tetrahydrofuran (THF)	ND	79	109	31.9	98	75	26.6	70 - 130	30	r
Toluene	ND	103	104	1.0	91	92	1.1	70 - 130	30	
trans-1,2-Dichloroethene	ND	120	94	24.3	93	119	24.5	70 - 130	30	
trans-1,3-Dichloropropene	ND	98	107	8.8	81	81	0.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	94	107	12.9	78	67	15.2	70 - 130	30	m
Trichloroethene	ND	105	106	0.9	91	93	2.2	70 - 130	30	
Trichlorofluoromethane	ND	114	107	6.3	103	99	4.0	70 - 130	30	
Trichlorotrifluoroethane	ND	105	96	9.0	101	108	6.7	70 - 130	30	
Vinyl chloride	ND	99	90	9.5	93	101	8.2	70 - 130	30	
% 1,2-dichlorobenzene-d4	105	98	105	6.9	101	98	3.0	70 - 130	30	
% Bromofluorobenzene	96	99	102	3.0	100	97	3.0	70 - 130	30	
% Dibromofluoromethane	107	93	104	11.2	106	94	12.0	70 - 130	30	
% Toluene-d8	98	100	101	1.0	100	100	0.0	70 - 130	30	

QA/QC Batch 194358, QC Sample No: BB42732 (BB42287 (50X) , BB42288 (25X) , BB42289 (500X) , BB42290 (1000X))

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	102	99	3.0	89	86	3.4	70 - 130	30	
1,1,1-Trichloroethane	ND	99	106	6.8	98	99	1.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	101	94	7.2	95	85	11.1	70 - 130	30	
1,1,2-Trichloroethane	ND	107	104	2.8	89	88	1.1	70 - 130	30	
1,1-Dichloroethane	ND	102	105	2.9	97	97	0.0	70 - 130	30	
1,1-Dichloroethene	ND	102	90	12.5	103	87	16.8	70 - 130	30	
1,1-Dichloropropene	ND	90	112	21.8	78	99	23.7	70 - 130	30	
1,2,3-Trichlorobenzene	ND	106	90	16.3	40	<40	NC	70 - 130	30	m
1,2,3-Trichloropropane	ND	113	84	29.4	105	99	5.9	70 - 130	30	
1,2,4-Trichlorobenzene	ND	97	88	9.7	<40	<40	NC	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	99	94	5.2	58	62	6.7	70 - 130	30	m
1,2-Dibromo-3-chloropropane	ND	120	101	17.2	93	78	17.5	70 - 130	30	
1,2-Dichlorobenzene	ND	96	93	3.2	62	65	4.7	70 - 130	30	m
1,2-Dichloroethane	ND	97	104	7.0	90	93	3.3	70 - 130	30	
1,2-Dichloropropane	ND	104	107	2.8	94	98	4.2	70 - 130	30	

QA/QC Data

SDG I.D.: GBB42286

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,3,5-Trimethylbenzene	ND	101	96	5.1	75	77	2.6	70 - 130	30	
1,3-Dichlorobenzene	ND	94	94	0.0	59	66	11.2	70 - 130	30	m
1,3-Dichloropropane	ND	103	100	3.0	88	86	2.3	70 - 130	30	
1,4-Dichlorobenzene	ND	94	90	4.3	56	62	10.2	70 - 130	30	m
2,2-Dichloropropane	ND	104	102	1.9	101	95	6.1	70 - 130	30	
2-Chlorotoluene	ND	97	97	0.0	76	81	6.4	70 - 130	30	
2-Hexanone	ND	91	89	2.2	78	90	14.3	70 - 130	30	
2-Isopropyltoluene	ND	97	95	2.1	74	76	2.7	70 - 130	30	
4-Chlorotoluene	ND	92	91	1.1	65	73	11.6	70 - 130	30	m
4-Methyl-2-pentanone	ND	107	95	11.9	80	77	3.8	70 - 130	30	
Acetone	ND	85	57	39.4	72	56	25.0	70 - 130	30	I,m,r
Acrylonitrile	ND	103	96	7.0	92	89	3.3	70 - 130	30	
Benzene	ND	93	114	20.3	84	102	19.4	70 - 130	30	
Bromobenzene	ND	101	101	0.0	75	81	7.7	70 - 130	30	
Bromochloromethane	ND	101	105	3.9	88	92	4.4	70 - 130	30	
Bromodichloromethane	ND	106	111	4.6	93	95	2.1	70 - 130	30	
Bromoform	ND	108	105	2.8	81	81	0.0	70 - 130	30	
Bromomethane	ND	88	85	3.5	98	88	10.8	70 - 130	30	
Carbon Disulfide	ND	111	97	13.5	86	76	12.3	70 - 130	30	
Carbon tetrachloride	ND	92	118	24.8	86	106	20.8	70 - 130	30	
Chlorobenzene	ND	96	98	2.1	75	78	3.9	70 - 130	30	
Chloroethane	ND	97	96	1.0	100	96	4.1	70 - 130	30	
Chloroform	ND	105	102	2.9	100	94	6.2	70 - 130	30	
Chloromethane	ND	99	88	11.8	110	90	20.0	70 - 130	30	
cis-1,2-Dichloroethene	ND	101	104	2.9	87	87	0.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	108	109	0.9	80	83	3.7	70 - 130	30	
Dibromochloromethane	ND	107	107	0.0	89	87	2.3	70 - 130	30	
Dibromoethane	ND	110	106	3.7	78	83	6.2	70 - 130	30	
Dibromomethane	ND	104	104	0.0	80	82	2.5	70 - 130	30	
Dichlorodifluoromethane	ND	73	76	4.0	95	103	8.1	70 - 130	30	
Ethylbenzene	ND	97	100	3.0	79	83	4.9	70 - 130	30	
Hexachlorobutadiene	ND	94	85	10.1	<40	<40	NC	70 - 130	30	m
Isopropylbenzene	ND	98	99	1.0	86	91	5.6	70 - 130	30	
m&p-Xylene	ND	96	97	1.0	72	76	5.4	70 - 130	30	
Methyl ethyl ketone	ND	74	74	0.0	74	80	7.8	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	106	101	4.8	101	94	7.2	70 - 130	30	
Methylene chloride	ND	107	93	14.0	105	87	18.8	70 - 130	30	
Naphthalene	ND	113	97	15.2	<40	<40	NC	70 - 130	30	m
n-Butylbenzene	ND	96	93	3.2	46	53	14.1	70 - 130	30	m
n-Propylbenzene	ND	92	93	1.1	75	81	7.7	70 - 130	30	
o-Xylene	ND	100	101	1.0	79	83	4.9	70 - 130	30	
p-Isopropyltoluene	ND	102	98	4.0	68	72	5.7	70 - 130	30	m
sec-Butylbenzene	ND	95	95	0.0	69	73	5.6	70 - 130	30	m
Styrene	ND	101	104	2.9	65	73	11.6	70 - 130	30	m
tert-Butylbenzene	ND	98	98	0.0	81	84	3.6	70 - 130	30	
Tetrachloroethene	ND	96	94	2.1	81	84	3.6	70 - 130	30	
Tetrahydrofuran (THF)	ND	105	98	6.9	95	90	5.4	70 - 130	30	
Toluene	ND	102	104	1.9	84	88	4.7	70 - 130	30	
trans-1,2-Dichloroethene	ND	108	93	14.9	92	78	16.5	70 - 130	30	
trans-1,3-Dichloropropene	ND	109	112	2.7	71	77	8.1	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	109	110	0.9	72	74	2.7	70 - 130	30	
Trichloroethene	ND	104	103	1.0	86	89	3.4	70 - 130	30	
Trichlorofluoromethane	ND	117	103	12.7	107	91	16.2	70 - 130	30	

QA/QC Data

SDG I.D.: GBB42286

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Trichlorotrifluoroethane	ND	101	88	13.8	104	87	17.8	70 - 130	30
Vinyl chloride	ND	98	87	11.9	104	90	14.4	70 - 130	30
% 1,2-dichlorobenzene-d4	99	104	100	3.9	101	102	1.0	70 - 130	30
% Bromofluorobenzene	97	101	103	2.0	93	96	3.2	70 - 130	30
% Dibromofluoromethane	94	99	105	5.9	102	101	1.0	70 - 130	30
% Toluene-d8	101	101	103	2.0	101	101	0.0	70 - 130	30

l = This parameter is outside laboratory lcs/lcsd specified recovery limits.

m = This parameter is outside laboratory ms/msd specified recovery limits.

r = This parameter is outside laboratory rpd specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

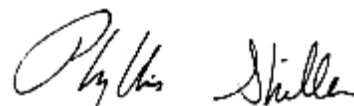
LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria



Phyllis Shiller, Laboratory Director

February 17, 2012

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB42286

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB42286	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	200	10	ug/Kg
BB42286	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	1900	10	ug/Kg
BB42286	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	400	5	ug/Kg
BB42286	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	6000	5	ug/Kg
BB42286	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7400	200	10	ug/Kg
BB42286	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	2700	5	ug/Kg
BB42286	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	100	5	ug/Kg
BB42286	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	300	5	ug/Kg
BB42286	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	200	5	ug/Kg
BB42286	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7400	300	10	ug/Kg
BB42286	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	300	5	ug/Kg
BB42286	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	800	5	ug/Kg
BB42286	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	600	5	ug/Kg
BB42286	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	60	5	ug/Kg
BB42286	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	100	5	ug/Kg
BB42286	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	700	5	ug/Kg
BB42286	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7400	1000	10	ug/Kg
BB42286	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	1500	5	ug/Kg
BB42286	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	1400	5	ug/Kg
BB42286	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	300	5	ug/Kg
BB42286	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500		5	ug/Kg
BB42286	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	1700	5	ug/Kg
BB42286	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	7400	1500	5500	5	ug/Kg
BB42286	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	600	5	ug/Kg
BB42286	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	400	5	ug/Kg
BB42286	EMCI	\$8260SMR	Naphthalene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	8500	1500	3400	330	ug/Kg
BB42286	EMCI	\$8260SMR	Total Xylenes	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	36800	1500	1200		ug/Kg
BB42286	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	30	330	ug/Kg
BB42286	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	330	ug/Kg
BB42286	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	100	330	ug/Kg
BB42286	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	200	330	ug/Kg
BB42286	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	220	330	ug/Kg
BB42286	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	240	330	ug/Kg
BB42286	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	100	330	ug/Kg
BB42286	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	620	500	1600	ug/Kg
BB42286	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	620	200	1600	ug/Kg
BB42286	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	1600	ug/Kg
BB42286	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	620	430	1600	ug/Kg
BB42286	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	61	330	ug/Kg
BB42286	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	224	330	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB42286

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB42286	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	14	330	ug/Kg
BB42287	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	200	10	ug/Kg
BB42287	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	1900	10	ug/Kg
BB42287	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	400	5	ug/Kg
BB42287	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	6000	5	ug/Kg
BB42287	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	200	10	ug/Kg
BB42287	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	2700	5	ug/Kg
BB42287	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	100	5	ug/Kg
BB42287	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	300	5	ug/Kg
BB42287	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	200	5	ug/Kg
BB42287	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	10	ug/Kg
BB42287	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	300	5	ug/Kg
BB42287	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	800	5	ug/Kg
BB42287	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	600	5	ug/Kg
BB42287	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	60	5	ug/Kg
BB42287	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	100	5	ug/Kg
BB42287	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	700	5	ug/Kg
BB42287	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1000	10	ug/Kg
BB42287	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	1400	5	ug/Kg
BB42287	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	300	5	ug/Kg
BB42287	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270		5	ug/Kg
BB42287	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	1700	5	ug/Kg
BB42287	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	6900	270	5500	5	ug/Kg
BB42287	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	600	5	ug/Kg
BB42287	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	270	400	5	ug/Kg
BB42287	EMCI	\$8260SMR	Naphthalene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	4500	270	3400	330	ug/Kg
BB42287	EMCI	\$8260SMR	Total Xylenes	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	11200	270	1200		ug/Kg
BB42287	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	30	330	ug/Kg
BB42287	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	330	ug/Kg
BB42287	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB42287	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	200	330	ug/Kg
BB42287	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	220	330	ug/Kg
BB42287	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	240	330	ug/Kg
BB42287	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB42287	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	500	1600	ug/Kg
BB42287	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	200	1600	ug/Kg
BB42287	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	1600	ug/Kg
BB42287	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	430	1600	ug/Kg
BB42287	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	61	330	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB42286

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB42287	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	224	330	ug/Kg
BB42287	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	14	330	ug/Kg
BB42288	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	200	10	ug/Kg
BB42288	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	1900	10	ug/Kg
BB42288	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	400	5	ug/Kg
BB42288	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	6000	5	ug/Kg
BB42288	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	700	200	10	ug/Kg
BB42288	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	2700	5	ug/Kg
BB42288	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	100	5	ug/Kg
BB42288	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	300	5	ug/Kg
BB42288	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	200	5	ug/Kg
BB42288	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	700	300	10	ug/Kg
BB42288	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	300	5	ug/Kg
BB42288	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	800	5	ug/Kg
BB42288	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	600	5	ug/Kg
BB42288	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	60	5	ug/Kg
BB42288	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	100	5	ug/Kg
BB42288	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	700	5	ug/Kg
BB42288	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	700	1000	10	ug/Kg
BB42288	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	1500	5	ug/Kg
BB42288	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	1400	5	ug/Kg
BB42288	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	300	5	ug/Kg
BB42288	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140		5	ug/Kg
BB42288	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	1700	5	ug/Kg
BB42288	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	5500	5	ug/Kg
BB42288	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	600	5	ug/Kg
BB42288	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	140	400	5	ug/Kg
BB42288	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	30	330	ug/Kg
BB42288	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	330	ug/Kg
BB42288	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB42288	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	200	330	ug/Kg
BB42288	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	220	330	ug/Kg
BB42288	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	240	330	ug/Kg
BB42288	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB42288	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	500	1600	ug/Kg
BB42288	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	200	1600	ug/Kg
BB42288	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	1600	ug/Kg
BB42288	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	430	1600	ug/Kg
BB42288	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	61	330	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB42286

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB42288	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	224	330	ug/Kg
BB42288	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	14	330	ug/Kg
BB42289	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	200	10	ug/Kg
BB42289	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	1900	10	ug/Kg
BB42289	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	400	5	ug/Kg
BB42289	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	6000	5	ug/Kg
BB42289	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	200	10	ug/Kg
BB42289	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	2700	5	ug/Kg
BB42289	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	100	5	ug/Kg
BB42289	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	300	5	ug/Kg
BB42289	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	200	5	ug/Kg
BB42289	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	300	10	ug/Kg
BB42289	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	300	5	ug/Kg
BB42289	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	800	5	ug/Kg
BB42289	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	600	5	ug/Kg
BB42289	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	60	5	ug/Kg
BB42289	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	100	5	ug/Kg
BB42289	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	700	5	ug/Kg
BB42289	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1500	1000	10	ug/Kg
BB42289	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	1400	5	ug/Kg
BB42289	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	300	5	ug/Kg
BB42289	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290		5	ug/Kg
BB42289	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	1700	5	ug/Kg
BB42289	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	600	5	ug/Kg
BB42289	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	290	400	5	ug/Kg
BB42289	EMCI	\$8260SMR	Naphthalene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	5600	290	3400	330	ug/Kg
BB42289	EMCI	\$8260SMR	Total Xylenes	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	23400	290	1200		ug/Kg
BB42289	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	30	330	ug/Kg
BB42289	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	330	ug/Kg
BB42289	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	100	330	ug/Kg
BB42289	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	200	330	ug/Kg
BB42289	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	220	330	ug/Kg
BB42289	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	240	330	ug/Kg
BB42289	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	100	330	ug/Kg
BB42289	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	620	500	1600	ug/Kg
BB42289	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	620	200	1600	ug/Kg
BB42289	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	1600	ug/Kg
BB42289	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	620	430	1600	ug/Kg
BB42289	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	61	330	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB42286

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB42289	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	224	330	ug/Kg
BB42289	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	14	330	ug/Kg
BB42290	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	200	10	ug/Kg
BB42290	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1900	10	ug/Kg
BB42290	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	400	5	ug/Kg
BB42290	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	6000	5	ug/Kg
BB42290	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7000	200	10	ug/Kg
BB42290	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	2700	5	ug/Kg
BB42290	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	100	5	ug/Kg
BB42290	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB42290	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	200	5	ug/Kg
BB42290	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7000	300	10	ug/Kg
BB42290	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB42290	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	800	5	ug/Kg
BB42290	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	600	5	ug/Kg
BB42290	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	60	5	ug/Kg
BB42290	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	100	5	ug/Kg
BB42290	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	700	5	ug/Kg
BB42290	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7000	1000	10	ug/Kg
BB42290	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	6200	1400	1500	5	ug/Kg
BB42290	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1400	5	ug/Kg
BB42290	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB42290	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400		5	ug/Kg
BB42290	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1700	5	ug/Kg
BB42290	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	11000	1400	5500	5	ug/Kg
BB42290	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	600	5	ug/Kg
BB42290	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	400	5	ug/Kg
BB42290	EMCI	\$8260SMR	Naphthalene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	7800	1400	3400	330	ug/Kg
BB42290	EMCI	\$8260SMR	Total Xylenes	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	64000	1400	1200		ug/Kg
BB42290	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	30	330	ug/Kg
BB42290	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	330	ug/Kg
BB42290	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	100	330	ug/Kg
BB42290	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	200	330	ug/Kg
BB42290	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	220	330	ug/Kg
BB42290	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	240	330	ug/Kg
BB42290	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	100	330	ug/Kg
BB42290	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	590	500	1600	ug/Kg
BB42290	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	590	200	1600	ug/Kg
BB42290	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	1600	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB42286

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB42290	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	590	430	1600	ug/Kg
BB42290	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	61	330	ug/Kg
BB42290	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	224	330	ug/Kg
BB42290	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	14	330	ug/Kg
BB42291	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	200	10	ug/Kg
BB42291	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	1900	10	ug/Kg
BB42291	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	400	5	ug/Kg
BB42291	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	6000	5	ug/Kg
BB42291	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5700	200	10	ug/Kg
BB42291	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	2700	5	ug/Kg
BB42291	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	100	5	ug/Kg
BB42291	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	300	5	ug/Kg
BB42291	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	200	5	ug/Kg
BB42291	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5700	300	10	ug/Kg
BB42291	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	300	5	ug/Kg
BB42291	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	800	5	ug/Kg
BB42291	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	600	5	ug/Kg
BB42291	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	60	5	ug/Kg
BB42291	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	100	5	ug/Kg
BB42291	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	700	5	ug/Kg
BB42291	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5700	1000	10	ug/Kg
BB42291	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	1500	5	ug/Kg
BB42291	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	1400	5	ug/Kg
BB42291	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	300	5	ug/Kg
BB42291	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100		5	ug/Kg
BB42291	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	1700	5	ug/Kg
BB42291	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	8800	1100	5500	5	ug/Kg
BB42291	EMCI	\$8260SMR	1,1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	600	5	ug/Kg
BB42291	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1100	400	5	ug/Kg
BB42291	EMCI	\$8260SMR	Naphthalene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	6300	1100	3400	330	ug/Kg
BB42291	EMCI	\$8260SMR	Total Xylenes	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	43000	1100	1200		ug/Kg
BB42291	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	30	330	ug/Kg
BB42291	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	330	ug/Kg
BB42291	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	100	330	ug/Kg
BB42291	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	200	330	ug/Kg
BB42291	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	220	330	ug/Kg
BB42291	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	240	330	ug/Kg
BB42291	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	100	330	ug/Kg
BB42291	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	610	500	1600	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB42286

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB42291	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	610	200	1600	ug/Kg
BB42291	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	1600	ug/Kg
BB42291	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	610	430	1600	ug/Kg
BB42291	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	61	330	ug/Kg
BB42291	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	224	330	ug/Kg
BB42291	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	14	330	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

ENVIRONMENTAL MAINTENANCE CONTRACTORS, INC.

Environmental Consulting and Remedial / Abatement Services

- * Asbestos Testing and Removal * Lead Based Paint (XRF) Testing * Underground Storage Tank Removal Services*
- * Indoor Air Quality Testing * Mold Abatement Service * Hazardous Material Testing and Abatement *
- * Environmental Phase I and II Assessments *

April 24, 2012

Ryan M. Piper, Engineering Geologist I

NYS Department of Environmental Conservation

Spill Prevention and Response Programs, Division of Environmental Remediation

**Re: NYS DEC Spill Case: 11-08991 – Soil & Groundwater Sample Analysis Report
for 1676 3rd Ave., New York City, NY 10011 (aka Subject Site)**

Please find below and attached a description of the events that have occurred as they relate to the subsurface contaminated materials that remain at the above referenced Subject Site, as well as the associated supporting documentation as referenced below.

March 21, 2012:

- Environmental Maintenance Contractors, Inc. (EMC) advanced one (1) soil boring (SB-B) and installed one (1) groundwater monitoring well (MW-B) into the location of soil boring (SB-B) within the basement of the Subject Site, as indicated on the ***attached drawing(s)***;
- Soil samples were then collected, screened with a Photo-Ionization Detector (PID) and packaged for laboratory analysis to further delineate the presence of volatile or semi volatile organic materials contamination in the subsurface materials at depths below the location of end point samples (12.0' bgs) collected for the Subject Site. Please find ***attached a report of PID readings collected***.
- The soil boring was advanced to a depth of approximately 22.5' bgs and the groundwater monitoring well were installed to a depth of approximately 22.0' bgs.
- Groundwater was encountered at a depth of approximately 18.0' bgs.
- Soil samples collected were transported to a New York State accredited/approved laboratory, with a certified chain of custody for analysis via VOC's, by EPA Method 8260 and SVOC's by EPA Method 8270.

Based on the review of the field data and analytical laboratory data reported for the soil samples collected, in the basement of the Subject Site, on March 21, 2012, the sample results indicate either non-detect (ND) or concentration of contaminants below the NYS DEC Recommended Soil Cleanup Objectives. Please see ***attached copy of soil sample results spreadsheet and laboratory data for the sample analyzed***.

March 26 & 27, 2012:

- EMC monitored the advancement of three (3) soil borings (SB-1, SB-2 and SB-3) and the installation of three (3) groundwater monitoring wells (MW-1, MW-2 and MW-3) at each of the three (3) soil boring locations on the sidewalk of the Subject Site, as indicated on the ***attached drawing(s)***.
- Soil samples were then collected, screened with a Photo-Ionization Detector (PID) and packaged for laboratory analysis to further delineate the presence of volatile or semi volatile organic materials contamination in the subsurface materials, at depths below the

**EMC, Inc. 5 Anderson Lane, Goldens Bridge, New York 10526 Tel: 914-232-7355 Fax: 914-232-7357
email: rstumbo@enviromain.com**

location of end point samples (12.0' bgs) collected for the Subject Site. The soil borings were advanced and the ground water monitoring wells were installed at a depth of approximately 15.0' bgs. Please find ***attached a report of PID readings collected.***

- Ground water was encountered at a depth of approximately 12.5" bgs at SB-1 location, approximately 11.0' bgs at SB-2 location and 14.0' bgs at SB-3 location of the Subject Site.
- Soil samples collected were transported to a New York State accredited/approved laboratory, with a certified chain of custody for analysis via VOC's, by EPA Method 8260 and SVOC's by EPA Method 8270.

Based on the review of the field screening and analytical laboratory data reported for the soil samples collected on the sidewalk of the Subject Site on March 26 & 27, 2012, the analytical results indicate that concentration of contaminants exceeds the NYS DEC Recommended Soil Cleanup Objectives. Please see ***attached copy of soil sample results spreadsheet and laboratory data for the sample analyzed*** for your review.

April 9, 2012:

- EMC returned to the Subject Site to develop the groundwater monitoring wells for sampling including groundwater monitoring wells #MW-1, MW-2, MW-3 and MW-B.

April 11, 2012:

- EMC returned to the Subject Site to perform field measurement of the groundwater for pH, Dissolved Oxygen (DO), Oxidation/Reduction Potential (ORP), Specific Conductance and Turbidity utilizing a YSI 650 Multiparameter System. Please find attached spreadsheet detailing data observed during screening activities.
- EMC collected groundwater samples from groundwater monitoring wells #MW-1, MW-2, MW-3 and MW-B.
- Groundwater samples collected were containerized and transported to a New York State accredited/approved laboratory, with a certified chain of custody for analysis via VOC's, by EPA Method 8260 and SVOC's by EPA Method 8270.

Based on the review of the analytical laboratory data reported for the groundwater samples collected on the sidewalk and basement of the Subject Site on April 11, 2012, the analytical results indicate that concentration of contaminants exceeds the NYS DEC Recommended Soil Cleanup Objectives (Groundwater Standard Criteria). Please see ***attached copy of groundwater sample results spreadsheet and laboratory data for the sample analyzed*** for your review.

Should you have any questions or require additional information please do not hesitate to contact me.

Prepared and Reviewed by:

Environmental Maintenance Contractors, Inc.

Mr. Richard Stumbo, President

Attachments

Attachments:

- Site Map, Boring and Groundwater Monitoring Well Locations Map (Basement & Sidewalk)
- Soil Sample Results for 03/21/2012 (Basement)
and
Soil Sample Results for 03/26 & 27/2012 (Sidewalk)
- Groundwater Sample Results for 04/11/2012
(Basement & Sidewalk)
- Laboratory Analytical Results (Basement and
Sidewalk)
- Groundwater Field Parameters Spreadsheet
- PID Reading Table

EAST 94TH STREET

 **—Approximate SB-B/MW-B
Location Map**

30'-2"

36'-8"

Subject Site

25'-4 $\frac{1}{4}$ "

25'-4 $\frac{1}{4}$ "

SB-B/MW-B



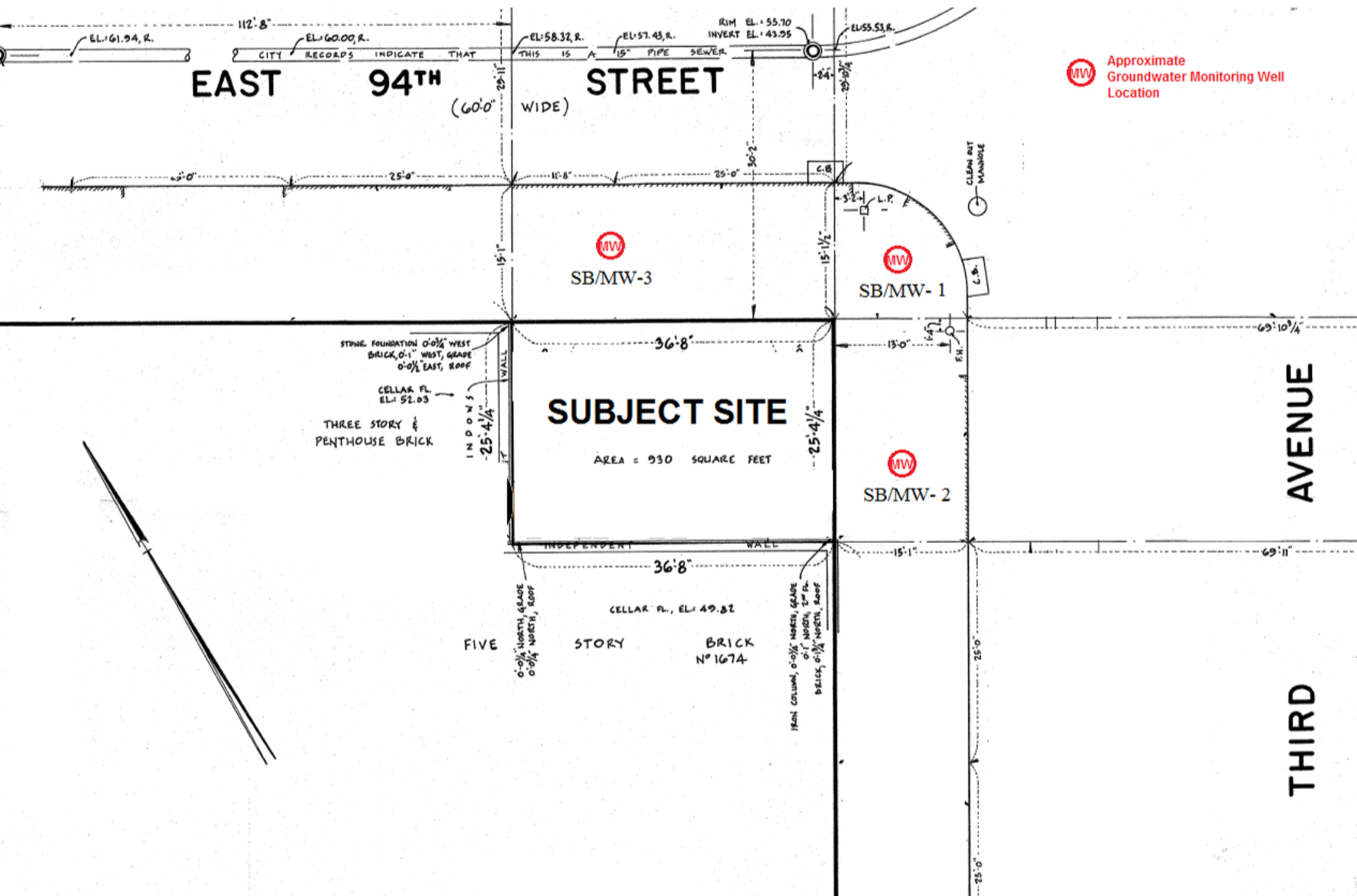
36'-8"

THIRD AVENUE



BLOCK 1522
LOT 40

1676 3rd Ave. New York NY



MW Approximate
Groundwater Monitoring Well
Location

Phoenix Environmental Laboratories, Inc. 587 East Middle Turnpike P.O. Box 370, Manchester, CT 06040 (860) 645-1102	Lab Sample Id	BB57215	BB57216	PHOENIX ENVIRONMENTAL LABORATORIES, INC. 1000 WASHINGTON STREET MANCHESTER, CT 06040
	Collection Date	3/21/2012	3/21/2012	
	Client Id	SBH-B	SBC-B	
	Matrix	Solid	Solid	
Project Id : 1676 THIRD AVE NYC NY	Units	Result	Result	
PHOENIX ENVIRONMENTAL LABORATORIES, INC.	ppm	445	17.8	
PHOENIX ENVIRONMENTAL LABORATORIES, INC.	feet	16-18	20-22	
PHOENIX ENVIRONMENTAL LABORATORIES, INC.				
1,2,4-Trimethylbenzene	ug/Kg	ND	ND	ND
1,3,5-Trimethylbenzene	ug/Kg	ND	ND	ND
Benzene	ug/Kg	ND	ND	ND
Ethylbenzene	ug/Kg	ND	ND	ND
Isopropylbenzene	ug/Kg	ND	ND	ND
Methyl t-butyl ether (MTBE)	ug/Kg	ND	ND	ND
Naphthalene	ug/Kg	ND	ND	ND
n-Butylbenzene	ug/Kg	560	ND	ND
n-Propylbenzene	ug/Kg	190	ND	ND
p-Isopropyltoluene	ug/Kg	ND	ND	ND
sec-Butylbenzene	ug/Kg	210	ND	ND
tert-Butylbenzene	ug/Kg	ND	ND	ND
Toluene	ug/Kg	ND	ND	ND
Total Xylenes	ug/Kg	ND	ND	ND
PHOENIX ENVIRONMENTAL LABORATORIES, INC.				
Acenaphthene	ug/Kg	ND	ND	ND
Acenaphthylene	ug/Kg	ND	ND	ND
Anthracene	ug/Kg	ND	ND	ND
Benz(a)anthracene	ug/Kg	ND	ND	ND
Benzo(a)pyrene	ug/Kg	ND	ND	ND
Benzo(b)fluoranthene	ug/Kg	ND	ND	ND
Benzo(ghi)perylene	ug/Kg	ND	ND	ND
Benzo(k)fluoranthene	ug/Kg	ND	ND	ND
Chrysene	ug/Kg	ND	ND	ND
Dibenz(a,h)anthracene	ug/Kg	ND	ND	ND
Fluoranthene	ug/Kg	ND	ND	ND
Fluorene	ug/Kg	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ug/Kg	ND	ND	ND
Naphthalene	ug/Kg	ND	ND	ND
Phenanthrene	ug/Kg	ND	ND	ND
Pyrene	ug/Kg	ND	ND	ND

Red Bold # Exceeded NYS DEC Recommended Groundwater Criteria
ND - Non Detect

Phoenix Environmental Laboratories, Inc. 587 East Middle Turnpike P.O. Box 370 Manchester, CT 06040 (860) 645-1102	Lab Sample Id	BB71497	Groundwater Analysis Report gwr000000
	Collection Date	4/11/2012	
	Client Id	MW-B	
	Matrix	Ground Water	
Project Id : 1676 THIRD AVE., NYC, NY	Units	Result	
Volatiles			
1,2,4-Trimethylbenzene	ug/L	ND	ND
1,3,5-Trimethylbenzene	ug/L	ND	ND
Benzene	ug/L	ND	ND
Ethylbenzene	ug/L	ND	ND
Isopropylbenzene	ug/L	ND	ND
Methyl t-butyl ether (MTBE)	ug/L	ND	ND
Naphthalene	ug/L	ND	ND
n-Butylbenzene	ug/L	ND	ND
n-Propylbenzene	ug/L	ND	ND
p-Isopropyltoluene	ug/L	ND	ND
sec-Butylbenzene	ug/L	ND	ND
tert-Butylbenzene	ug/L	ND	ND
Toluene	ug/L	ND	ND
Total Xylenes	ug/L	ND	ND
Semi-Volatiles			
Acenaphthene	ug/L	ND	ND
Acenaphthylene	ug/L	ND	ND
Anthracene	ug/L	ND	ND
Benz(a)anthracene	ug/L	ND	ND
Benzo(a)pyrene	ug/L	ND	ND
Benzo(b)fluoranthene	ug/L	ND	ND
Benzo(ghi)perylene	ug/L	ND	ND
Benzo(k)fluoranthene	ug/L	ND	ND
Chrysene	ug/L	ND	ND
Dibenz(a,h)anthracene	ug/L	ND	ND
Fluoranthene	ug/L	ND	ND
Fluorene	ug/L	ND	ND
Indeno(1,2,3-cd)pyrene	ug/L	ND	ND
Naphthalene	ug/L	ND	ND
Phenanthrene	ug/L	ND	ND
Pyrene	ug/L	ND	ND

Red Bold # Exceeded NYS DEC Recommended Groundwater Criteria

ND - Non Detect

Phoenix Environmental Laboratories, Inc. 587 East Middle Turnpike P.O. Box 370 Manchester, CT 06040 (860) 645-1102	Lab Sample Id	BB71379	BB71380	BB71381	Report Analysis Groundwater g/L
	Collection Date	4/11/2012	4/11/2012	4/11/2012	
	Client Id	MW-1	MW-2	MW-3	
	Matrix	Ground Water	Ground Water	Ground Water	
Project Id : 1676 THIRD AVE., NYC, NY	Units	Result	Result	Result	
Volatiles in Groundwater					
1,2,4-Trimethylbenzene	ug/L	0.00	0.00	0.00	0
1,3,5-Trimethylbenzene	ug/L	0.00	0.00	0.00	0
Benzene	ug/L	0.00	0.00	0.00	0.00
Ethylbenzene	ug/L	0.00	0.00	0.00	0
Isopropylbenzene	ug/L	0.00	0.00	0.00	0
Methyl t-butyl ether (MTBE)	ug/L	ND	ND	ND	0.00
Naphthalene	ug/L	0.00	0.00	0.00	0.00
n-Butylbenzene	ug/L	0.00	0.00	ND	0
n-Propylbenzene	ug/L	0.00	0.00	0.00	0
p-Isopropyltoluene	ug/L	ND	0.00	ND	0
sec-Butylbenzene	ug/L	ND	0.00	ND	0
tert-Butylbenzene	ug/L	ND	ND	ND	0
Toluene	ug/L	0.00	0.00	0.00	0
Total Xylenes	ug/L	0.00	0.00	0.00	0
Polycyclic Aromatic Hydrocarbons in Groundwater					
Acenaphthene	ug/L	ND	ND	ND	0.00
Acenaphthylene	ug/L	ND	ND	ND	0.00
Anthracene	ug/L	ND	ND	ND	0.00
Benz(a)anthracene	ug/L	ND	ND	ND	0.00
Benzo(a)pyrene	ug/L	ND	ND	ND	0.00
Benzo(b)fluoranthene	ug/L	ND	ND	ND	0.00
Benzo(ghi)perylene	ug/L	ND	ND	ND	0
Benzo(k)fluoranthene	ug/L	ND	ND	ND	0.00
Chrysene	ug/L	ND	ND	ND	0.00
Dibenz(a,h)anthracene	ug/L	ND	ND	ND	0.00
Fluoranthene	ug/L	ND	ND	ND	0.00
Fluorene	ug/L	ND	ND	ND	0.00
Indeno(1,2,3-cd)pyrene	ug/L	ND	ND	ND	0.00
Naphthalene	ug/L	0.00	0.00	0.00	0.00
Phenanthrene	ug/L	ND	ND	ND	0.00
Pyrene	ug/L	ND	ND	ND	0.00

Red Bold # Exceeded NYS DEC Recommended Groundwater Criteria

ND - Non Detect

a n i a i a a r i n r a

Phoenix Environmental Laboratories, Inc. 587 East Middle Turnpike P.O. Box 307, Manchester, CT 06040 (860) 645-1102	Lab Sample Id	BB57215	BB57216	BB59659	BB59660	BB59661	BB59662	BB59663	BB59664	BB59665	BB59666	BB59667
	Collection Date	3/21/2012	3/21/2012	3/26/2012	3/26/2012	3/26/2012	3/26/2012	3/26/2012	3/26/2012	3/27/2012	3/27/2012	3/27/2012
	Client Id	SBH-B	SBC-B	SBH-1	SBC-1	SBD-1	SBH-2	SBC-2	SBD-2	SBH-3	SBC-3	SBD-3
	Matrix	Solid	Solid	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Project Id : 1676 THIRD AVE NYC NY	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
ppm	ppm	445	17.8	714	3.5	32.2	1103	20.1	137	736	117	402
feet	feet	16-18	20-22	8-10	0-2	12-14	10-12	0-2	14-15	8-10	14-15	10-12
a i W												
1,2,4-Trimethylbenzene	ug/Kg	ND	ND		6.1	ND	2,000	7.5	ND		1,400	500
1,3,5-Trimethylbenzene	ug/Kg	ND	ND		17	ND	710	9	ND		470	230
Benzene	ug/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/Kg	ND	ND		5.6	ND	180	ND	ND		140	99
Isopropylbenzene	ug/Kg	ND	ND		ND	ND	ND	ND	ND		ND	26
Methyl t-butyl ether (MTBE)	ug/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ug/Kg	ND	ND	5,200	ND	ND	780	ND	23		820	380
n-Butylbenzene	ug/Kg	560	ND	4,000	ND	ND	160	ND	ND	3,500	150	27
n-Propylbenzene	ug/Kg	190	ND		ND	ND	260	ND	ND		170	85
p-Isopropyltoluene	ug/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.9
sec-Butylbenzene	ug/Kg	210	ND	1,600	ND	ND	ND	ND	ND	1,600	ND	ND
tert-Butylbenzene	ug/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/Kg	ND	ND		8.1	ND	ND	6.1	ND		ND	38
Total Xylenes	ug/Kg	ND	ND		37	ND		25	ND			
i a i W												
Acenaphthene	ug/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ug/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ug/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benz(a)anthracene	ug/Kg	ND	ND	ND	ND	ND	480	ND	ND	ND	ND	ND
Benzo(a)pyrene	ug/Kg	ND	ND	ND	ND	ND	420	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ug/Kg	ND	ND	ND	ND	ND	710	ND	ND	ND	ND	ND
Benzo(ghi)perylene	ug/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ug/Kg	ND	ND	ND	ND	ND	270	ND	ND	ND	ND	ND
Chrysene	ug/Kg	ND	ND	ND	ND	ND	590	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ug/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ug/Kg	ND	ND	ND	ND	ND	1,600	ND	ND	ND	ND	ND
Fluorene	ug/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ug/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ug/Kg	ND	ND	4,400	ND	ND	1,300	ND	ND		ND	540
Phenanthrene	ug/Kg	ND	ND	ND	ND	ND	2,200	ND	ND	ND	ND	ND
Pyrene	ug/Kg	ND	ND	ND	ND	ND	1,200	ND	ND	ND	ND	ND

Red Bold # Exceeded NYS DEC Recommended Groundwater Criteria

ND - Non Detect

Phoenix Environmental Laboratories, Inc. Groundwater Monitoring Report

Phoenix Environmental Laboratories, Inc. 587 East Middle Turnpike P.O. Box 370 Manchester, CT 06040 (860) 645-1102	Lab Sample Id	BB71497	BB71379	BB71380	BB71381	Groundwater Criteria 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Ethylbenzene Isopropylbenzene Methyl t-butyl ether (MTBE) Naphthalene n-Butylbenzene n-Propylbenzene p-Isopropyltoluene sec-Butylbenzene tert-Butylbenzene Toluene Total Xylenes
	Collection Date	4/11/2012	4/11/2012	4/11/2012	4/11/2012	
	Client Id	MW-B	MW-1	MW-2	MW-3	
	Matrix	Ground Water	Ground Water	Ground Water	Ground Water	
Project Id : 1676 THIRD AVE., NYC, NY	Units	Result	Result	Result	Result	
Groundwater Monitoring Results						
1,2,4-Trimethylbenzene	ug/L	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ug/L	ND	ND	ND	ND	ND
Benzene	ug/L	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	ND	ND	ND	ND	ND
Isopropylbenzene	ug/L	ND	ND	ND	ND	ND
Methyl t-butyl ether (MTBE)	ug/L	ND	ND	ND	ND	ND
Naphthalene	ug/L	ND	ND	ND	ND	ND
n-Butylbenzene	ug/L	ND	ND	ND	ND	ND
n-Propylbenzene	ug/L	ND	ND	ND	ND	ND
p-Isopropyltoluene	ug/L	ND	ND	ND	ND	ND
sec-Butylbenzene	ug/L	ND	ND	ND	ND	ND
tert-Butylbenzene	ug/L	ND	ND	ND	ND	ND
Toluene	ug/L	ND	ND	ND	ND	ND
Total Xylenes	ug/L	ND	ND	ND	ND	ND
Groundwater Monitoring Results						
Acenaphthene	ug/L	ND	ND	ND	ND	ND
Acenaphthylene	ug/L	ND	ND	ND	ND	ND
Anthracene	ug/L	ND	ND	ND	ND	ND
Benz(a)anthracene	ug/L	ND	ND	ND	ND	ND
Benzo(a)pyrene	ug/L	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ug/L	ND	ND	ND	ND	ND
Benzo(ghi)perylene	ug/L	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ug/L	ND	ND	ND	ND	ND
Chrysene	ug/L	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ug/L	ND	ND	ND	ND	ND
Fluoranthene	ug/L	ND	ND	ND	ND	ND
Fluorene	ug/L	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ug/L	ND	ND	ND	ND	ND
Naphthalene	ug/L	ND	ND	ND	ND	ND
Phenanthrene	ug/L	ND	ND	ND	ND	ND
Pyrene	ug/L	ND	ND	ND	ND	ND

Red Bold # Exceeded NYS DEC Recommended Groundwater Criteria
 ND - Non Detect



Thursday, April 19, 2012

Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Project ID: 1676 THIRD AVE., NYC, NY
Sample ID#s: BB57215 - BB57216

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 19, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOLID
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LB
Analyzed by: see "By" below

Date Time
03/21/12 13:00
03/22/12 16:24

Laboratory Data

SDG ID: GBB57215
Phoenix ID: BB57215

Project ID: 1676 THIRD AVE., NYC, NY

Client ID: SBH-B

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	86		%	03/22/12		jl	E160.3
Soil Extraction for SVOA	Completed			03/22/12		BS/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,1,1-Trichloroethane	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,1,2-Trichloroethane	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,1-Dichloroethane	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,1-Dichloroethene	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,1-Dichloropropene	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,2,3-Trichlorobenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260	1
1,2,3-Trichloropropane	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,2,4-Trichlorobenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,2,4-Trimethylbenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,2-Dichlorobenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,2-Dichloroethane	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,2-Dichloropropane	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,3,5-Trimethylbenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,3-Dichlorobenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,3-Dichloropropane	ND	150	ug/Kg	03/29/12		H/J	SW8260	
1,4-Dichlorobenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260	
2,2-Dichloropropane	ND	150	ug/Kg	03/29/12		H/J	SW8260	
2-Chlorotoluene	ND	150	ug/Kg	03/29/12		H/J	SW8260	
2-Hexanone	ND	730	ug/Kg	03/29/12		H/J	SW8260	
2-Isopropyltoluene	ND	150	ug/Kg	03/29/12		H/J	SW8260	1
4-Chlorotoluene	ND	150	ug/Kg	03/29/12		H/J	SW8260	

Client ID: SBH-B

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	730	ug/Kg	03/29/12		H/J	SW8260
Acetone	ND	730	ug/Kg	03/29/12		H/J	SW8260
Acrylonitrile	ND	290	ug/Kg	03/29/12		H/J	SW8260
Benzene	ND	150	ug/Kg	03/29/12		H/J	SW8260
Bromobenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260
Bromochloromethane	ND	150	ug/Kg	03/29/12		H/J	SW8260
Bromodichloromethane	ND	150	ug/Kg	03/29/12		H/J	SW8260
Bromoform	ND	150	ug/Kg	03/29/12		H/J	SW8260
Bromomethane	ND	150	ug/Kg	03/29/12		H/J	SW8260
Carbon Disulfide	ND	150	ug/Kg	03/29/12		H/J	SW8260
Carbon tetrachloride	ND	150	ug/Kg	03/29/12		H/J	SW8260
Chlorobenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260
Chloroethane	ND	150	ug/Kg	03/29/12		H/J	SW8260
Chloroform	ND	150	ug/Kg	03/29/12		H/J	SW8260
Chloromethane	ND	150	ug/Kg	03/29/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	150	ug/Kg	03/29/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	150	ug/Kg	03/29/12		H/J	SW8260
Dibromochloromethane	ND	150	ug/Kg	03/29/12		H/J	SW8260
Dibromoethane	ND	150	ug/Kg	03/29/12		H/J	SW8260
Dibromomethane	ND	150	ug/Kg	03/29/12		H/J	SW8260
Dichlorodifluoromethane	ND	150	ug/Kg	03/29/12		H/J	SW8260
Ethylbenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260
Hexachlorobutadiene	ND	150	ug/Kg	03/29/12		H/J	SW8260
Isopropylbenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260
m&p-Xylene	ND	150	ug/Kg	03/29/12		H/J	SW8260
Methyl Ethyl Ketone	ND	730	ug/Kg	03/29/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	290	ug/Kg	03/29/12		H/J	SW8260
Methylene chloride	ND	150	ug/Kg	03/29/12		H/J	SW8260
Naphthalene	ND	150	ug/Kg	03/29/12		H/J	SW8260
n-Butylbenzene	560	150	ug/Kg	03/29/12		H/J	SW8260
n-Propylbenzene	190	150	ug/Kg	03/29/12		H/J	SW8260
o-Xylene	ND	150	ug/Kg	03/29/12		H/J	SW8260
p-Isopropyltoluene	ND	150	ug/Kg	03/29/12		H/J	SW8260
sec-Butylbenzene	210	150	ug/Kg	03/29/12		H/J	SW8260
Styrene	ND	150	ug/Kg	03/29/12		H/J	SW8260
tert-Butylbenzene	ND	150	ug/Kg	03/29/12		H/J	SW8260
Tetrachloroethene	ND	150	ug/Kg	03/29/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	290	ug/Kg	03/29/12		H/J	SW8260
Toluene	ND	150	ug/Kg	03/29/12		H/J	SW8260
Total Xylenes	ND	150	ug/Kg	03/29/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	150	ug/Kg	03/29/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	150	ug/Kg	03/29/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	290	ug/Kg	03/29/12		H/J	SW8260
Trichloroethene	ND	150	ug/Kg	03/29/12		H/J	SW8260
Trichlorofluoromethane	ND	150	ug/Kg	03/29/12		H/J	SW8260
Trichlorotrifluoroethane	ND	150	ug/Kg	03/29/12		H/J	SW8260
Vinyl chloride	ND	150	ug/Kg	03/29/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	99		%	03/29/12		H/J	70 - 130 %
% Bromofluorobenzene	105		%	03/29/12		H/J	70 - 130 %

Client ID: SBH-B

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	99		%	03/29/12		H/J	70 - 130 %
% Toluene-d8	96		%	03/29/12		H/J	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	03/23/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	270	ug/Kg	03/23/12		DD	SW 8270
1,2-Dichlorobenzene	ND	270	ug/Kg	03/23/12		DD	SW 8270
1,3-Dichlorobenzene	ND	270	ug/Kg	03/23/12		DD	SW 8270
1,4-Dichlorobenzene	ND	270	ug/Kg	03/23/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	270	ug/Kg	03/23/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	270	ug/Kg	03/23/12		DD	SW 8270
2,4-Dichlorophenol	ND	270	ug/Kg	03/23/12		DD	SW 8270
2,4-Dimethylphenol	ND	270	ug/Kg	03/23/12		DD	SW 8270
2,4-Dinitrophenol	ND	620	ug/Kg	03/23/12		DD	SW 8270
2,4-Dinitrotoluene	ND	270	ug/Kg	03/23/12		DD	SW 8270
2,6-Dinitrotoluene	ND	270	ug/Kg	03/23/12		DD	SW 8270
2-Chloronaphthalene	ND	270	ug/Kg	03/23/12		DD	SW 8270
2-Chlorophenol	ND	270	ug/Kg	03/23/12		DD	SW 8270
2-Methylnaphthalene	ND	270	ug/Kg	03/23/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	270	ug/Kg	03/23/12		DD	SW 8270
2-Nitroaniline	ND	620	ug/Kg	03/23/12		DD	SW 8270
2-Nitrophenol	ND	270	ug/Kg	03/23/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	390	ug/Kg	03/23/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	270	ug/Kg	03/23/12		DD	SW 8270
3-Nitroaniline	ND	620	ug/Kg	03/23/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	03/23/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	390	ug/Kg	03/23/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	270	ug/Kg	03/23/12		DD	SW 8270
4-Chloroaniline	ND	270	ug/Kg	03/23/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	03/23/12		DD	SW 8270
4-Nitroaniline	ND	620	ug/Kg	03/23/12		DD	SW 8270
4-Nitrophenol	ND	1100	ug/Kg	03/23/12		DD	SW 8270
Acenaphthene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Acenaphthylene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Acetophenone	ND	270	ug/Kg	03/23/12		DD	SW 8270
Aniline	ND	1100	ug/Kg	03/23/12		DD	SW 8270
Anthracene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Azobenzene	ND	390	ug/Kg	03/23/12		DD	SW 8270
Benz(a)anthracene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Benzidine	ND	460	ug/Kg	03/23/12		DD	SW 8270
Benzo(a)pyrene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Benzo(b)fluoranthene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Benzo(ghi)perylene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Benzo(k)fluoranthene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Benzoic acid	ND	1100	ug/Kg	03/23/12		DD	SW 8270
Benzyl butyl phthalate	ND	270	ug/Kg	03/23/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	03/23/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	390	ug/Kg	03/23/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	03/23/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	03/23/12		DD	SW 8270
Carbazole	ND	580	ug/Kg	03/23/12		DD	SW 8270

Client ID: SBH-B

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Dibenzofuran	ND	270	ug/Kg	03/23/12		DD	SW 8270
Diethyl phthalate	ND	270	ug/Kg	03/23/12		DD	SW 8270
Dimethylphthalate	ND	270	ug/Kg	03/23/12		DD	SW 8270
Di-n-butylphthalate	ND	270	ug/Kg	03/23/12		DD	SW 8270
Di-n-octylphthalate	ND	270	ug/Kg	03/23/12		DD	SW 8270
Fluoranthene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Fluorene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Hexachlorobenzene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Hexachlorobutadiene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Hexachloroethane	ND	270	ug/Kg	03/23/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Isophorone	ND	270	ug/Kg	03/23/12		DD	SW 8270
Naphthalene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Nitrobenzene	ND	270	ug/Kg	03/23/12		DD	SW 8270
N-Nitrosodimethylamine	ND	390	ug/Kg	03/23/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	03/23/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	390	ug/Kg	03/23/12		DD	SW 8270
Pentachloronitrobenzene	ND	390	ug/Kg	03/23/12		DD	SW 8270
Pentachlorophenol	ND	390	ug/Kg	03/23/12		DD	SW 8270
Phenanthrene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Phenol	ND	270	ug/Kg	03/23/12		DD	SW 8270
Pyrene	ND	270	ug/Kg	03/23/12		DD	SW 8270
Pyridine	ND	390	ug/Kg	03/23/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	78		%	03/23/12		DD	15 - 130 %
% 2-Fluorobiphenyl	66		%	03/23/12		DD	15 - 130 %
% 2-Fluorophenol	72		%	03/23/12		DD	15 - 130 %
% Nitrobenzene-d5	71		%	03/23/12		DD	15 - 130 %
% Phenol-d5	69		%	03/23/12		DD	15 - 130 %
% Terphenyl-d14	73		%	03/23/12		DD	15 - 130 %

Parameter	Result	RL	Units ^	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

Comments:

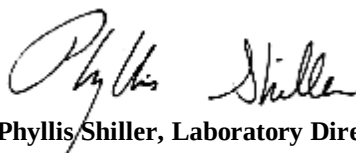
Elevated reporting limits for volatiles due to the presence of target and non-target compounds.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 19, 2012

Reviewed and Released by: Sarah Bell, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 19, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOLID
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LB
Analyzed by: see "By" below

Date Time
03/21/12 13:50
03/22/12 16:24

Laboratory Data

SDG ID: GBB57215
Phoenix ID: BB57216

Project ID: 1676 THIRD AVE., NYC, NY

Client ID: SBC-B

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	90		%	03/22/12		jl	E160.3
Soil Extraction for SVOA	Completed			03/22/12		BS/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,1,1-Trichloroethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,1,2-Trichloroethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,1-Dichloroethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,1-Dichloroethene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,1-Dichloropropene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,2,3-Trichlorobenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	1
1,2,3-Trichloropropane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,2,4-Trichlorobenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,2,4-Trimethylbenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,2-Dichlorobenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,2-Dichloroethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,2-Dichloropropane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,3,5-Trimethylbenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,3-Dichlorobenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,3-Dichloropropane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
1,4-Dichlorobenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
2,2-Dichloropropane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
2-Chlorotoluene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	
2-Hexanone	ND	28	ug/Kg	03/27/12		R/J	SW8260	
2-Isopropyltoluene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	1
4-Chlorotoluene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260	

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	28	ug/Kg	03/27/12		R/J	SW8260
Acetone	ND	28	ug/Kg	03/27/12		R/J	SW8260
Acrylonitrile	ND	11	ug/Kg	03/27/12		R/J	SW8260
Benzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Bromobenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Bromochloromethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Bromodichloromethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Bromoform	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Bromomethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Carbon Disulfide	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Carbon tetrachloride	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Chlorobenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Chloroethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Chloroform	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Chloromethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
cis-1,2-Dichloroethene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
cis-1,3-Dichloropropene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Dibromochloromethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Dibromoethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Dibromomethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Dichlorodifluoromethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Ethylbenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Hexachlorobutadiene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Isopropylbenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
m&p-Xylene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Methyl Ethyl Ketone	ND	28	ug/Kg	03/27/12		R/J	SW8260
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	03/27/12		R/J	SW8260
Methylene chloride	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Naphthalene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
n-Butylbenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
n-Propylbenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
o-Xylene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
p-Isopropyltoluene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
sec-Butylbenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Styrene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
tert-Butylbenzene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Tetrachloroethene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Tetrahydrofuran (THF)	ND	11	ug/Kg	03/27/12		R/J	SW8260
Toluene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Total Xylenes	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
trans-1,2-Dichloroethene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
trans-1,3-Dichloropropene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	03/27/12		R/J	SW8260
Trichloroethene	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Trichlorofluoromethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Trichlorotrifluoroethane	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
Vinyl chloride	ND	5.6	ug/Kg	03/27/12		R/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	98		%	03/27/12		R/J	70 - 130 %
% Bromofluorobenzene	91		%	03/27/12		R/J	70 - 130 %

Client ID: SBC-B

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	117		%	03/27/12		R/J	70 - 130 %
% Toluene-d8	103		%	03/27/12		R/J	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	250	ug/Kg	03/23/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	250	ug/Kg	03/23/12		DD	SW 8270
1,2-Dichlorobenzene	ND	250	ug/Kg	03/23/12		DD	SW 8270
1,3-Dichlorobenzene	ND	250	ug/Kg	03/23/12		DD	SW 8270
1,4-Dichlorobenzene	ND	250	ug/Kg	03/23/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	250	ug/Kg	03/23/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	250	ug/Kg	03/23/12		DD	SW 8270
2,4-Dichlorophenol	ND	250	ug/Kg	03/23/12		DD	SW 8270
2,4-Dimethylphenol	ND	250	ug/Kg	03/23/12		DD	SW 8270
2,4-Dinitrophenol	ND	580	ug/Kg	03/23/12		DD	SW 8270
2,4-Dinitrotoluene	ND	250	ug/Kg	03/23/12		DD	SW 8270
2,6-Dinitrotoluene	ND	250	ug/Kg	03/23/12		DD	SW 8270
2-Chloronaphthalene	ND	250	ug/Kg	03/23/12		DD	SW 8270
2-Chlorophenol	ND	250	ug/Kg	03/23/12		DD	SW 8270
2-Methylnaphthalene	ND	250	ug/Kg	03/23/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	250	ug/Kg	03/23/12		DD	SW 8270
2-Nitroaniline	ND	580	ug/Kg	03/23/12		DD	SW 8270
2-Nitrophenol	ND	250	ug/Kg	03/23/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	360	ug/Kg	03/23/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	250	ug/Kg	03/23/12		DD	SW 8270
3-Nitroaniline	ND	580	ug/Kg	03/23/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1000	ug/Kg	03/23/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	360	ug/Kg	03/23/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	250	ug/Kg	03/23/12		DD	SW 8270
4-Chloroaniline	ND	250	ug/Kg	03/23/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	250	ug/Kg	03/23/12		DD	SW 8270
4-Nitroaniline	ND	580	ug/Kg	03/23/12		DD	SW 8270
4-Nitrophenol	ND	1000	ug/Kg	03/23/12		DD	SW 8270
Acenaphthene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Acenaphthylene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Acetophenone	ND	250	ug/Kg	03/23/12		DD	SW 8270
Aniline	ND	1000	ug/Kg	03/23/12		DD	SW 8270
Anthracene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Azobenzene	ND	360	ug/Kg	03/23/12		DD	SW 8270
Benz(a)anthracene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Benzidine	ND	430	ug/Kg	03/23/12		DD	SW 8270
Benzo(a)pyrene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Benzo(b)fluoranthene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Benzo(ghi)perylene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Benzo(k)fluoranthene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Benzoic acid	ND	1000	ug/Kg	03/23/12		DD	SW 8270
Benzyl butyl phthalate	ND	250	ug/Kg	03/23/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	250	ug/Kg	03/23/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	360	ug/Kg	03/23/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	250	ug/Kg	03/23/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	250	ug/Kg	03/23/12		DD	SW 8270
Carbazole	ND	540	ug/Kg	03/23/12		DD	SW 8270

Client ID: SBC-B

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Dibenzofuran	ND	250	ug/Kg	03/23/12		DD	SW 8270
Diethyl phthalate	ND	250	ug/Kg	03/23/12		DD	SW 8270
Dimethylphthalate	ND	250	ug/Kg	03/23/12		DD	SW 8270
Di-n-butylphthalate	ND	250	ug/Kg	03/23/12		DD	SW 8270
Di-n-octylphthalate	ND	250	ug/Kg	03/23/12		DD	SW 8270
Fluoranthene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Fluorene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Hexachlorobenzene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Hexachlorobutadiene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Hexachloroethane	ND	250	ug/Kg	03/23/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Isophorone	ND	250	ug/Kg	03/23/12		DD	SW 8270
Naphthalene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Nitrobenzene	ND	250	ug/Kg	03/23/12		DD	SW 8270
N-Nitrosodimethylamine	ND	360	ug/Kg	03/23/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	250	ug/Kg	03/23/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	360	ug/Kg	03/23/12		DD	SW 8270
Pentachloronitrobenzene	ND	360	ug/Kg	03/23/12		DD	SW 8270
Pentachlorophenol	ND	360	ug/Kg	03/23/12		DD	SW 8270
Phenanthrene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Phenol	ND	250	ug/Kg	03/23/12		DD	SW 8270
Pyrene	ND	250	ug/Kg	03/23/12		DD	SW 8270
Pyridine	ND	360	ug/Kg	03/23/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	76		%	03/23/12		DD	15 - 130 %
% 2-Fluorobiphenyl	69		%	03/23/12		DD	15 - 130 %
% 2-Fluorophenol	74		%	03/23/12		DD	15 - 130 %
% Nitrobenzene-d5	74		%	03/23/12		DD	15 - 130 %
% Phenol-d5	70		%	03/23/12		DD	15 - 130 %
% Terphenyl-d14	74		%	03/23/12		DD	15 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

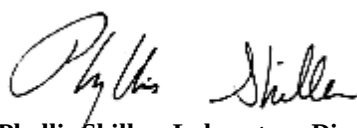
Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 19, 2012

Reviewed and Released by: Sarah Bell, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



QA/QC Report

April 19, 2012

QA/QC Data

SDG I.D.: GBB57215

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 196638, QC Sample No: BB56232 (BB57215, BB57216)										
Semivolatiles - Solid										
1,2,4,5-Tetrachlorobenzene	ND	49	46	6.3	50	53	5.8	30 - 130	30	
1,2,4-Trichlorobenzene	ND	63	61	3.2	64	69	7.5	30 - 130	30	
1,2-Dichlorobenzene	ND	71	69	2.9	73	79	7.9	30 - 130	30	
1,3-Dichlorobenzene	ND	68	66	3.0	69	77	11.0	30 - 130	30	
1,4-Dichlorobenzene	ND	68	67	1.5	69	77	11.0	30 - 130	30	
2,4,5-Trichlorophenol	ND	70	66	5.9	66	69	4.4	30 - 130	30	
2,4,6-Trichlorophenol	ND	71	66	7.3	63	68	7.6	30 - 130	30	
2,4-Dichlorophenol	ND	74	70	5.6	74	76	2.7	30 - 130	30	
2,4-Dimethylphenol	ND	40	38	5.1	41	43	4.8	30 - 130	30	
2,4-Dinitrophenol	ND	19	35	59.3	19	26	31.1	30 - 130	30	I,m,r
2,4-Dinitrotoluene	ND	94	91	3.2	95	99	4.1	30 - 130	30	
2,6-Dinitrotoluene	ND	92	88	4.4	91	97	6.4	30 - 130	30	
2-Chloronaphthalene	ND	68	66	3.0	70	75	6.9	30 - 130	30	
2-Chlorophenol	ND	75	72	4.1	77	82	6.3	30 - 130	30	
2-Methylnaphthalene	ND	79	76	3.9	82	86	4.8	30 - 130	30	
2-Methylphenol (o-cresol)	ND	76	77	1.3	76	80	5.1	30 - 130	30	
2-Nitroaniline	ND	>150	>150	NC	>130	>130	NC	30 - 130	30	I,m
2-Nitrophenol	ND	83	84	1.2	85	94	10.1	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	85	81	4.8	87	91	4.5	30 - 130	30	
3,3'-Dichlorobenzidine	ND	104	95	9.0	106	101	4.8	30 - 130	30	
3-Nitroaniline	ND	>150	>150	NC	>130	>130	NC	30 - 130	30	I,m
4,6-Dinitro-2-methylphenol	ND	76	86	12.3	101	91	10.4	30 - 130	30	
4-Bromophenyl phenyl ether	ND	86	82	4.8	88	91	3.4	30 - 130	30	
4-Chloro-3-methylphenol	ND	79	74	6.5	79	82	3.7	30 - 130	30	
4-Chloroaniline	ND	53	54	1.9	58	63	8.3	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	73	70	4.2	73	77	5.3	30 - 130	30	
4-Nitroaniline	ND	84	79	6.1	85	89	4.6	30 - 130	30	
4-Nitrophenol	ND	88	89	1.1	92	92	0.0	30 - 130	30	
Acenaphthene	ND	80	77	3.8	81	86	6.0	30 - 130	30	
Acenaphthylene	ND	80	76	5.1	80	85	6.1	30 - 130	30	
Acetophenone	ND	56	54	3.6	58	62	6.7	30 - 130	30	
Aniline	ND	64	64	0.0	66	72	8.7	30 - 130	30	
Anthracene	ND	85	80	6.1	86	88	2.3	30 - 130	30	
Azobenzene	ND	53	51	3.8	55	56	1.8	30 - 130	30	
Benz(a)anthracene	ND	85	82	3.6	86	89	3.4	30 - 130	30	
Benzidine	ND	104	124	17.5	105	139	27.9	30 - 130	30	m
Benzo(a)pyrene	ND	87	82	5.9	87	89	2.3	30 - 130	30	
Benzo(b)fluoranthene	ND	99	93	6.3	98	102	4.0	30 - 130	30	
Benzo(ghi)perylene	ND	86	79	8.5	88	89	1.1	30 - 130	30	
Benzo(k)fluoranthene	ND	97	94	3.1	101	101	0.0	30 - 130	30	
Benzyl butyl phthalate	ND	95	92	3.2	101	102	1.0	30 - 130	30	

QA/QC Data

SDG I.D.: GBB57215

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Bis(2-chloroethoxy)methane	ND	68	66	3.0	70	75	6.9	30 - 130	30	
Bis(2-chloroethyl)ether	ND	65	64	1.6	67	72	7.2	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	76	75	1.3	79	86	8.5	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	86	83	3.6	89	90	1.1	30 - 130	30	
Carbazole	ND	125	119	4.9	126	137	8.4	30 - 130	30	m
Chrysene	ND	88	84	4.7	89	90	1.1	30 - 130	30	
Dibenz(a,h)anthracene	ND	91	83	9.2	92	94	2.2	30 - 130	30	
Dibenzofuran	ND	80	76	5.1	80	84	4.9	30 - 130	30	
Diethyl phthalate	ND	80	76	5.1	80	84	4.9	30 - 130	30	
Dimethylphthalate	ND	81	78	3.8	80	86	7.2	30 - 130	30	
Di-n-butylphthalate	ND	96	91	5.3	101	103	2.0	30 - 130	30	
Di-n-octylphthalate	ND	93	88	5.5	93	93	0.0	30 - 130	30	
Fluoranthene	ND	97	99	2.0	105	107	1.9	30 - 130	30	
Fluorene	ND	74	71	4.1	74	79	6.5	30 - 130	30	
Hexachlorobenzene	ND	76	73	4.0	77	82	6.3	30 - 130	30	
Hexachlorobutadiene	ND	63	62	1.6	66	70	5.9	30 - 130	30	
Hexachlorocyclopentadiene	ND	39	36	8.0	41	43	4.8	30 - 130	30	
Hexachloroethane	ND	68	68	0.0	69	77	11.0	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	90	82	9.3	91	93	2.2	30 - 130	30	
Isophorone	ND	68	66	3.0	70	76	8.2	30 - 130	30	
Naphthalene	ND	76	74	2.7	78	83	6.2	30 - 130	30	
Nitrobenzene	ND	84	82	2.4	88	93	5.5	30 - 130	30	
N-Nitrosodimethylamine	ND	72	71	1.4	74	85	13.8	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	87	85	2.3	92	99	7.3	30 - 130	30	
N-Nitrosodiphenylamine	ND	86	80	7.2	85	88	3.5	30 - 130	30	
Pentachloronitrobenzene	ND	107	105	1.9	109	112	2.7	30 - 130	30	
Pentachlorophenol	ND	39	41	5.0	54	46	16.0	30 - 130	30	
Phenanthrene	ND	87	83	4.7	89	92	3.3	30 - 130	30	
Phenol	ND	93	90	3.3	95	102	7.1	30 - 130	30	
Pyrene	ND	104	102	1.9	113	117	3.5	30 - 130	30	
Pyridine	ND	39	41	5.0	40	47	16.1	30 - 130	30	
% 2,4,6-Tribromophenol	72	83	80	3.7	82	83	1.2	15 - 130	30	
% 2-Fluorobiphenyl	60	64	61	4.8	65	70	7.4	30 - 130	30	
% 2-Fluorophenol	76	77	74	4.0	80	86	7.2	15 - 130	30	
% Nitrobenzene-d5	80	80	78	2.5	84	90	6.9	30 - 130	30	
% Phenol-d5	83	86	83	3.6	89	94	5.5	15 - 130	30	
% Terphenyl-d14	85	102	99	3.0	135	138	2.2	30 - 130	30	m

QA/QC Batch 197462, QC Sample No: BB57107 (BB57215)

Volatiles - Solid

1,1,1,2-Tetrachloroethane	ND	125	126	0.8	112	116	3.5	70 - 130	30	
1,1,1-Trichloroethane	ND	129	113	13.2	106	87	19.7	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	115	121	5.1	112	118	5.2	70 - 130	30	
1,1,2-Trichloroethane	ND	112	118	5.2	102	100	2.0	70 - 130	30	
1,1-Dichloroethane	ND	132	110	18.2	111	88	23.1	70 - 130	30	l
1,1-Dichloroethene	ND	119	115	3.4	88	94	6.6	70 - 130	30	
1,1-Dichloropropene	ND	117	113	3.5	116	87	28.6	70 - 130	30	
1,2,3-Trichlorobenzene	ND	110	124	12.0	100	116	14.8	70 - 130	30	
1,2,3-Trichloropropane	ND	126	134	6.2	105	107	1.9	70 - 130	30	l
1,2,4-Trichlorobenzene	ND	102	109	6.6	104	116	10.9	70 - 130	30	
1,2,4-Trimethylbenzene	ND	123	125	1.6	112	115	2.6	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	116	128	9.8	85	97	13.2	70 - 130	30	
1,2-Dichlorobenzene	ND	113	113	0.0	105	106	0.9	70 - 130	30	

QA/QC Data

SDG I.D.: GBB57215

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2-Dichloroethane	ND	111	116	4.4	100	101	1.0	70 - 130	30	
1,2-Dichloropropane	ND	113	115	1.8	105	103	1.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	128	130	1.6	115	117	1.7	70 - 130	30	
1,3-Dichlorobenzene	ND	113	111	1.8	110	109	0.9	70 - 130	30	
1,3-Dichloropropane	ND	114	117	2.6	103	106	2.9	70 - 130	30	
1,4-Dichlorobenzene	ND	111	110	0.9	109	109	0.0	70 - 130	30	
2,2-Dichloropropane	ND	118	101	15.5	99	84	16.4	70 - 130	30	
2-Chlorotoluene	ND	118	117	0.9	108	107	0.9	70 - 130	30	
2-Hexanone	ND	82	97	16.8	63	54	15.4	70 - 130	30	m
2-Isopropyltoluene	ND	126	121	4.0	112	113	0.9	70 - 130	30	
4-Chlorotoluene	ND	122	118	3.3	118	115	2.6	70 - 130	30	
4-Methyl-2-pentanone	ND	94	110	15.7	83	87	4.7	70 - 130	30	
Acetone	ND	94	113	18.4	50	49	2.0	70 - 130	30	m
Acrylonitrile	ND	121	110	9.5	107	90	17.3	70 - 130	30	
Benzene	ND	115	113	1.8	106	105	0.9	70 - 130	30	
Bromobenzene	ND	120	118	1.7	108	105	2.8	70 - 130	30	
Bromochloromethane	ND	133	110	18.9	114	92	21.4	70 - 130	30	l
Bromodichloromethane	ND	115	115	0.0	102	99	3.0	70 - 130	30	
Bromoform	ND	104	107	2.8	90	91	1.1	70 - 130	30	
Bromomethane	ND	123	111	10.3	70	58	18.8	70 - 130	30	m
Carbon Disulfide	ND	110	107	2.8	82	88	7.1	70 - 130	30	
Carbon tetrachloride	ND	115	98	16.0	103	83	21.5	70 - 130	30	
Chlorobenzene	ND	110	110	0.0	112	111	0.9	70 - 130	30	
Chloroethane	ND	132	124	6.3	43	<40	NC	70 - 130	30	l,m
Chloroform	ND	128	112	13.3	108	90	18.2	70 - 130	30	
Chloromethane	ND	127	126	0.8	91	94	3.2	70 - 130	30	
cis-1,2-Dichloroethene	ND	135	107	23.1	115	91	23.3	70 - 130	30	l
cis-1,3-Dichloropropene	ND	109	113	3.6	102	99	3.0	70 - 130	30	
Dibromochloromethane	ND	112	115	2.6	101	102	1.0	70 - 130	30	
Dibromoethane	ND	112	116	3.5	104	102	1.9	70 - 130	30	
Dibromomethane	ND	112	119	6.1	102	100	2.0	70 - 130	30	
Dichlorodifluoromethane	ND	143	122	15.8	92	65	34.4	70 - 130	30	l,m,r
Ethylbenzene	ND	113	111	1.8	111	107	3.7	70 - 130	30	
Hexachlorobutadiene	ND	110	111	0.9	108	116	7.1	70 - 130	30	
Isopropylbenzene	ND	133	127	4.6	120	116	3.4	70 - 130	30	l
m&p-Xylene	ND	114	111	2.7	112	112	0.0	70 - 130	30	
Methyl ethyl ketone	ND	99	106	6.8	69	48	35.9	70 - 130	30	m,r
Methyl t-butyl ether (MTBE)	ND	101	105	3.9	94	95	1.1	70 - 130	30	
Methylene chloride	ND	116	116	0.0	146	146	0.0	70 - 130	30	m
Naphthalene	ND	115	132	13.8	96	111	14.5	70 - 130	30	l
n-Butylbenzene	ND	116	113	2.6	112	111	0.9	70 - 130	30	
n-Propylbenzene	ND	117	114	2.6	116	111	4.4	70 - 130	30	
o-Xylene	ND	121	118	2.5	119	117	1.7	70 - 130	30	
p-Isopropyltoluene	ND	125	121	3.3	112	111	0.9	70 - 130	30	
sec-Butylbenzene	ND	129	123	4.8	117	114	2.6	70 - 130	30	
Styrene	ND	98	96	2.1	100	96	4.1	70 - 130	30	
tert-Butylbenzene	ND	123	118	4.1	111	109	1.8	70 - 130	30	
Tetrachloroethene	ND	105	109	3.7	111	109	1.8	70 - 130	30	
Tetrahydrofuran (THF)	ND	121	107	12.3	100	85	16.2	70 - 130	30	
Toluene	ND	113	112	0.9	107	103	3.8	70 - 130	30	
trans-1,2-Dichloroethene	ND	118	117	0.9	99	97	2.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	108	114	5.4	99	97	2.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	125	134	6.9	108	111	2.7	70 - 130	30	l

QA/QC Data

SDG I.D.: GBB57215

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Trichloroethene	ND	117	121	3.4	105	104	1.0	70 - 130	30	
Trichlorofluoromethane	ND	143	135	5.8	48	<40	NC	70 - 130	30	I,m
Trichlorotrifluoroethane	ND	117	116	0.9	92	96	4.3	70 - 130	30	
Vinyl chloride	ND	132	120	9.5	104	102	1.9	70 - 130	30	I
% 1,2-dichlorobenzene-d4	102	104	105	1.0	98	101	3.0	70 - 130	30	
% Bromofluorobenzene	96	98	97	1.0	100	100	0.0	70 - 130	30	
% Dibromofluoromethane	91	114	96	17.1	103	85	19.1	70 - 130	30	
% Toluene-d8	95	100	99	1.0	99	97	2.0	70 - 130	30	

QA/QC Batch 197117, QC Sample No: BB57242 (BB57216)

Volatiles - Solid

1,1,1,2-Tetrachloroethane	ND	118	121	2.5	86	87	1.2	70 - 130	30	
1,1,1-Trichloroethane	ND	118	124	5.0	120	119	0.8	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	96	97	1.0	100	92	8.3	70 - 130	30	
1,1,2-Trichloroethane	ND	112	112	0.0	98	95	3.1	70 - 130	30	
1,1-Dichloroethane	ND	118	121	2.5	117	115	1.7	70 - 130	30	
1,1-Dichloroethene	ND	100	92	8.3	97	112	14.4	70 - 130	30	
1,1-Dichloropropene	ND	104	107	2.8	102	99	3.0	70 - 130	30	
1,2,3-Trichlorobenzene	ND	74	83	11.5	48	<40	NC	70 - 130	30	m
1,2,3-Trichloropropane	ND	93	96	3.2	92	85	7.9	70 - 130	30	
1,2,4-Trichlorobenzene	ND	65	71	8.8	43	<40	NC	70 - 130	30	I,m
1,2,4-Trimethylbenzene	ND	77	81	5.1	60	60	0.0	70 - 130	30	m
1,2-Dibromo-3-chloropropane	ND	91	100	9.4	66	62	6.3	70 - 130	30	m
1,2-Dichlorobenzene	ND	88	94	6.6	67	56	17.9	70 - 130	30	m
1,2-Dichloroethane	ND	113	113	0.0	100	97	3.0	70 - 130	30	
1,2-Dichloropropane	ND	111	113	1.8	102	98	4.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	86	92	6.7	84	72	15.4	70 - 130	30	
1,3-Dichlorobenzene	ND	91	84	8.0	64	56	13.3	70 - 130	30	m
1,3-Dichloropropane	ND	104	105	1.0	85	83	2.4	70 - 130	30	
1,4-Dichlorobenzene	ND	81	83	2.4	60	52	14.3	70 - 130	30	m
2,2-Dichloropropane	ND	108	113	4.5	105	103	1.9	70 - 130	30	
2-Chlorotoluene	ND	95	102	7.1	71	61	15.2	70 - 130	30	m
2-Hexanone	ND	98	89	9.6	46	43	6.7	70 - 130	30	m
2-Isopropyltoluene	ND	73	77	5.3	71	72	1.4	70 - 130	30	
4-Chlorotoluene	ND	74	77	4.0	63	58	8.3	70 - 130	30	m
4-Methyl-2-pentanone	ND	120	113	6.0	100	96	4.1	70 - 130	30	
Acetone	ND	120	95	23.3	42	47	11.2	70 - 130	30	m
Acrylonitrile	ND	135	132	2.2	124	121	2.4	70 - 130	30	I
Benzene	ND	105	108	2.8	100	97	3.0	70 - 130	30	
Bromobenzene	ND	104	108	3.8	51	50	2.0	70 - 130	30	m
Bromochloromethane	ND	129	127	1.6	117	119	1.7	70 - 130	30	
Bromodichloromethane	ND	113	113	0.0	100	98	2.0	70 - 130	30	
Bromoform	ND	98	96	2.1	82	83	1.2	70 - 130	30	
Bromomethane	ND	123	105	15.8	108	117	8.0	70 - 130	30	
Carbon Disulfide	ND	>150	>150	NC	88	107	19.5	70 - 130	30	I
Carbon tetrachloride	ND	108	111	2.7	101	105	3.9	70 - 130	30	
Chlorobenzene	ND	92	93	1.1	72	71	1.4	70 - 130	30	
Chloroethane	ND	104	95	9.0	95	106	10.9	70 - 130	30	
Chloroform	ND	120	122	1.7	114	112	1.8	70 - 130	30	
Chloromethane	ND	101	96	5.1	98	105	6.9	70 - 130	30	
cis-1,2-Dichloroethene	ND	118	127	7.3	112	115	2.6	70 - 130	30	
cis-1,3-Dichloropropene	ND	106	108	1.9	90	86	4.5	70 - 130	30	
Dibromochloromethane	ND	109	109	0.0	86	86	0.0	70 - 130	30	

QA/QC Data

SDG I.D.: GBB57215

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Dibromoethane	ND	118	119	0.8	96	96	0.0	70 - 130	30	
Dibromomethane	ND	114	115	0.9	101	97	4.0	70 - 130	30	
Dichlorodifluoromethane	ND	103	107	3.8	115	116	0.9	70 - 130	30	
Ethylbenzene	ND	106	109	2.8	75	77	2.6	70 - 130	30	
Hexachlorobutadiene	ND	68	78	13.7	64	47	30.6	70 - 130	30	I,m,r
Isopropylbenzene	ND	67	72	7.2	87	75	14.8	70 - 130	30	I
m&p-Xylene	ND	98	102	4.0	84	84	0.0	70 - 130	30	
Methyl ethyl ketone	ND	129	112	14.1	67	62	7.8	70 - 130	30	m
Methyl t-butyl ether (MTBE)	ND	134	117	13.5	88	110	22.2	70 - 130	30	I
Methylene chloride	ND	110	95	14.6	91	107	16.2	70 - 130	30	
Naphthalene	ND	89	103	14.6	59	43	31.4	70 - 130	30	m,r
n-Butylbenzene	ND	75	77	2.6	68	62	9.2	70 - 130	30	m
n-Propylbenzene	ND	85	92	7.9	72	65	10.2	70 - 130	30	m
o-Xylene	ND	107	112	4.6	99	92	7.3	70 - 130	30	
p-Isopropyltoluene	ND	101	89	12.6	79	69	13.5	70 - 130	30	m
sec-Butylbenzene	ND	77	82	6.3	84	77	8.7	70 - 130	30	
Styrene	ND	74	76	2.7	65	70	7.4	70 - 130	30	m
tert-Butylbenzene	ND	89	97	8.6	91	79	14.1	70 - 130	30	
Tetrachloroethene	ND	90	93	3.3	84	79	6.1	70 - 130	30	
Tetrahydrofuran (THF)	ND	133	127	4.6	128	124	3.2	70 - 130	30	I
Toluene	ND	103	106	2.9	92	91	1.1	70 - 130	30	
trans-1,2-Dichloroethene	ND	109	96	12.7	92	109	16.9	70 - 130	30	
trans-1,3-Dichloropropene	ND	106	107	0.9	82	77	6.3	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	84	87	3.5	60	56	6.9	70 - 130	30	m
Trichloroethene	ND	114	119	4.3	96	92	4.3	70 - 130	30	
Trichlorofluoromethane	ND	120	113	6.0	99	110	10.5	70 - 130	30	
Trichlorotrifluoroethane	ND	102	97	5.0	103	112	8.4	70 - 130	30	
Vinyl chloride	ND	106	93	13.1	94	110	15.7	70 - 130	30	
% 1,2-dichlorobenzene-d4	96	105	110	4.7	101	92	9.3	70 - 130	30	
% Bromofluorobenzene	93	122	123	0.8	100	102	2.0	70 - 130	30	
% Dibromofluoromethane	112	114	116	1.7	118	119	0.8	70 - 130	30	
% Toluene-d8	103	101	101	0.0	102	102	0.0	70 - 130	30	

I = This parameter is outside laboratory lcs/lcsd specified recovery limits.

m = This parameter is outside laboratory ms/msd specified recovery limits.

r = This parameter is outside laboratory rpd specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria



Phyllis Shiller, Laboratory Director

April 19, 2012

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB57215

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB57215	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	200	10	ug/Kg
BB57215	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	1900	10	ug/Kg
BB57215	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	400	5	ug/Kg
BB57215	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	6000	5	ug/Kg
BB57215	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	730	200	10	ug/Kg
BB57215	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	2700	5	ug/Kg
BB57215	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	100	5	ug/Kg
BB57215	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	300	5	ug/Kg
BB57215	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	200	5	ug/Kg
BB57215	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	730	300	10	ug/Kg
BB57215	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	300	5	ug/Kg
BB57215	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	800	5	ug/Kg
BB57215	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	600	5	ug/Kg
BB57215	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	60	5	ug/Kg
BB57215	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	100	5	ug/Kg
BB57215	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	700	5	ug/Kg
BB57215	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	730	1000	10	ug/Kg
BB57215	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	1500	5	ug/Kg
BB57215	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	1400	5	ug/Kg
BB57215	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	300	5	ug/Kg
BB57215	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150		5	ug/Kg
BB57215	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	1700	5	ug/Kg
BB57215	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	5500	5	ug/Kg
BB57215	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	600	5	ug/Kg
BB57215	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	150	400	5	ug/Kg
BB57215	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	30	330	ug/Kg
BB57215	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	330	ug/Kg
BB57215	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	100	330	ug/Kg
BB57215	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	200	330	ug/Kg
BB57215	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	220	330	ug/Kg
BB57215	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	240	330	ug/Kg
BB57215	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	100	330	ug/Kg
BB57215	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	620	500	1600	ug/Kg
BB57215	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	620	200	1600	ug/Kg
BB57215	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	1600	ug/Kg
BB57215	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	620	430	1600	ug/Kg
BB57215	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	61	330	ug/Kg
BB57215	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	224	330	ug/Kg
BB57215	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	270	14	330	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB57215

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB57216	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	400	5	ug/Kg
BB57216	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	6000	5	ug/Kg
BB57216	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	28	200	10	ug/Kg
BB57216	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	2700	5	ug/Kg
BB57216	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	100	5	ug/Kg
BB57216	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	300	5	ug/Kg
BB57216	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	200	5	ug/Kg
BB57216	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	28	300	10	ug/Kg
BB57216	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	300	5	ug/Kg
BB57216	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	800	5	ug/Kg
BB57216	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	600	5	ug/Kg
BB57216	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	60	5	ug/Kg
BB57216	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	100	5	ug/Kg
BB57216	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	700	5	ug/Kg
BB57216	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	28	1000	10	ug/Kg
BB57216	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	1500	5	ug/Kg
BB57216	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	1400	5	ug/Kg
BB57216	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	300	5	ug/Kg
BB57216	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6		5	ug/Kg
BB57216	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	1700	5	ug/Kg
BB57216	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	5500	5	ug/Kg
BB57216	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	600	5	ug/Kg
BB57216	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.6	400	5	ug/Kg
BB57216	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	30	330	ug/Kg
BB57216	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	330	ug/Kg
BB57216	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB57216	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	200	330	ug/Kg
BB57216	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	220	330	ug/Kg
BB57216	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	240	330	ug/Kg
BB57216	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB57216	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	500	1600	ug/Kg
BB57216	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	200	1600	ug/Kg
BB57216	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	1600	ug/Kg
BB57216	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	430	1600	ug/Kg
BB57216	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	61	330	ug/Kg
BB57216	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	224	330	ug/Kg
BB57216	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	14	330	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB57215

SampNo	LocCode	Acode	Phoenix Analyte	Criteria			Criteria Name	Result	RL	Factored	Factored	Analysis
				Units	ST	State Category				Criteria	RL	

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Tuesday, April 10, 2012

Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK
Sample ID#s: BB59659 - BB59667

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 10, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/26/12 10:35
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59659

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBH-1

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	89		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			03/29/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,1,1-Trichloroethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,1,2-Trichloroethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethene	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloropropene	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,2,3-Trichlorobenzene	ND	1400	ug/Kg	04/04/12		H/J	SW8260	1
1,2,3-Trichloropropane	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trichlorobenzene	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trimethylbenzene	38000	1400	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichlorobenzene	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloroethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloropropane	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,3,5-Trimethylbenzene	16000	1400	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichlorobenzene	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichloropropane	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
1,4-Dichlorobenzene	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
2,2-Dichloropropane	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
2-Chlorotoluene	ND	1400	ug/Kg	04/04/12		H/J	SW8260	
2-Hexanone	ND	7000	ug/Kg	04/04/12		H/J	SW8260	
2-Isopropyltoluene	ND	1400	ug/Kg	04/04/12		H/J	SW8260	1
4-Chlorotoluene	ND	1400	ug/Kg	04/04/12		H/J	SW8260	

Client ID: SBH-1

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	7000	ug/Kg	04/04/12		H/J	SW8260
Acetone	ND	7000	ug/Kg	04/04/12		H/J	SW8260
Acrylonitrile	ND	2800	ug/Kg	04/04/12		H/J	SW8260
Benzene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Bromobenzene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Bromochloromethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Bromodichloromethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Bromoform	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Bromomethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Carbon Disulfide	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Carbon tetrachloride	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Chlorobenzene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Chloroethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Chloroform	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Chloromethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Dibromochloromethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Dibromoethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Dibromomethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Dichlorodifluoromethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Ethylbenzene	9200	1400	ug/Kg	04/04/12		H/J	SW8260
Hexachlorobutadiene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Isopropylbenzene	2300	1400	ug/Kg	04/04/12		H/J	SW8260
m&p-Xylene	31000	1400	ug/Kg	04/04/12		H/J	SW8260
Methyl Ethyl Ketone	ND	7000	ug/Kg	04/04/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	2800	ug/Kg	04/04/12		H/J	SW8260
Methylene chloride	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Naphthalene	5200	1400	ug/Kg	04/04/12		H/J	SW8260
n-Butylbenzene	4000	1400	ug/Kg	04/04/12		H/J	SW8260
n-Propylbenzene	9800	1400	ug/Kg	04/04/12		H/J	SW8260
o-Xylene	11000	1400	ug/Kg	04/04/12		H/J	SW8260
p-Isopropyltoluene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
sec-Butylbenzene	1600	1400	ug/Kg	04/04/12		H/J	SW8260
Styrene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
tert-Butylbenzene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Tetrachloroethene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	2800	ug/Kg	04/04/12		H/J	SW8260
Toluene	4100	1400	ug/Kg	04/04/12		H/J	SW8260
Total Xylenes	42000	1400	ug/Kg	04/04/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	2800	ug/Kg	04/04/12		H/J	SW8260
Trichloroethene	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Trichlorofluoromethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Trichlorotrifluoroethane	ND	1400	ug/Kg	04/04/12		H/J	SW8260
Vinyl chloride	ND	1400	ug/Kg	04/04/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	97		%	04/04/12		H/J	70 - 130 %
% Bromofluorobenzene	101		%	04/04/12		H/J	70 - 130 %

Client ID: SBH-1

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	103		%	04/04/12		H/J	70 - 130 %
% Toluene-d8	96		%	04/04/12		H/J	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	260	ug/Kg	03/30/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	260	ug/Kg	03/30/12		DD	SW 8270
1,2-Dichlorobenzene	ND	260	ug/Kg	03/30/12		DD	SW 8270
1,3-Dichlorobenzene	ND	260	ug/Kg	03/30/12		DD	SW 8270
1,4-Dichlorobenzene	ND	260	ug/Kg	03/30/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	260	ug/Kg	03/30/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	260	ug/Kg	03/30/12		DD	SW 8270
2,4-Dichlorophenol	ND	260	ug/Kg	03/30/12		DD	SW 8270
2,4-Dimethylphenol	ND	260	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrophenol	ND	600	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrotoluene	ND	260	ug/Kg	03/30/12		DD	SW 8270
2,6-Dinitrotoluene	ND	260	ug/Kg	03/30/12		DD	SW 8270
2-Chloronaphthalene	ND	260	ug/Kg	03/30/12		DD	SW 8270
2-Chlorophenol	ND	260	ug/Kg	03/30/12		DD	SW 8270
2-Methylnaphthalene	7000	260	ug/Kg	03/30/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	260	ug/Kg	03/30/12		DD	SW 8270
2-Nitroaniline	ND	600	ug/Kg	03/30/12		DD	SW 8270
2-Nitrophenol	ND	260	ug/Kg	03/30/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	370	ug/Kg	03/30/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	260	ug/Kg	03/30/12		DD	SW 8270
3-Nitroaniline	ND	600	ug/Kg	03/30/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	03/30/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	370	ug/Kg	03/30/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	260	ug/Kg	03/30/12		DD	SW 8270
4-Chloroaniline	ND	260	ug/Kg	03/30/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	260	ug/Kg	03/30/12		DD	SW 8270
4-Nitroaniline	ND	600	ug/Kg	03/30/12		DD	SW 8270
4-Nitrophenol	ND	1100	ug/Kg	03/30/12		DD	SW 8270
Acenaphthene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Acenaphthylene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Acetophenone	ND	260	ug/Kg	03/30/12		DD	SW 8270
Aniline	ND	370	ug/Kg	03/30/12		DD	SW 8270
Anthracene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Azobenzene	ND	370	ug/Kg	03/30/12		DD	SW 8270
Benz(a)anthracene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Benzidine	ND	450	ug/Kg	03/30/12		DD	SW 8270
Benzo(a)pyrene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Benzo(b)fluoranthene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Benzo(ghi)perylene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Benzo(k)fluoranthene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Benzoic acid	ND	1100	ug/Kg	03/30/12		DD	SW 8270
Benzyl butyl phthalate	ND	260	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	260	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	370	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	260	ug/Kg	03/30/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	260	ug/Kg	03/30/12		DD	SW 8270
Carbazole	ND	560	ug/Kg	03/30/12		DD	SW 8270

Client ID: SBH-1

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Dibenzofuran	ND	260	ug/Kg	03/30/12		DD	SW 8270
Diethyl phthalate	ND	260	ug/Kg	03/30/12		DD	SW 8270
Dimethylphthalate	ND	260	ug/Kg	03/30/12		DD	SW 8270
Di-n-butylphthalate	ND	260	ug/Kg	03/30/12		DD	SW 8270
Di-n-octylphthalate	ND	260	ug/Kg	03/30/12		DD	SW 8270
Fluoranthene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Fluorene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobenzene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobutadiene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Hexachloroethane	ND	260	ug/Kg	03/30/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Isophorone	ND	260	ug/Kg	03/30/12		DD	SW 8270
Naphthalene	4400	260	ug/Kg	03/30/12		DD	SW 8270
Nitrobenzene	ND	260	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodimethylamine	ND	370	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	260	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	370	ug/Kg	03/30/12		DD	SW 8270
Pentachloronitrobenzene	ND	370	ug/Kg	03/30/12		DD	SW 8270
Pentachlorophenol	ND	370	ug/Kg	03/30/12		DD	SW 8270
Phenanthrene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Phenol	ND	260	ug/Kg	03/30/12		DD	SW 8270
Pyrene	ND	260	ug/Kg	03/30/12		DD	SW 8270
Pyridine	ND	370	ug/Kg	03/30/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	89		%	03/30/12		DD	15 - 130 %
% 2-Fluorobiphenyl	75		%	03/30/12		DD	15 - 130 %
% 2-Fluorophenol	74		%	03/30/12		DD	15 - 130 %
% Nitrobenzene-d5	72		%	03/30/12		DD	15 - 130 %
% Phenol-d5	75		%	03/30/12		DD	15 - 130 %
% Terphenyl-d14	105		%	03/30/12		DD	15 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

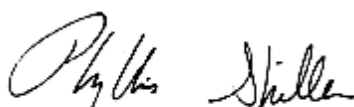
Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 10, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 10, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/26/12 10:15
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59660

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBC-1

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	96		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			03/29/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1,1-Trichloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1,2-Trichloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1-Dichloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1-Dichloroethene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1-Dichloropropene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2,3-Trichlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	1
1,2,3-Trichloropropane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2,4-Trichlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2,4-Trimethylbenzene	6.1	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2-Dichlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2-Dichloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2-Dichloropropane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,3,5-Trimethylbenzene	17	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,3-Dichlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,3-Dichloropropane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,4-Dichlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
2,2-Dichloropropane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
2-Chlorotoluene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
2-Hexanone	ND	26	ug/Kg	04/04/12		R/J	SW8260	
2-Isopropyltoluene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	1
4-Chlorotoluene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	

Client ID: SBC-1

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	26	ug/Kg	04/04/12		R/J	SW8260
Acetone	ND	26	ug/Kg	04/04/12		R/J	SW8260
Acrylonitrile	ND	10	ug/Kg	04/04/12		R/J	SW8260
Benzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Bromobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Bromochloromethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Bromodichloromethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Bromoform	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Bromomethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Carbon Disulfide	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Carbon tetrachloride	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Chlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Chloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Chloroform	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Chloromethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
cis-1,2-Dichloroethene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
cis-1,3-Dichloropropene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Dibromochloromethane	ND	5.0	ug/Kg	04/04/12		R/J	SW8260
Dibromoethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Dibromomethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Dichlorodifluoromethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Ethylbenzene	5.6	5.2	ug/Kg	04/04/12		R/J	SW8260
Hexachlorobutadiene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Isopropylbenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
m&p-Xylene	20	5.2	ug/Kg	04/04/12		R/J	SW8260
Methyl Ethyl Ketone	ND	26	ug/Kg	04/04/12		R/J	SW8260
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	04/04/12		R/J	SW8260
Methylene chloride	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Naphthalene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
n-Butylbenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
n-Propylbenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
o-Xylene	17	5.2	ug/Kg	04/04/12		R/J	SW8260
p-Isopropyltoluene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
sec-Butylbenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Styrene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
tert-Butylbenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Tetrachloroethene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Tetrahydrofuran (THF)	ND	10	ug/Kg	04/04/12		R/J	SW8260
Toluene	8.1	5.2	ug/Kg	04/04/12		R/J	SW8260
Total Xylenes	37	5.2	ug/Kg	04/04/12		R/J	SW8260
trans-1,2-Dichloroethene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
trans-1,3-Dichloropropene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	04/04/12		R/J	SW8260
Trichloroethene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Trichlorofluoromethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Trichlorotrifluoroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Vinyl chloride	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	100		%	04/04/12		R/J	70 - 130 %
% Bromofluorobenzene	96		%	04/04/12		R/J	70 - 130 %

Client ID: SBC-1

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	93		%	04/04/12		R/J	70 - 130 %
% Toluene-d8	101		%	04/04/12		R/J	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,2-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,3-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,4-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dimethylphenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrophenol	ND	540	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrotoluene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,6-Dinitrotoluene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Chloronaphthalene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Chlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Methylnaphthalene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Nitroaniline	ND	540	ug/Kg	03/30/12		DD	SW 8270
2-Nitrophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	340	ug/Kg	03/30/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	240	ug/Kg	03/30/12		DD	SW 8270
3-Nitroaniline	ND	540	ug/Kg	03/30/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	980	ug/Kg	03/30/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	340	ug/Kg	03/30/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Chloroaniline	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Nitroaniline	ND	540	ug/Kg	03/30/12		DD	SW 8270
4-Nitrophenol	ND	980	ug/Kg	03/30/12		DD	SW 8270
Acenaphthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Acenaphthylene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Acetophenone	ND	240	ug/Kg	03/30/12		DD	SW 8270
Aniline	ND	340	ug/Kg	03/30/12		DD	SW 8270
Anthracene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Azobenzene	ND	340	ug/Kg	03/30/12		DD	SW 8270
Benz(a)anthracene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzidine	ND	410	ug/Kg	03/30/12		DD	SW 8270
Benzo(a)pyrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(b)fluoranthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(ghi)perylene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(k)fluoranthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzoic acid	ND	980	ug/Kg	03/30/12		DD	SW 8270
Benzyl butyl phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	340	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Carbazole	ND	510	ug/Kg	03/30/12		DD	SW 8270

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Dibenzofuran	ND	240	ug/Kg	03/30/12		DD	SW 8270
Diethyl phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Dimethylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Di-n-butylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Di-n-octylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Fluoranthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Fluorene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobutadiene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachloroethane	ND	240	ug/Kg	03/30/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Isophorone	ND	240	ug/Kg	03/30/12		DD	SW 8270
Naphthalene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Nitrobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodimethylamine	ND	340	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	240	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	340	ug/Kg	03/30/12		DD	SW 8270
Pentachloronitrobenzene	ND	340	ug/Kg	03/30/12		DD	SW 8270
Pentachlorophenol	ND	340	ug/Kg	03/30/12		DD	SW 8270
Phenanthrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Phenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
Pyrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Pyridine	ND	340	ug/Kg	03/30/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	99		%	03/30/12		DD	15 - 130 %
% 2-Fluorobiphenyl	85		%	03/30/12		DD	15 - 130 %
% 2-Fluorophenol	86		%	03/30/12		DD	15 - 130 %
% Nitrobenzene-d5	93		%	03/30/12		DD	15 - 130 %
% Phenol-d5	85		%	03/30/12		DD	15 - 130 %
% Terphenyl-d14	104		%	03/30/12		DD	15 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

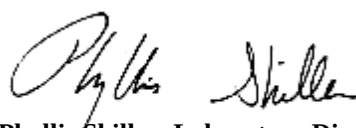
Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 10, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 10, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/26/12 10:45
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59661

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBD-1

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	96		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			03/29/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,1,1-Trichloroethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,1,2-Trichloroethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloropropene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,2,3-Trichlorobenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	1
1,2,3-Trichloropropane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trichlorobenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trimethylbenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichlorobenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloroethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloropropane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,3,5-Trimethylbenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichlorobenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichloropropane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
1,4-Dichlorobenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
2,2-Dichloropropane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
2-Chlorotoluene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	
2-Hexanone	ND	26	ug/Kg	04/04/12		H/J	SW8260	
2-Isopropyltoluene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	1
4-Chlorotoluene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260	

Client ID: SBD-1

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	26	ug/Kg	04/04/12		H/J	SW8260
Acetone	ND	26	ug/Kg	04/04/12		H/J	SW8260
Acrylonitrile	ND	10	ug/Kg	04/04/12		H/J	SW8260
Benzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Bromobenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Bromochloromethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Bromodichloromethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Bromoform	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Bromomethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Carbon Disulfide	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Carbon tetrachloride	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Chlorobenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Chloroethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Chloroform	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Chloromethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Dibromochloromethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Dibromoethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Dibromomethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Dichlorodifluoromethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Ethylbenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Hexachlorobutadiene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Isopropylbenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
m&p-Xylene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Methyl Ethyl Ketone	ND	26	ug/Kg	04/04/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	04/04/12		H/J	SW8260
Methylene chloride	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Naphthalene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
n-Butylbenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
n-Propylbenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
o-Xylene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
p-Isopropyltoluene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
sec-Butylbenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Styrene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
tert-Butylbenzene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Tetrachloroethene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	10	ug/Kg	04/04/12		H/J	SW8260
Toluene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Total Xylenes	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	04/04/12		H/J	SW8260
Trichloroethene	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Trichlorofluoromethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Trichlorotrifluoroethane	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
Vinyl chloride	ND	5.2	ug/Kg	04/04/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	93		%	04/04/12		H/J	70 - 130 %
% Bromofluorobenzene	98		%	04/04/12		H/J	70 - 130 %

Client ID: SBD-1

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	90		%	04/04/12		H/J	70 - 130 %
% Toluene-d8	96		%	04/04/12		H/J	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,2-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,3-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,4-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dimethylphenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrophenol	ND	550	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrotoluene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,6-Dinitrotoluene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Chloronaphthalene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Chlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Methylnaphthalene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Nitroaniline	ND	550	ug/Kg	03/30/12		DD	SW 8270
2-Nitrophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	340	ug/Kg	03/30/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	240	ug/Kg	03/30/12		DD	SW 8270
3-Nitroaniline	ND	550	ug/Kg	03/30/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1000	ug/Kg	03/30/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	340	ug/Kg	03/30/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Chloroaniline	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Nitroaniline	ND	550	ug/Kg	03/30/12		DD	SW 8270
4-Nitrophenol	ND	1000	ug/Kg	03/30/12		DD	SW 8270
Acenaphthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Acenaphthylene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Acetophenone	ND	240	ug/Kg	03/30/12		DD	SW 8270
Aniline	ND	340	ug/Kg	03/30/12		DD	SW 8270
Anthracene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Azobenzene	ND	340	ug/Kg	03/30/12		DD	SW 8270
Benz(a)anthracene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzidine	ND	410	ug/Kg	03/30/12		DD	SW 8270
Benzo(a)pyrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(b)fluoranthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(ghi)perylene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(k)fluoranthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzoic acid	ND	1000	ug/Kg	03/30/12		DD	SW 8270
Benzyl butyl phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	340	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Carbazole	ND	520	ug/Kg	03/30/12		DD	SW 8270

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Dibenzofuran	ND	240	ug/Kg	03/30/12		DD	SW 8270
Diethyl phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Dimethylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Di-n-butylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Di-n-octylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Fluoranthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Fluorene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobutadiene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachloroethane	ND	240	ug/Kg	03/30/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Isophorone	ND	240	ug/Kg	03/30/12		DD	SW 8270
Naphthalene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Nitrobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodimethylamine	ND	340	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	240	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	340	ug/Kg	03/30/12		DD	SW 8270
Pentachloronitrobenzene	ND	340	ug/Kg	03/30/12		DD	SW 8270
Pentachlorophenol	ND	340	ug/Kg	03/30/12		DD	SW 8270
Phenanthrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Phenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
Pyrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Pyridine	ND	340	ug/Kg	03/30/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	102		%	03/30/12		DD	15 - 130 %
% 2-Fluorobiphenyl	82		%	03/30/12		DD	15 - 130 %
% 2-Fluorophenol	84		%	03/30/12		DD	15 - 130 %
% Nitrobenzene-d5	90		%	03/30/12		DD	15 - 130 %
% Phenol-d5	84		%	03/30/12		DD	15 - 130 %
% Terphenyl-d14	103		%	03/30/12		DD	15 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

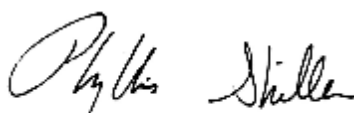
Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 10, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 10, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/26/12 13:30
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59662

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBH-2

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	95		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			03/29/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1,1-Trichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1,2-Trichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloropropene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2,3-Trichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	1
1,2,3-Trichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trimethylbenzene	2000	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,3,5-Trimethylbenzene	710	130	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,4-Dichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
2,2-Dichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
2-Chlorotoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
2-Hexanone	ND	660	ug/Kg	04/04/12		H/J	SW8260	
2-Isopropyltoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260	1
4-Chlorotoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260	

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	660	ug/Kg	04/04/12		H/J	SW8260
Acetone	ND	660	ug/Kg	04/04/12		H/J	SW8260
Acrylonitrile	ND	260	ug/Kg	04/04/12		H/J	SW8260
Benzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromochloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromodichloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromoform	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromomethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Carbon Disulfide	ND	130	ug/Kg	04/04/12		H/J	SW8260
Carbon tetrachloride	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chloroform	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dibromochloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dibromoethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dibromomethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dichlorodifluoromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Ethylbenzene	180	130	ug/Kg	04/04/12		H/J	SW8260
Hexachlorobutadiene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Isopropylbenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
m&p-Xylene	840	130	ug/Kg	04/04/12		H/J	SW8260
Methyl Ethyl Ketone	ND	660	ug/Kg	04/04/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	260	ug/Kg	04/04/12		H/J	SW8260
Methylene chloride	ND	130	ug/Kg	04/04/12		H/J	SW8260
Naphthalene	780	130	ug/Kg	04/04/12		H/J	SW8260
n-Butylbenzene	160	130	ug/Kg	04/04/12		H/J	SW8260
n-Propylbenzene	260	130	ug/Kg	04/04/12		H/J	SW8260
o-Xylene	440	130	ug/Kg	04/04/12		H/J	SW8260
p-Isopropyltoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260
sec-Butylbenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Styrene	ND	130	ug/Kg	04/04/12		H/J	SW8260
tert-Butylbenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Tetrachloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	260	ug/Kg	04/04/12		H/J	SW8260
Toluene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Total Xylenes	1280	130	ug/Kg	04/04/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	130	ug/Kg	04/04/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	260	ug/Kg	04/04/12		H/J	SW8260
Trichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Trichlorofluoromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Trichlorotrifluoroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Vinyl chloride	ND	130	ug/Kg	04/04/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	95		%	04/04/12		H/J	70 - 130 %
% Bromofluorobenzene	98		%	04/04/12		H/J	70 - 130 %

Client ID: SBH-2

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	102		%	04/04/12		H/J	70 - 130 %
% Toluene-d8	97		%	04/04/12		H/J	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,2-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,3-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,4-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dimethylphenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrophenol	ND	550	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrotoluene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,6-Dinitrotoluene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Chloronaphthalene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Chlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Methylnaphthalene	1700	240	ug/Kg	03/30/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Nitroaniline	ND	550	ug/Kg	03/30/12		DD	SW 8270
2-Nitrophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	340	ug/Kg	03/30/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	240	ug/Kg	03/30/12		DD	SW 8270
3-Nitroaniline	ND	550	ug/Kg	03/30/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	990	ug/Kg	03/30/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	340	ug/Kg	03/30/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Chloroaniline	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Nitroaniline	ND	550	ug/Kg	03/30/12		DD	SW 8270
4-Nitrophenol	ND	990	ug/Kg	03/30/12		DD	SW 8270
Acenaphthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Acenaphthylene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Acetophenone	ND	240	ug/Kg	03/30/12		DD	SW 8270
Aniline	ND	990	ug/Kg	03/30/12		DD	SW 8270
Anthracene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Azobenzene	ND	340	ug/Kg	03/30/12		DD	SW 8270
Benz(a)anthracene	480	240	ug/Kg	03/30/12		DD	SW 8270
Benzidine	ND	410	ug/Kg	03/30/12		DD	SW 8270
Benzo(a)pyrene	420	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(b)fluoranthene	710	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(ghi)perylene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(k)fluoranthene	270	240	ug/Kg	03/30/12		DD	SW 8270
Benzoic acid	ND	990	ug/Kg	03/30/12		DD	SW 8270
Benzyl butyl phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	340	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Carbazole	ND	510	ug/Kg	03/30/12		DD	SW 8270

Client ID: SBH-2

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	590	240	ug/Kg	03/30/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Dibenzofuran	ND	240	ug/Kg	03/30/12		DD	SW 8270
Diethyl phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Dimethylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Di-n-butylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Di-n-octylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Fluoranthene	1600	240	ug/Kg	03/30/12		DD	SW 8270
Fluorene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobutadiene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachloroethane	ND	240	ug/Kg	03/30/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Isophorone	ND	240	ug/Kg	03/30/12		DD	SW 8270
Naphthalene	1300	240	ug/Kg	03/30/12		DD	SW 8270
Nitrobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodimethylamine	ND	340	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	240	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	340	ug/Kg	03/30/12		DD	SW 8270
Pentachloronitrobenzene	ND	340	ug/Kg	03/30/12		DD	SW 8270
Pentachlorophenol	ND	340	ug/Kg	03/30/12		DD	SW 8270
Phenanthrene	2200	240	ug/Kg	03/30/12		DD	SW 8270
Phenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
Pyrene	1200	240	ug/Kg	03/30/12		DD	SW 8270
Pyridine	ND	340	ug/Kg	03/30/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	50		%	03/30/12		DD	15 - 130 %
% 2-Fluorobiphenyl	81		%	03/30/12		DD	15 - 130 %
% 2-Fluorophenol	74		%	03/30/12		DD	15 - 130 %
% Nitrobenzene-d5	88		%	03/30/12		DD	15 - 130 %
% Phenol-d5	83		%	03/30/12		DD	15 - 130 %
% Terphenyl-d14	100		%	03/30/12		DD	15 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

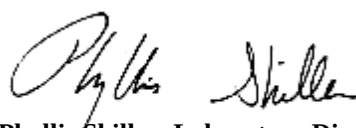
Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 10, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 10, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/26/12 13:00
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59663

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBC-2

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	97		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			03/29/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1,1-Trichloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1,2-Trichloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1-Dichloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1-Dichloroethene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,1-Dichloropropene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2,3-Trichlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	1
1,2,3-Trichloropropane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2,4-Trichlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2,4-Trimethylbenzene	7.5	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2-Dichlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2-Dichloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,2-Dichloropropane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,3,5-Trimethylbenzene	9.0	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,3-Dichlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,3-Dichloropropane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
1,4-Dichlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
2,2-Dichloropropane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
2-Chlorotoluene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	
2-Hexanone	ND	26	ug/Kg	04/04/12		R/J	SW8260	
2-Isopropyltoluene	9.3	5.2	ug/Kg	04/04/12		R/J	SW8260	1
4-Chlorotoluene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260	

Client ID: SBC-2

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	26	ug/Kg	04/04/12		R/J	SW8260
Acetone	ND	26	ug/Kg	04/04/12		R/J	SW8260
Acrylonitrile	ND	10	ug/Kg	04/04/12		R/J	SW8260
Benzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Bromobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Bromochloromethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Bromodichloromethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Bromoform	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Bromomethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Carbon Disulfide	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Carbon tetrachloride	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Chlorobenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Chloroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Chloroform	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Chloromethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
cis-1,2-Dichloroethene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
cis-1,3-Dichloropropene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Dibromochloromethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Dibromoethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Dibromomethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Dichlorodifluoromethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Ethylbenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Hexachlorobutadiene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Isopropylbenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
m&p-Xylene	15	5.2	ug/Kg	04/04/12		R/J	SW8260
Methyl Ethyl Ketone	ND	26	ug/Kg	04/04/12		R/J	SW8260
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	04/04/12		R/J	SW8260
Methylene chloride	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Naphthalene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
n-Butylbenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
n-Propylbenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
o-Xylene	10	5.2	ug/Kg	04/04/12		R/J	SW8260
p-Isopropyltoluene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
sec-Butylbenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Styrene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
tert-Butylbenzene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Tetrachloroethene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Tetrahydrofuran (THF)	ND	10	ug/Kg	04/04/12		R/J	SW8260
Toluene	6.1	5.2	ug/Kg	04/04/12		R/J	SW8260
Total Xylenes	25	5.2	ug/Kg	04/04/12		R/J	SW8260
trans-1,2-Dichloroethene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
trans-1,3-Dichloropropene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	04/04/12		R/J	SW8260
Trichloroethene	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Trichlorofluoromethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Trichlorotrifluoroethane	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
Vinyl chloride	ND	5.2	ug/Kg	04/04/12		R/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	101		%	04/04/12		R/J	70 - 130 %
% Bromofluorobenzene	95		%	04/04/12		R/J	70 - 130 %

Client ID: SBC-2

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	99		%	04/04/12		R/J	70 - 130 %
% Toluene-d8	99		%	04/04/12		R/J	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,2-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,3-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
1,4-Dichlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dichlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dimethylphenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrophenol	ND	550	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrotoluene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2,6-Dinitrotoluene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Chloronaphthalene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Chlorophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Methylnaphthalene	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	240	ug/Kg	03/30/12		DD	SW 8270
2-Nitroaniline	ND	550	ug/Kg	03/30/12		DD	SW 8270
2-Nitrophenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	340	ug/Kg	03/30/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	240	ug/Kg	03/30/12		DD	SW 8270
3-Nitroaniline	ND	550	ug/Kg	03/30/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	990	ug/Kg	03/30/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	340	ug/Kg	03/30/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Chloroaniline	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	240	ug/Kg	03/30/12		DD	SW 8270
4-Nitroaniline	ND	550	ug/Kg	03/30/12		DD	SW 8270
4-Nitrophenol	ND	990	ug/Kg	03/30/12		DD	SW 8270
Acenaphthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Acenaphthylene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Acetophenone	ND	240	ug/Kg	03/30/12		DD	SW 8270
Aniline	ND	340	ug/Kg	03/30/12		DD	SW 8270
Anthracene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Azobenzene	ND	340	ug/Kg	03/30/12		DD	SW 8270
Benz(a)anthracene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzidine	ND	410	ug/Kg	03/30/12		DD	SW 8270
Benzo(a)pyrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(b)fluoranthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(ghi)perylene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzo(k)fluoranthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Benzoic acid	ND	990	ug/Kg	03/30/12		DD	SW 8270
Benzyl butyl phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	340	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	240	ug/Kg	03/30/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Carbazole	ND	510	ug/Kg	03/30/12		DD	SW 8270

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Dibenzofuran	ND	240	ug/Kg	03/30/12		DD	SW 8270
Diethyl phthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Dimethylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Di-n-butylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Di-n-octylphthalate	ND	240	ug/Kg	03/30/12		DD	SW 8270
Fluoranthene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Fluorene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobutadiene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Hexachloroethane	ND	240	ug/Kg	03/30/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Isophorone	ND	240	ug/Kg	03/30/12		DD	SW 8270
Naphthalene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Nitrobenzene	ND	240	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodimethylamine	ND	340	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	240	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	340	ug/Kg	03/30/12		DD	SW 8270
Pentachloronitrobenzene	ND	340	ug/Kg	03/30/12		DD	SW 8270
Pentachlorophenol	ND	340	ug/Kg	03/30/12		DD	SW 8270
Phenanthrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Phenol	ND	240	ug/Kg	03/30/12		DD	SW 8270
Pyrene	ND	240	ug/Kg	03/30/12		DD	SW 8270
Pyridine	ND	340	ug/Kg	03/30/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	97		%	03/30/12		DD	15 - 130 %
% 2-Fluorobiphenyl	82		%	03/30/12		DD	15 - 130 %
% 2-Fluorophenol	84		%	03/30/12		DD	15 - 130 %
% Nitrobenzene-d5	92		%	03/30/12		DD	15 - 130 %
% Phenol-d5	84		%	03/30/12		DD	15 - 130 %
% Terphenyl-d14	101		%	03/30/12		DD	15 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

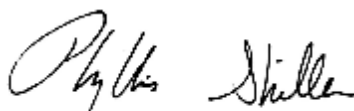
Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 10, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 10, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/26/12 13:40
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59664

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBD-2

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	94		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			03/29/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1,1-Trichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1,2-Trichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloropropene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2,3-Trichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	1
1,2,3-Trichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trimethylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,3,5-Trimethylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,4-Dichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
2,2-Dichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
2-Chlorotoluene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
2-Hexanone	ND	27	ug/Kg	04/04/12		H/J	SW8260	
2-Isopropyltoluene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	1
4-Chlorotoluene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	

Client ID: SBD-2

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	27	ug/Kg	04/04/12		H/J	SW8260
Acetone	ND	27	ug/Kg	04/04/12		H/J	SW8260
Acrylonitrile	ND	11	ug/Kg	04/04/12		H/J	SW8260
Benzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromochloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromodichloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromoform	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromomethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Carbon Disulfide	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Carbon tetrachloride	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chloroform	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dibromochloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dibromoethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dibromomethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dichlorodifluoromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Ethylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Hexachlorobutadiene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Isopropylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
m&p-Xylene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Methyl Ethyl Ketone	ND	27	ug/Kg	04/04/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	04/04/12		H/J	SW8260
Methylene chloride	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Naphthalene	23	5.3	ug/Kg	04/04/12		H/J	SW8260
n-Butylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
n-Propylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
o-Xylene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
p-Isopropyltoluene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
sec-Butylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Styrene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
tert-Butylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Tetrachloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	11	ug/Kg	04/04/12		H/J	SW8260
Toluene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Total Xylenes	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	04/04/12		H/J	SW8260
Trichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Trichlorofluoromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Trichlorotrifluoroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Vinyl chloride	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	95		%	04/04/12		H/J	70 - 130 %
% Bromofluorobenzene	99		%	04/04/12		H/J	70 - 130 %

Client ID: SBD-2

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	107		%	04/04/12		H/J	70 - 130 %
% Toluene-d8	99		%	04/04/12		H/J	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,2-Dichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,3-Dichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,4-Dichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4-Dichlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4-Dimethylphenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrophenol	ND	560	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrotoluene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,6-Dinitrotoluene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Chloronaphthalene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Chlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Methylnaphthalene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Nitroaniline	ND	560	ug/Kg	03/30/12		DD	SW 8270
2-Nitrophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	350	ug/Kg	03/30/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	250	ug/Kg	03/30/12		DD	SW 8270
3-Nitroaniline	ND	560	ug/Kg	03/30/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1000	ug/Kg	03/30/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	350	ug/Kg	03/30/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
4-Chloroaniline	ND	250	ug/Kg	03/30/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	250	ug/Kg	03/30/12		DD	SW 8270
4-Nitroaniline	ND	560	ug/Kg	03/30/12		DD	SW 8270
4-Nitrophenol	ND	1000	ug/Kg	03/30/12		DD	SW 8270
Acenaphthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Acenaphthylene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Acetophenone	ND	250	ug/Kg	03/30/12		DD	SW 8270
Aniline	ND	350	ug/Kg	03/30/12		DD	SW 8270
Anthracene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Azobenzene	ND	350	ug/Kg	03/30/12		DD	SW 8270
Benz(a)anthracene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzidine	ND	420	ug/Kg	03/30/12		DD	SW 8270
Benzo(a)pyrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzo(b)fluoranthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzo(ghi)perylene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzo(k)fluoranthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzoic acid	ND	1000	ug/Kg	03/30/12		DD	SW 8270
Benzyl butyl phthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	250	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	350	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	250	ug/Kg	03/30/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Carbazole	ND	530	ug/Kg	03/30/12		DD	SW 8270

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Dibenzofuran	ND	250	ug/Kg	03/30/12		DD	SW 8270
Diethyl phthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Dimethylphthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Di-n-butylphthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Di-n-octylphthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Fluoranthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Fluorene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobutadiene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachloroethane	ND	250	ug/Kg	03/30/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Isophorone	ND	250	ug/Kg	03/30/12		DD	SW 8270
Naphthalene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Nitrobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodimethylamine	ND	350	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	250	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	350	ug/Kg	03/30/12		DD	SW 8270
Pentachloronitrobenzene	ND	350	ug/Kg	03/30/12		DD	SW 8270
Pentachlorophenol	ND	350	ug/Kg	03/30/12		DD	SW 8270
Phenanthrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Phenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
Pyrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Pyridine	ND	350	ug/Kg	03/30/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	87		%	03/30/12		DD	15 - 130 %
% 2-Fluorobiphenyl	78		%	03/30/12		DD	15 - 130 %
% 2-Fluorophenol	81		%	03/30/12		DD	15 - 130 %
% Nitrobenzene-d5	83		%	03/30/12		DD	15 - 130 %
% Phenol-d5	80		%	03/30/12		DD	15 - 130 %
% Terphenyl-d14	97		%	03/30/12		DD	15 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

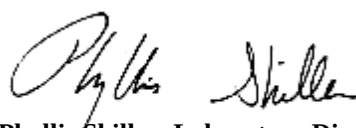
Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 10, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 10, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/26/12 12:40
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59665

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBH-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	90		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			03/29/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1,1-Trichloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1,2-Trichloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1-Dichloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1-Dichloroethene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1-Dichloropropene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2,3-Trichlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	1
1,2,3-Trichloropropane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2,4-Trichlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2,4-Trimethylbenzene	56000	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2-Dichlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2-Dichloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2-Dichloropropane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,3,5-Trimethylbenzene	22000	1400	ug/Kg	04/03/12		H/J	SW8260	
1,3-Dichlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,3-Dichloropropane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,4-Dichlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
2,2-Dichloropropane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
2-Chlorotoluene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
2-Hexanone	ND	6900	ug/Kg	04/03/12		H/J	SW8260	
2-Isopropyltoluene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	1
4-Chlorotoluene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	

Client ID: SBH-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	6900	ug/Kg	04/03/12		H/J	SW8260
Acetone	ND	6900	ug/Kg	04/03/12		H/J	SW8260
Acrylonitrile	ND	2800	ug/Kg	04/03/12		H/J	SW8260
Benzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Bromobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Bromochloromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Bromodichloromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Bromoform	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Bromomethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Carbon Disulfide	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Carbon tetrachloride	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Chlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Chloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Chloroform	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Chloromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Dibromochloromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Dibromoethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Dibromomethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Dichlorodifluoromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Ethylbenzene	13000	1400	ug/Kg	04/03/12		H/J	SW8260
Hexachlorobutadiene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Isopropylbenzene	3000	1400	ug/Kg	04/03/12		H/J	SW8260
m&p-Xylene	48000	1400	ug/Kg	04/03/12		H/J	SW8260
Methyl Ethyl Ketone	ND	6900	ug/Kg	04/03/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	2800	ug/Kg	04/03/12		H/J	SW8260
Methylene chloride	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Naphthalene	15000	1400	ug/Kg	04/03/12		H/J	SW8260
n-Butylbenzene	3500	1400	ug/Kg	04/03/12		H/J	SW8260
n-Propylbenzene	11000	1400	ug/Kg	04/03/12		H/J	SW8260
o-Xylene	26000	1400	ug/Kg	04/03/12		H/J	SW8260
p-Isopropyltoluene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
sec-Butylbenzene	1600	1400	ug/Kg	04/03/12		H/J	SW8260
Styrene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
tert-Butylbenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Tetrachloroethene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	2800	ug/Kg	04/03/12		H/J	SW8260
Toluene	6200	1400	ug/Kg	04/03/12		H/J	SW8260
Total Xylenes	74000	1400	ug/Kg	04/03/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	2800	ug/Kg	04/03/12		H/J	SW8260
Trichloroethene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Trichlorofluoromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Trichlorotrifluoroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Vinyl chloride	ND	1400	ug/Kg	04/03/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	98		%	04/03/12		H/J	70 - 130 %
% Bromofluorobenzene	99		%	04/03/12		H/J	70 - 130 %

Client ID: SBH-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	105		%	04/03/12		H/J	70 - 130 %
% Toluene-d8	95		%	04/03/12		H/J	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,2-Dichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,3-Dichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,4-Dichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4-Dichlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4-Dimethylphenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrophenol	ND	580	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrotoluene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,6-Dinitrotoluene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Chloronaphthalene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Chlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Methylnaphthalene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Nitroaniline	ND	580	ug/Kg	03/30/12		DD	SW 8270
2-Nitrophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	360	ug/Kg	03/30/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	250	ug/Kg	03/30/12		DD	SW 8270
3-Nitroaniline	ND	580	ug/Kg	03/30/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	03/30/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	360	ug/Kg	03/30/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
4-Chloroaniline	ND	250	ug/Kg	03/30/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	250	ug/Kg	03/30/12		DD	SW 8270
4-Nitroaniline	ND	580	ug/Kg	03/30/12		DD	SW 8270
4-Nitrophenol	ND	1100	ug/Kg	03/30/12		DD	SW 8270
Acenaphthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Acenaphthylene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Acetophenone	ND	250	ug/Kg	03/30/12		DD	SW 8270
Aniline	ND	360	ug/Kg	03/30/12		DD	SW 8270
Anthracene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Azobenzene	ND	360	ug/Kg	03/30/12		DD	SW 8270
Benz(a)anthracene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzidine	ND	440	ug/Kg	03/30/12		DD	SW 8270
Benzo(a)pyrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzo(b)fluoranthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzo(ghi)perylene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzo(k)fluoranthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzoic acid	ND	1100	ug/Kg	03/30/12		DD	SW 8270
Benzyl butyl phthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	250	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	360	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	250	ug/Kg	03/30/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Carbazole	ND	540	ug/Kg	03/30/12		DD	SW 8270

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Dibenzofuran	ND	250	ug/Kg	03/30/12		DD	SW 8270
Diethyl phthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Dimethylphthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Di-n-butylphthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Di-n-octylphthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Fluoranthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Fluorene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobutadiene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachloroethane	ND	250	ug/Kg	03/30/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Isophorone	ND	250	ug/Kg	03/30/12		DD	SW 8270
Naphthalene	12000	250	ug/Kg	03/30/12		DD	SW 8270
Nitrobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodimethylamine	ND	360	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	250	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	360	ug/Kg	03/30/12		DD	SW 8270
Pentachloronitrobenzene	ND	360	ug/Kg	03/30/12		DD	SW 8270
Pentachlorophenol	ND	360	ug/Kg	03/30/12		DD	SW 8270
Phenanthrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Phenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
Pyrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Pyridine	ND	360	ug/Kg	03/30/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	87		%	03/30/12		DD	15 - 130 %
% 2-Fluorobiphenyl	77		%	03/30/12		DD	15 - 130 %
% 2-Fluorophenol	87		%	03/30/12		DD	15 - 130 %
% Nitrobenzene-d5	93		%	03/30/12		DD	15 - 130 %
% Phenol-d5	80		%	03/30/12		DD	15 - 130 %
% Terphenyl-d14	96		%	03/30/12		DD	15 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

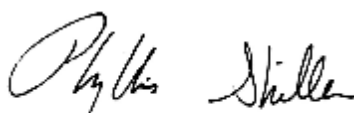
Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 10, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 10, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/26/12 12:55
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59666

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBC-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	94		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			04/02/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1,1-Trichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1,2-Trichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloropropene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2,3-Trichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	1
1,2,3-Trichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trimethylbenzene	1400	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,3,5-Trimethylbenzene	470	130	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,4-Dichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
2,2-Dichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
2-Chlorotoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
2-Hexanone	ND	660	ug/Kg	04/04/12		H/J	SW8260	
2-Isopropyltoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260	1
4-Chlorotoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260	

Client ID: SBC-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	660	ug/Kg	04/04/12		H/J	SW8260
Acetone	ND	660	ug/Kg	04/04/12		H/J	SW8260
Acrylonitrile	ND	270	ug/Kg	04/04/12		H/J	SW8260
Benzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromochloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromodichloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromoform	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromomethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Carbon Disulfide	ND	130	ug/Kg	04/04/12		H/J	SW8260
Carbon tetrachloride	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chloroform	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dibromochloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dibromoethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dibromomethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dichlorodifluoromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Ethylbenzene	140	130	ug/Kg	04/04/12		H/J	SW8260
Hexachlorobutadiene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Isopropylbenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
m&p-Xylene	620	130	ug/Kg	04/04/12		H/J	SW8260
Methyl Ethyl Ketone	ND	660	ug/Kg	04/04/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	270	ug/Kg	04/04/12		H/J	SW8260
Methylene chloride	ND	130	ug/Kg	04/04/12		H/J	SW8260
Naphthalene	820	130	ug/Kg	04/04/12		H/J	SW8260
n-Butylbenzene	150	130	ug/Kg	04/04/12		H/J	SW8260
n-Propylbenzene	170	130	ug/Kg	04/04/12		H/J	SW8260
o-Xylene	290	130	ug/Kg	04/04/12		H/J	SW8260
p-Isopropyltoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260
sec-Butylbenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Styrene	ND	130	ug/Kg	04/04/12		H/J	SW8260
tert-Butylbenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Tetrachloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	270	ug/Kg	04/04/12		H/J	SW8260
Toluene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Total Xylenes	910	130	ug/Kg	04/04/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	130	ug/Kg	04/04/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	270	ug/Kg	04/04/12		H/J	SW8260
Trichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Trichlorofluoromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Trichlorotrifluoroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Vinyl chloride	ND	130	ug/Kg	04/04/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	93		%	04/04/12		H/J	70 - 130 %
% Bromofluorobenzene	100		%	04/04/12		H/J	70 - 130 %

Client ID: SBC-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	102		%	04/04/12		H/J	70 - 130 %
% Toluene-d8	100		%	04/04/12		H/J	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
1,2,4-Trichlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
1,2-Dichlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
1,3-Dichlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
1,4-Dichlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,4,5-Trichlorophenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,4,6-Trichlorophenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,4-Dichlorophenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,4-Dimethylphenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,4-Dinitrophenol	ND	560	ug/Kg	04/03/12		KCA	SW 8270
2,4-Dinitrotoluene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,6-Dinitrotoluene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2-Chloronaphthalene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2-Chlorophenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2-Methylnaphthalene	420	240	ug/Kg	04/03/12		KCA	SW 8270
2-Methylphenol (o-cresol)	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2-Nitroaniline	ND	560	ug/Kg	04/03/12		KCA	SW 8270
2-Nitrophenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	350	ug/Kg	04/03/12		KCA	SW 8270
3,3'-Dichlorobenzidine	ND	240	ug/Kg	04/03/12		KCA	SW 8270
3-Nitroaniline	ND	560	ug/Kg	04/03/12		KCA	SW 8270
4,6-Dinitro-2-methylphenol	ND	1000	ug/Kg	04/03/12		KCA	SW 8270
4-Bromophenyl phenyl ether	ND	350	ug/Kg	04/03/12		KCA	SW 8270
4-Chloro-3-methylphenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
4-Chloroaniline	ND	240	ug/Kg	04/03/12		KCA	SW 8270
4-Chlorophenyl phenyl ether	ND	240	ug/Kg	04/03/12		KCA	SW 8270
4-Nitroaniline	ND	560	ug/Kg	04/03/12		KCA	SW 8270
4-Nitrophenol	ND	1000	ug/Kg	04/03/12		KCA	SW 8270
Acenaphthene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Acenaphthylene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Acetophenone	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Aniline	ND	1000	ug/Kg	04/03/12		KCA	SW 8270
Anthracene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Azobenzene	ND	350	ug/Kg	04/03/12		KCA	SW 8270
Benz(a)anthracene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Benzidine	ND	420	ug/Kg	04/03/12		KCA	SW 8270
Benzo(a)pyrene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Benzo(b)fluoranthene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Benzo(ghi)perylene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Benzo(k)fluoranthene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Benzoic acid	ND	1000	ug/Kg	04/03/12		KCA	SW 8270
Benzyl butyl phthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Bis(2-chloroethoxy)methane	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Bis(2-chloroethyl)ether	ND	350	ug/Kg	04/03/12		KCA	SW 8270
Bis(2-chloroisopropyl)ether	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Bis(2-ethylhexyl)phthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Carbazole	ND	520	ug/Kg	04/03/12		KCA	SW 8270

Client ID: SBC-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Dibenz(a,h)anthracene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Dibenzofuran	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Diethyl phthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Dimethylphthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Di-n-butylphthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Di-n-octylphthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Fluoranthene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Fluorene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Hexachlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Hexachlorobutadiene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Hexachlorocyclopentadiene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Hexachloroethane	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Isophorone	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Naphthalene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Nitrobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
N-Nitrosodimethylamine	ND	350	ug/Kg	04/03/12		KCA	SW 8270
N-Nitrosodi-n-propylamine	ND	240	ug/Kg	04/03/12		KCA	SW 8270
N-Nitrosodiphenylamine	ND	350	ug/Kg	04/03/12		KCA	SW 8270
Pentachloronitrobenzene	ND	350	ug/Kg	04/03/12		KCA	SW 8270
Pentachlorophenol	ND	350	ug/Kg	04/03/12		KCA	SW 8270
Phenanthrene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Phenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Pyrene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Pyridine	ND	350	ug/Kg	04/03/12		KCA	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	<5		%	04/03/12		KCA	15 - 130 %
% 2-Fluorobiphenyl	71		%	04/03/12		KCA	15 - 130 %
% 2-Fluorophenol	22		%	04/03/12		KCA	15 - 130 %
% Nitrobenzene-d5	74		%	04/03/12		KCA	15 - 130 %
% Phenol-d5	60		%	04/03/12		KCA	15 - 130 %
% Terphenyl-d14	120		%	04/03/12		KCA	15 - 130 %

3

Client ID: SBC-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

3 = This parameter exceeds laboratory specified limits.

Comments:

* The surrogate failed method criteria due to sample matrix interference for the semivolatile analysis. The other surrogates associated with this sample were within QA/QC criteria. No further action was necessary.

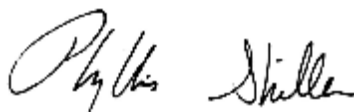
*For semivolatiles, poor surrogate recovery was observed. Sample was re-extracted with similar results. The other surrogates associated with this sample were within QA/QC criteria. No further action was necessary.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 10, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 10, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/26/12 12:45
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59667

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBD-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	94		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			03/29/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1,1-Trichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1,2-Trichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloropropene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2,3-Trichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	1
1,2,3-Trichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trimethylbenzene	500	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,3,5-Trimethylbenzene	230	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,4-Dichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
2,2-Dichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
2-Chlorotoluene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
2-Hexanone	ND	27	ug/Kg	04/04/12		H/J	SW8260	
2-Isopropyltoluene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	1
4-Chlorotoluene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	

Client ID: SBD-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	27	ug/Kg	04/04/12		H/J	SW8260
Acetone	ND	27	ug/Kg	04/04/12		H/J	SW8260
Acrylonitrile	ND	11	ug/Kg	04/04/12		H/J	SW8260
Benzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromochloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromodichloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromoform	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromomethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Carbon Disulfide	ND	11	ug/Kg	04/04/12		H/J	SW8260
Carbon tetrachloride	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chloroform	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dibromochloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dibromoethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dibromomethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dichlorodifluoromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Ethylbenzene	99	5.3	ug/Kg	04/04/12		H/J	SW8260
Hexachlorobutadiene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Isopropylbenzene	26	5.3	ug/Kg	04/04/12		H/J	SW8260
m&p-Xylene	410	5.3	ug/Kg	04/04/12		H/J	SW8260
Methyl Ethyl Ketone	ND	27	ug/Kg	04/04/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	04/04/12		H/J	SW8260
Methylene chloride	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Naphthalene	380	130	ug/Kg	04/04/12		H/J	SW8260
n-Butylbenzene	27	5.3	ug/Kg	04/04/12		H/J	SW8260
n-Propylbenzene	85	5.3	ug/Kg	04/04/12		H/J	SW8260
o-Xylene	250	5.3	ug/Kg	04/04/12		H/J	SW8260
p-Isopropyltoluene	9.9	5.3	ug/Kg	04/04/12		H/J	SW8260
sec-Butylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Styrene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
tert-Butylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Tetrachloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	11	ug/Kg	04/04/12		H/J	SW8260
Toluene	38	5.3	ug/Kg	04/04/12		H/J	SW8260
Total Xylenes	660	5.3	ug/Kg	04/04/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	04/04/12		H/J	SW8260
Trichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Trichlorofluoromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Trichlorotrifluoroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Vinyl chloride	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	101		%	04/04/12		H/J	70 - 130 %
% Bromofluorobenzene	96		%	04/04/12		H/J	70 - 130 %

Client ID: SBD-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference	
% Dibromofluoromethane	51		%	04/04/12		H/J	70 - 130 %	3
% Toluene-d8	100		%	04/04/12		H/J	70 - 130 %	
Semivolatiles								
1,2,4,5-Tetrachlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
1,2,4-Trichlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
1,2-Dichlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
1,3-Dichlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
1,4-Dichlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,4,5-Trichlorophenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,4,6-Trichlorophenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,4-Dichlorophenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,4-Dimethylphenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,4-Dinitrophenol	ND	560	ug/Kg	03/31/12		DD	SW 8270	
2,4-Dinitrotoluene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,6-Dinitrotoluene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2-Chloronaphthalene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2-Chlorophenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2-Methylnaphthalene	760	240	ug/Kg	03/31/12		DD	SW 8270	
2-Methylphenol (o-cresol)	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2-Nitroaniline	ND	560	ug/Kg	03/31/12		DD	SW 8270	
2-Nitrophenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
3&4-Methylphenol (m&p-cresol)	ND	350	ug/Kg	03/31/12		DD	SW 8270	
3,3'-Dichlorobenzidine	ND	240	ug/Kg	03/31/12		DD	SW 8270	
3-Nitroaniline	ND	560	ug/Kg	03/31/12		DD	SW 8270	
4,6-Dinitro-2-methylphenol	ND	1000	ug/Kg	03/31/12		DD	SW 8270	
4-Bromophenyl phenyl ether	ND	350	ug/Kg	03/31/12		DD	SW 8270	
4-Chloro-3-methylphenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
4-Chloroaniline	ND	240	ug/Kg	03/31/12		DD	SW 8270	
4-Chlorophenyl phenyl ether	ND	240	ug/Kg	03/31/12		DD	SW 8270	
4-Nitroaniline	ND	560	ug/Kg	03/31/12		DD	SW 8270	
4-Nitrophenol	ND	1000	ug/Kg	03/31/12		DD	SW 8270	
Acenaphthene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Acenaphthylene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Acetophenone	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Aniline	ND	350	ug/Kg	03/31/12		DD	SW 8270	LO
Anthracene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Azobenzene	ND	350	ug/Kg	03/31/12		DD	SW 8270	1
Benz(a)anthracene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Benzidine	ND	420	ug/Kg	03/31/12		DD	SW 8270	
Benzo(a)pyrene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Benzo(b)fluoranthene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Benzo(ghi)perylene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Benzo(k)fluoranthene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Benzoic acid	ND	1000	ug/Kg	03/31/12		DD	SW 8270	LO
Benzyl butyl phthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Bis(2-chloroethoxy)methane	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Bis(2-chloroethyl)ether	ND	350	ug/Kg	03/31/12		DD	SW 8270	
Bis(2-chloroisopropyl)ether	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Bis(2-ethylhexyl)phthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Carbazole	ND	520	ug/Kg	03/31/12		DD	SW 8270	

Client ID: SBD-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Dibenzofuran	ND	240	ug/Kg	03/31/12		DD	SW 8270
Diethyl phthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270
Dimethylphthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270
Di-n-butylphthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270
Di-n-octylphthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270
Fluoranthene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Fluorene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Hexachlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Hexachlorobutadiene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Hexachloroethane	ND	240	ug/Kg	03/31/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Isophorone	ND	240	ug/Kg	03/31/12		DD	SW 8270
Naphthalene	540	240	ug/Kg	03/31/12		DD	SW 8270
Nitrobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270
N-Nitrosodimethylamine	ND	350	ug/Kg	03/31/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	240	ug/Kg	03/31/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	350	ug/Kg	03/31/12		DD	SW 8270
Pentachloronitrobenzene	ND	350	ug/Kg	03/31/12		DD	SW 8270
Pentachlorophenol	ND	350	ug/Kg	03/31/12		DD	SW 8270
Phenanthrene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Phenol	ND	240	ug/Kg	03/31/12		DD	SW 8270
Pyrene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Pyridine	ND	350	ug/Kg	03/31/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	7.2		%	03/31/12		DD	15 - 130 %
% 2-Fluorobiphenyl	79		%	03/31/12		DD	15 - 130 %
% 2-Fluorophenol	33		%	03/31/12		DD	15 - 130 %
% Nitrobenzene-d5	82		%	03/31/12		DD	15 - 130 %
% Phenol-d5	63		%	03/31/12		DD	15 - 130 %
% Terphenyl-d14	77		%	03/31/12		DD	15 - 130 %

3

Client ID: SBD-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

3 = This parameter exceeds laboratory specified limits.

Comments:

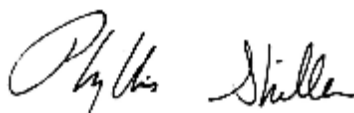
* Poor surrogate recovery was observed for semivolatiles. The other surrogates associated with this sample were within QA/QC criteria. No further action was necessary.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 10, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



QA/QC Report

April 10, 2012

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 197574, QC Sample No: BB58840 (BB59665)									
Volatiles - Soil									
1,1,1,2-Tetrachloroethane	ND	118	122	3.3	112	123	9.4	70 - 130	30
1,1,1-Trichloroethane	ND	100	117	15.7	107	96	10.8	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	118	112	5.2	105	124	16.6	70 - 130	30
1,1,2-Trichloroethane	ND	106	108	1.9	99	108	8.7	70 - 130	30
1,1-Dichloroethane	ND	97	122	22.8	118	101	15.5	70 - 130	30
1,1-Dichloroethene	ND	100	106	5.8	100	101	1.0	70 - 130	30
1,1-Dichloropropene	ND	88	110	22.2	97	81	18.0	70 - 130	30
1,2,3-Trichlorobenzene	ND	120	107	11.5	83	105	23.4	70 - 130	30
1,2,3-Trichloropropane	ND	119	108	9.7	108	126	15.4	70 - 130	30
1,2,4-Trichlorobenzene	ND	110	101	8.5	77	89	14.5	70 - 130	30
1,2,4-Trimethylbenzene	ND	115	114	0.9	106	114	7.3	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	106	99	6.8	91	119	26.7	70 - 130	30
1,2-Dichlorobenzene	ND	106	105	0.9	101	109	7.6	70 - 130	30
1,2-Dichloroethane	ND	106	104	1.9	103	107	3.8	70 - 130	30
1,2-Dichloropropane	ND	104	108	3.8	102	106	3.8	70 - 130	30
1,3,5-Trimethylbenzene	ND	118	116	1.7	108	114	5.4	70 - 130	30
1,3-Dichlorobenzene	ND	108	108	0.0	97	104	7.0	70 - 130	30
1,3-Dichloropropane	ND	106	109	2.8	103	110	6.6	70 - 130	30
1,4-Dichlorobenzene	ND	105	106	0.9	94	101	7.2	70 - 130	30
2,2-Dichloropropane	ND	95	112	16.4	86	81	6.0	70 - 130	30
2-Chlorotoluene	ND	108	108	0.0	105	106	0.9	70 - 130	30
2-Hexanone	ND	73	75	2.7	50	58	14.8	70 - 130	30 m
2-Isopropyltoluene	ND	110	112	1.8	109	114	4.5	70 - 130	30
4-Chlorotoluene	ND	110	111	0.9	106	111	4.6	70 - 130	30
4-Methyl-2-pentanone	ND	94	87	7.7	78	96	20.7	70 - 130	30
Acetone	ND	96	84	13.3	53	68	24.8	70 - 130	30 m
Acrylonitrile	ND	93	112	18.5	105	107	1.9	70 - 130	30
Benzene	ND	104	105	1.0	100	101	1.0	70 - 130	30
Bromobenzene	ND	109	109	0.0	107	109	1.9	70 - 130	30
Bromochloromethane	ND	98	125	24.2	120	108	10.5	70 - 130	30
Bromodichloromethane	ND	106	110	3.7	104	105	1.0	70 - 130	30
Bromoform	ND	96	98	2.1	94	109	14.8	70 - 130	30
Bromomethane	ND	87	107	20.6	105	91	14.3	70 - 130	30
Carbon Disulfide	ND	92	98	6.3	96	97	1.0	70 - 130	30
Carbon tetrachloride	ND	91	106	15.2	94	82	13.6	70 - 130	30
Chlorobenzene	ND	102	108	5.7	101	105	3.9	70 - 130	30
Chloroethane	ND	103	113	9.3	109	102	6.6	70 - 130	30
Chloroform	ND	102	121	17.0	117	105	10.8	70 - 130	30
Chloromethane	ND	93	99	6.3	102	102	0.0	70 - 130	30
cis-1,2-Dichloroethene	ND	97	124	24.4	119	101	16.4	70 - 130	30
cis-1,3-Dichloropropene	ND	101	103	2.0	90	96	6.5	70 - 130	30

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Dibromochloromethane	ND	106	107	0.9	101	110	8.5	70 - 130	30
Dibromoethane	ND	107	105	1.9	99	110	10.5	70 - 130	30
Dibromomethane	ND	104	107	2.8	101	111	9.4	70 - 130	30
Dichlorodifluoromethane	ND	77	94	19.9	102	85	18.2	70 - 130	30
Ethylbenzene	ND	101	108	6.7	100	99	1.0	70 - 130	30
Hexachlorobutadiene	ND	104	100	3.9	83	92	10.3	70 - 130	30
Isopropylbenzene	ND	117	118	0.9	116	117	0.9	70 - 130	30
m&p-Xylene	ND	103	112	8.4	102	101	1.0	70 - 130	30
Methyl ethyl ketone	ND	74	89	18.4	55	58	5.3	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	96	94	2.1	89	97	8.6	70 - 130	30
Methylene chloride	ND	103	108	4.7	111	117	5.3	70 - 130	30
Naphthalene	ND	119	103	14.4	89	121	30.5	70 - 130	30
n-Butylbenzene	ND	107	111	3.7	88	90	2.2	70 - 130	30
n-Propylbenzene	ND	106	108	1.9	105	103	1.9	70 - 130	30
o-Xylene	ND	110	116	5.3	109	111	1.8	70 - 130	30
p-Isopropyltoluene	ND	112	115	2.6	99	100	1.0	70 - 130	30
sec-Butylbenzene	ND	112	114	1.8	107	108	0.9	70 - 130	30
Styrene	ND	89	95	6.5	93	93	0.0	70 - 130	30
tert-Butylbenzene	ND	107	110	2.8	108	112	3.6	70 - 130	30
Tetrachloroethene	ND	102	103	1.0	94	95	1.1	70 - 130	30
Tetrahydrofuran (THF)	ND	89	107	18.4	104	102	1.9	70 - 130	30
Toluene	ND	102	106	3.8	99	100	1.0	70 - 130	30
trans-1,2-Dichloroethene	ND	102	109	6.6	102	105	2.9	70 - 130	30
trans-1,3-Dichloropropene	ND	104	105	1.0	88	98	10.8	70 - 130	30
trans-1,4-dichloro-2-butene	ND	117	112	4.4	92	108	16.0	70 - 130	30
Trichloroethene	ND	104	105	1.0	102	103	1.0	70 - 130	30
Trichlorofluoromethane	ND	116	122	5.0	97	95	2.1	70 - 130	30
Trichlorotrifluoroethane	ND	99	106	6.8	99	94	5.2	70 - 130	30
Vinyl chloride	ND	92	104	12.2	99	96	3.1	70 - 130	30
% 1,2-dichlorobenzene-d4	98	100	99	1.0	100	103	3.0	70 - 130	30
% Bromofluorobenzene	94	96	100	4.1	96	93	3.2	70 - 130	30
% Dibromofluoromethane	104	93	116	22.0	116	101	13.8	70 - 130	30
% Toluene-d8	97	97	98	1.0	97	96	1.0	70 - 130	30

QA/QC Batch 197150, QC Sample No: BB59295 (BB59659, BB59660, BB59661, BB59662, BB59663, BB59664, BB59665, BB59666, BB59667)

Semivolatiles - Soil

1,2,4,5-Tetrachlorobenzene	ND	56	57	1.8	59	60	1.7	30 - 130	30
1,2,4-Trichlorobenzene	ND	70	71	1.4	76	77	1.3	30 - 130	30
1,2-Dichlorobenzene	ND	68	70	2.9	75	76	1.3	30 - 130	30
1,3-Dichlorobenzene	ND	65	67	3.0	71	73	2.8	30 - 130	30
1,4-Dichlorobenzene	ND	67	68	1.5	73	75	2.7	30 - 130	30
2,4,5-Trichlorophenol	ND	80	79	1.3	85	84	1.2	30 - 130	30
2,4,6-Trichlorophenol	ND	81	81	0.0	89	90	1.1	30 - 130	30
2,4-Dichlorophenol	ND	82	82	0.0	87	88	1.1	30 - 130	30
2,4-Dimethylphenol	ND	39	39	0.0	48	48	0.0	30 - 130	30
2,4-Dinitrophenol	ND	33	12	93.3	9.2	10	8.3	30 - 130	30
2,4-Dinitrotoluene	ND	82	85	3.6	88	89	1.1	30 - 130	30
2,6-Dinitrotoluene	ND	81	84	3.6	84	85	1.2	30 - 130	30
2-Chloronaphthalene	ND	75	75	0.0	81	83	2.4	30 - 130	30
2-Chlorophenol	ND	72	73	1.4	78	80	2.5	30 - 130	30
2-Methylnaphthalene	ND	72	73	1.4	NC	NC	NC	30 - 130	30
2-Methylphenol (o-cresol)	ND	68	69	1.5	87	88	1.1	30 - 130	30

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2-Nitroaniline	ND	>150	>150	NC	>130	>130	NC	30 - 130	30	l,m
2-Nitrophenol	ND	75	77	2.6	79	80	1.3	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	72	73	1.4	78	78	0.0	30 - 130	30	
3,3'-Dichlorobenzidine	ND	82	82	0.0	78	84	7.4	30 - 130	30	
3-Nitroaniline	ND	83	85	2.4	88	91	3.4	30 - 130	30	m
4,6-Dinitro-2-methylphenol	ND	75	62	19.0	26	21	21.3	30 - 130	30	
4-Bromophenyl phenyl ether	ND	79	80	1.3	85	87	2.3	30 - 130	30	
4-Chloro-3-methylphenol	ND	83	84	1.2	87	89	2.3	30 - 130	30	
4-Chloroaniline	ND	54	53	1.9	37	49	27.9	30 - 130	30	m,r
4-Chlorophenyl phenyl ether	ND	79	79	0.0	82	84	2.4	30 - 130	30	
4-Nitroaniline	ND	83	85	2.4	88	91	3.4	30 - 130	30	
4-Nitrophenol	ND	87	88	1.1	99	98	1.0	30 - 130	30	
Acenaphthene	ND	75	75	0.0	55	56	1.8	30 - 130	30	m
Acenaphthylene	ND	73	74	1.4	NC	NC	NC	30 - 130	30	
Acetophenone	ND	48	49	2.1	56	57	1.8	30 - 130	30	
Aniline	ND	51	52	1.9	19	46	83.1	30 - 130	30	
Anthracene	ND	76	76	0.0	NC	NC	NC	30 - 130	30	m
Azobenzene	ND	49	49	0.0	48	47	2.1	30 - 130	30	
Benz(a)anthracene	ND	79	80	1.3	NC	NC	NC	30 - 130	30	
Benzidine	ND	69	72	4.3	<5	<5	NC	30 - 130	30	
Benzo(a)pyrene	ND	77	77	0.0	NC	NC	NC	30 - 130	30	r
Benzo(b)fluoranthene	ND	82	80	2.5	NC	NC	NC	30 - 130	30	
Benzo(ghi)perylene	ND	83	81	2.4	NC	NC	NC	30 - 130	30	
Benzo(k)fluoranthene	ND	82	79	3.7	50	66	27.6	30 - 130	30	
Benzyl butyl phthalate	ND	80	80	0.0	107	105	1.9	30 - 130	30	r
Bis(2-chloroethoxy)methane	ND	73	75	2.7	80	81	1.2	30 - 130	30	
Bis(2-chloroethyl)ether	ND	64	65	1.6	106	74	35.6	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	71	73	2.8	77	79	2.6	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	74	71	4.1	130	100	26.1	30 - 130	30	m
Carbazole	ND	109	110	0.9	78	81	3.8	30 - 130	30	
Chrysene	ND	79	80	1.3	NC	NC	NC	30 - 130	30	
Dibenz(a,h)anthracene	ND	84	84	0.0	53	50	5.8	30 - 130	30	
Dibenzofuran	ND	75	75	0.0	55	64	15.1	30 - 130	30	m
Diethyl phthalate	ND	79	79	0.0	80	82	2.5	30 - 130	30	
Dimethylphthalate	ND	78	78	0.0	81	83	2.4	30 - 130	30	
Di-n-butylphthalate	ND	76	76	0.0	78	79	1.3	30 - 130	30	
Di-n-octylphthalate	ND	79	79	0.0	107	108	0.9	30 - 130	30	m
Fluoranthene	ND	79	80	1.3	NC	NC	NC	30 - 130	30	
Fluorene	ND	78	78	0.0	NC	NC	NC	30 - 130	30	
Hexachlorobenzene	ND	79	79	0.0	80	81	1.2	30 - 130	30	
Hexachlorobutadiene	ND	72	74	2.7	79	80	1.3	30 - 130	30	m
Hexachlorocyclopentadiene	ND	54	58	7.1	5.6	4.6	19.6	30 - 130	30	
Hexachloroethane	ND	66	67	1.5	80	76	5.1	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	84	83	1.2	28	24	15.4	30 - 130	30	
Isophorone	ND	59	61	3.3	66	66	0.0	30 - 130	30	m
Naphthalene	ND	73	74	1.4	NC	NC	NC	30 - 130	30	
Nitrobenzene	ND	73	75	2.7	81	84	3.6	30 - 130	30	
N-Nitrosodimethylamine	ND	63	65	3.1	69	72	4.3	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	74	76	2.7	77	79	2.6	30 - 130	30	m
N-Nitrosodiphenylamine	ND	87	87	0.0	96	98	2.1	30 - 130	30	
Pentachloronitrobenzene	ND	108	108	0.0	98	98	0.0	30 - 130	30	
Pentachlorophenol	ND	70	67	4.4	97	92	5.3	30 - 130	30	
Phenanthrene	ND	80	80	0.0	NC	NC	NC	30 - 130	30	

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Phenol	ND	78	79	1.3	99	97	2.0	30 - 130	30
Pyrene	ND	81	81	0.0	NC	NC	NC	30 - 130	30
Pyridine	ND	34	36	5.7	43	50	15.1	30 - 130	30
% 2,4,6-Tribromophenol	80	81	82	1.2	85	89	4.6	15 - 130	30
% 2-Fluorobiphenyl	71	70	71	1.4	74	77	4.0	30 - 130	30
% 2-Fluorophenol	73	72	73	1.4	78	81	3.8	15 - 130	30
% Nitrobenzene-d5	74	70	73	4.2	76	79	3.9	30 - 130	30
% Phenol-d5	72	71	73	2.8	75	78	3.9	15 - 130	30
% Terphenyl-d14	93	93	94	1.1	93	95	2.1	30 - 130	30

QA/QC Batch 197640, QC Sample No: BB59621 (BB59660)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	109	113	3.6	101	100	1.0	70 - 130	30	
1,1,1-Trichloroethane	ND	107	107	0.0	111	110	0.9	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	102	109	6.6	113	103	9.3	70 - 130	30	
1,1,2-Trichloroethane	ND	103	113	9.3	101	94	7.2	70 - 130	30	
1,1-Dichloroethane	ND	105	108	2.8	110	108	1.8	70 - 130	30	
1,1-Dichloroethene	ND	98	101	3.0	113	110	2.7	70 - 130	30	
1,1-Dichloropropene	ND	109	107	1.9	107	109	1.9	70 - 130	30	
1,2,3-Trichlorobenzene	ND	118	110	7.0	61	70	13.7	70 - 130	30	m
1,2,3-Trichloropropane	ND	98	112	13.3	113	98	14.2	70 - 130	30	
1,2,4-Trichlorobenzene	ND	113	106	6.4	65	72	10.2	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	110	109	0.9	101	103	2.0	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	106	111	4.6	104	93	11.2	70 - 130	30	
1,2-Dichlorobenzene	ND	105	107	1.9	93	93	0.0	70 - 130	30	
1,2-Dichloroethane	ND	102	110	7.5	102	96	6.1	70 - 130	30	
1,2-Dichloropropane	ND	105	110	4.7	104	102	1.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	111	111	0.0	106	108	1.9	70 - 130	30	
1,3-Dichlorobenzene	ND	107	107	0.0	93	96	3.2	70 - 130	30	
1,3-Dichloropropane	ND	103	113	9.3	105	98	6.9	70 - 130	30	
1,4-Dichlorobenzene	ND	105	105	0.0	92	94	2.2	70 - 130	30	
2,2-Dichloropropane	ND	108	108	0.0	106	105	0.9	70 - 130	30	
2-Chlorotoluene	ND	108	108	0.0	104	107	2.8	70 - 130	30	
2-Hexanone	ND	90	115	24.4	41	<40	NC	70 - 130	30	m
2-Isopropyltoluene	ND	106	105	0.9	103	106	2.9	70 - 130	30	
4-Chlorotoluene	ND	102	104	1.9	99	103	4.0	70 - 130	30	
4-Methyl-2-pentanone	ND	96	112	15.4	80	70	13.3	70 - 130	30	
Acetone	ND	87	114	26.9	<40	<40	NC	70 - 130	30	m
Acrylonitrile	ND	97	109	11.7	92	79	15.2	70 - 130	30	
Benzene	ND	107	109	1.9	105	105	0.0	70 - 130	30	
Bromobenzene	ND	108	110	1.8	102	103	1.0	70 - 130	30	
Bromochloromethane	ND	104	112	7.4	109	103	5.7	70 - 130	30	
Bromodichloromethane	ND	106	113	6.4	103	98	5.0	70 - 130	30	
Bromoform	ND	106	117	9.9	93	88	5.5	70 - 130	30	
Bromomethane	ND	117	115	1.7	119	97	20.4	70 - 130	30	
Carbon Disulfide	ND	99	103	4.0	77	73	5.3	70 - 130	30	
Carbon tetrachloride	ND	105	113	7.3	105	99	5.9	70 - 130	30	
Chlorobenzene	ND	106	108	1.9	101	100	1.0	70 - 130	30	
Chloroethane	ND	103	107	3.8	115	114	0.9	70 - 130	30	
Chloroform	ND	108	110	1.8	110	107	2.8	70 - 130	30	
Chloromethane	ND	99	93	6.3	105	117	10.8	70 - 130	30	
cis-1,2-Dichloroethene	ND	107	107	0.0	107	107	0.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	105	110	4.7	99	94	5.2	70 - 130	30	

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Dibromochloromethane	ND	105	114	8.2	100	94	6.2	70 - 130	30	
Dibromoethane	ND	104	114	9.2	104	96	8.0	70 - 130	30	
Dibromomethane	ND	106	115	8.1	107	98	8.8	70 - 130	30	
Dichlorodifluoromethane	ND	92	90	2.2	113	113	0.0	70 - 130	30	
Ethylbenzene	ND	109	110	0.9	103	104	1.0	70 - 130	30	
Hexachlorobutadiene	ND	112	100	11.3	82	95	14.7	70 - 130	30	
Isopropylbenzene	ND	109	107	1.9	110	114	3.6	70 - 130	30	
m&p-Xylene	ND	108	109	0.9	100	102	2.0	70 - 130	30	
Methyl ethyl ketone	ND	82	120	37.6	48	41	15.7	70 - 130	30	m,r
Methyl t-butyl ether (MTBE)	ND	94	102	8.2	94	91	3.2	70 - 130	30	
Methylene chloride	ND	98	105	6.9	107	97	9.8	70 - 130	30	
Naphthalene	ND	123	105	15.8	69	87	23.1	70 - 130	30	m
n-Butylbenzene	ND	112	109	2.7	95	101	6.1	70 - 130	30	
n-Propylbenzene	ND	103	103	0.0	107	110	2.8	70 - 130	30	
o-Xylene	ND	107	109	1.9	98	99	1.0	70 - 130	30	
p-Isopropyltoluene	ND	114	113	0.9	102	105	2.9	70 - 130	30	
sec-Butylbenzene	ND	107	105	1.9	107	110	2.8	70 - 130	30	
Styrene	ND	107	109	1.9	96	94	2.1	70 - 130	30	
tert-Butylbenzene	ND	107	106	0.9	108	111	2.7	70 - 130	30	
Tetrachloroethene	ND	107	110	2.8	102	105	2.9	70 - 130	30	
Tetrahydrofuran (THF)	ND	89	103	14.6	101	86	16.0	70 - 130	30	
Toluene	ND	109	111	1.8	101	100	1.0	70 - 130	30	
trans-1,2-Dichloroethene	ND	103	103	0.0	109	111	1.8	70 - 130	30	
trans-1,3-Dichloropropene	ND	106	112	5.5	99	94	5.2	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	105	116	10.0	100	90	10.5	70 - 130	30	
Trichloroethene	ND	108	109	0.9	102	104	1.9	70 - 130	30	
Trichlorofluoromethane	ND	119	121	1.7	115	113	1.8	70 - 130	30	
Trichlorotrifluoroethane	ND	101	106	4.8	114	106	7.3	70 - 130	30	
Vinyl chloride	ND	103	101	2.0	115	117	1.7	70 - 130	30	
% 1,2-dichlorobenzene-d4	101	98	100	2.0	99	98	1.0	70 - 130	30	
% Bromofluorobenzene	98	99	100	1.0	98	97	1.0	70 - 130	30	
% Dibromofluoromethane	100	100	100	0.0	100	101	1.0	70 - 130	30	
% Toluene-d8	101	101	101	0.0	101	100	1.0	70 - 130	30	

QA/QC Batch 197746, QC Sample No: BB60421 (BB59666)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	106	108	1.9	76	95	22.2	70 - 130	30	
1,1,1-Trichloroethane	ND	102	94	8.2	79	97	20.5	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	102	112	9.3	91	103	12.4	70 - 130	30	
1,1,2-Trichloroethane	ND	105	105	0.0	80	89	10.7	70 - 130	30	
1,1-Dichloroethane	ND	107	88	19.5	81	104	24.9	70 - 130	30	
1,1-Dichloroethene	ND	87	89	2.3	94	94	0.0	70 - 130	30	
1,1-Dichloropropene	ND	101	104	2.9	74	98	27.9	70 - 130	30	
1,2,3-Trichlorobenzene	ND	95	103	8.1	<40	<40	NC	70 - 130	30	m
1,2,3-Trichloropropane	ND	99	114	14.1	99	97	2.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	92	94	2.2	<40	<40	NC	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	98	102	4.0	68	85	22.2	70 - 130	30	m
1,2-Dibromo-3-chloropropane	ND	112	124	10.2	85	90	5.7	70 - 130	30	
1,2-Dichlorobenzene	ND	94	95	1.1	44	63	35.5	70 - 130	30	m,r
1,2-Dichloroethane	ND	98	99	1.0	79	83	4.9	70 - 130	30	
1,2-Dichloropropane	ND	101	97	4.0	83	97	15.6	70 - 130	30	
1,3,5-Trimethylbenzene	ND	107	112	4.6	78	97	21.7	70 - 130	30	
1,3-Dichlorobenzene	ND	100	98	2.0	52	70	29.5	70 - 130	30	m

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,3-Dichloropropane	ND	101	103	2.0	81	91	11.6	70 - 130	30	
1,4-Dichlorobenzene	ND	95	95	0.0	49	63	25.0	70 - 130	30	m
2,2-Dichloropropane	ND	101	90	11.5	82	99	18.8	70 - 130	30	
2-Chlorotoluene	ND	97	99	2.0	70	88	22.8	70 - 130	30	
2-Hexanone	ND	83	80	3.7	99	101	2.0	70 - 130	30	
2-Isopropyltoluene	ND	105	105	0.0	67	88	27.1	70 - 130	30	m
4-Chlorotoluene	ND	96	95	1.0	64	81	23.4	70 - 130	30	m
4-Methyl-2-pentanone	ND	98	105	6.9	101	95	6.1	70 - 130	30	
Acetone	ND	77	73	5.3	91	83	9.2	70 - 130	30	
Acrylonitrile	ND	109	91	18.0	85	97	13.2	70 - 130	30	
Benzene	ND	99	98	1.0	115	119	3.4	70 - 130	30	
Bromobenzene	ND	97	98	1.0	65	79	19.4	70 - 130	30	m
Bromochloromethane	ND	109	86	23.6	73	95	26.2	70 - 130	30	
Bromodichloromethane	ND	105	100	4.9	75	87	14.8	70 - 130	30	
Bromoform	ND	94	100	6.2	61	81	28.2	70 - 130	30	m
Bromomethane	ND	90	79	13.0	83	83	0.0	70 - 130	30	
Carbon Disulfide	ND	128	125	2.4	80	83	3.7	70 - 130	30	
Carbon tetrachloride	ND	112	88	24.0	78	93	17.5	70 - 130	30	
Chlorobenzene	ND	101	99	2.0	69	83	18.4	70 - 130	30	m
Chloroethane	ND	94	88	6.6	92	101	9.3	70 - 130	30	
Chloroform	ND	106	90	16.3	77	97	23.0	70 - 130	30	
Chloromethane	ND	88	84	4.7	99	98	1.0	70 - 130	30	
cis-1,2-Dichloroethene	ND	111	87	24.2	75	97	25.6	70 - 130	30	
cis-1,3-Dichloropropene	ND	105	100	4.9	73	81	10.4	70 - 130	30	
Dibromochloromethane	ND	101	104	2.9	71	84	16.8	70 - 130	30	
Dibromoethane	ND	103	102	1.0	67	76	12.6	70 - 130	30	m
Dibromomethane	ND	101	99	2.0	72	76	5.4	70 - 130	30	
Dichlorodifluoromethane	ND	80	72	10.5	93	113	19.4	70 - 130	30	
Ethylbenzene	ND	102	100	2.0	73	91	22.0	70 - 130	30	
Hexachlorobutadiene	ND	91	94	3.2	<40	53	NC	70 - 130	30	m
Isopropylbenzene	ND	101	103	2.0	87	102	15.9	70 - 130	30	
m&p-Xylene	ND	102	100	2.0	76	94	21.2	70 - 130	30	
Methyl ethyl ketone	ND	90	83	8.1	87	105	18.8	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	115	106	8.1	104	108	3.8	70 - 130	30	
Methylene chloride	ND	92	90	2.2	84	87	3.5	70 - 130	30	
Naphthalene	ND	98	112	13.3	NC	NC	NC	70 - 130	30	
n-Butylbenzene	ND	102	103	1.0	56	75	29.0	70 - 130	30	m
n-Propylbenzene	ND	99	100	1.0	83	99	17.6	70 - 130	30	
o-Xylene	ND	105	102	2.9	70	91	26.1	70 - 130	30	
p-Isopropyltoluene	ND	107	108	0.9	68	89	26.8	70 - 130	30	m
sec-Butylbenzene	ND	97	97	0.0	68	88	25.6	70 - 130	30	m
Styrene	ND	90	92	2.2	65	80	20.7	70 - 130	30	m
tert-Butylbenzene	ND	101	101	0.0	77	95	20.9	70 - 130	30	
Tetrachloroethene	ND	93	98	5.2	96	NC	NC	70 - 130	30	
Tetrahydrofuran (THF)	ND	103	91	12.4	84	101	18.4	70 - 130	30	
Toluene	ND	104	106	1.9	93	109	15.8	70 - 130	30	
trans-1,2-Dichloroethene	ND	93	90	3.3	85	86	1.2	70 - 130	30	
trans-1,3-Dichloropropene	ND	109	103	5.7	63	56	11.8	70 - 130	30	m
trans-1,4-dichloro-2-butene	ND	112	120	6.9	82	84	2.4	70 - 130	30	
Trichloroethene	ND	103	100	3.0	83	98	16.6	70 - 130	30	
Trichlorofluoromethane	ND	103	102	1.0	82	88	7.1	70 - 130	30	
Trichlorotrifluoroethane	ND	90	89	1.1	90	95	5.4	70 - 130	30	
Vinyl chloride	ND	91	87	4.5	98	100	2.0	70 - 130	30	

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
% 1,2-dichlorobenzene-d4	95	94	98	4.2	95	96	1.0	70 - 130	30
% Bromofluorobenzene	98	104	100	3.9	88	97	9.7	70 - 130	30
% Dibromofluoromethane	89	109	89	20.2	101	116	13.8	70 - 130	30
% Toluene-d8	96	103	101	2.0	97	101	4.0	70 - 130	30

QA/QC Batch 197648, QC Sample No: BB60813 (BB59659, BB59661, BB59662, BB59664)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	108	113	4.5	99	105	5.9	70 - 130	30	
1,1,1-Trichloroethane	ND	108	101	6.7	90	106	16.3	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	106	114	7.3	97	103	6.0	70 - 130	30	
1,1,2-Trichloroethane	ND	109	108	0.9	90	98	8.5	70 - 130	30	
1,1-Dichloroethane	ND	112	95	16.4	84	108	25.0	70 - 130	30	
1,1-Dichloroethene	ND	103	103	0.0	92	99	7.3	70 - 130	30	
1,1-Dichloropropene	ND	112	106	5.5	95	107	11.9	70 - 130	30	
1,2,3-Trichlorobenzene	ND	96	107	10.8	81	82	1.2	70 - 130	30	
1,2,3-Trichloropropane	ND	99	108	8.7	89	95	6.5	70 - 130	30	
1,2,4-Trichlorobenzene	ND	90	99	9.5	79	83	4.9	70 - 130	30	
1,2,4-Trimethylbenzene	ND	116	105	10.0	93	99	6.3	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	110	117	6.2	88	90	2.2	70 - 130	30	
1,2-Dichlorobenzene	ND	97	100	3.0	86	94	8.9	70 - 130	30	
1,2-Dichloroethane	ND	101	104	2.9	87	94	7.7	70 - 130	30	
1,2-Dichloropropane	ND	106	106	0.0	91	100	9.4	70 - 130	30	
1,3,5-Trimethylbenzene	ND	114	114	0.0	101	109	7.6	70 - 130	30	
1,3-Dichlorobenzene	ND	103	103	0.0	90	99	9.5	70 - 130	30	
1,3-Dichloropropane	ND	104	108	3.8	89	97	8.6	70 - 130	30	
1,4-Dichlorobenzene	ND	99	100	1.0	88	96	8.7	70 - 130	30	
2,2-Dichloropropane	ND	106	97	8.9	84	97	14.4	70 - 130	30	
2-Chlorotoluene	ND	101	101	0.0	91	100	9.4	70 - 130	30	
2-Hexanone	ND	80	90	11.8	48	50	4.1	70 - 130	30	m
2-Isopropyltoluene	ND	108	109	0.9	99	109	9.6	70 - 130	30	
4-Chlorotoluene	ND	98	97	1.0	91	103	12.4	70 - 130	30	
4-Methyl-2-pentanone	ND	97	103	6.0	80	82	2.5	70 - 130	30	
Acetone	ND	80	91	12.9	<40	<40	NC	70 - 130	30	m
Acrylonitrile	ND	111	97	13.5	76	91	18.0	70 - 130	30	
Benzene	ND	106	107	0.9	94	101	7.2	70 - 130	30	
Bromobenzene	ND	100	102	2.0	89	98	9.6	70 - 130	30	
Bromochloromethane	ND	112	91	20.7	80	105	27.0	70 - 130	30	
Bromodichloromethane	ND	107	106	0.9	91	100	9.4	70 - 130	30	
Bromoform	ND	85	84	1.2	81	85	4.8	70 - 130	30	
Bromomethane	ND	109	96	12.7	86	99	14.1	70 - 130	30	
Carbon Disulfide	ND	>150	>150	NC	93	97	4.2	70 - 130	30	l
Carbon tetrachloride	ND	105	98	6.9	85	106	22.0	70 - 130	30	
Chlorobenzene	ND	104	103	1.0	93	102	9.2	70 - 130	30	
Chloroethane	ND	109	101	7.6	90	103	13.5	70 - 130	30	
Chloroform	ND	107	99	7.8	85	102	18.2	70 - 130	30	
Chloromethane	ND	111	109	1.8	88	91	3.4	70 - 130	30	
cis-1,2-Dichloroethene	ND	117	95	20.8	83	110	28.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	108	108	0.0	92	97	5.3	70 - 130	30	
Dibromochloromethane	ND	105	110	4.7	92	99	7.3	70 - 130	30	
Dibromoethane	ND	104	107	2.8	87	96	9.8	70 - 130	30	
Dibromomethane	ND	103	104	1.0	88	94	6.6	70 - 130	30	
Dichlorodifluoromethane	ND	118	104	12.6	78	93	17.5	70 - 130	30	
Ethylbenzene	ND	112	104	7.4	94	105	11.1	70 - 130	30	

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Hexachlorobutadiene	ND	93	94	1.1	87	88	1.1	70 - 130	30
Isopropylbenzene	ND	105	105	0.0	96	106	9.9	70 - 130	30
m&p-Xylene	ND	119	105	12.5	94	104	10.1	70 - 130	30
Methyl ethyl ketone	ND	92	94	2.2	44	45	2.2	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	108	110	1.8	89	96	7.6	70 - 130	30
Methylene chloride	ND	100	99	1.0	83	93	11.4	70 - 130	30
Naphthalene	ND	100	113	12.2	83	81	2.4	70 - 130	30
n-Butylbenzene	ND	105	104	1.0	92	103	11.3	70 - 130	30
n-Propylbenzene	ND	106	102	3.8	97	112	14.4	70 - 130	30
o-Xylene	ND	110	107	2.8	92	103	11.3	70 - 130	30
p-Isopropyltoluene	ND	111	110	0.9	96	106	9.9	70 - 130	30
sec-Butylbenzene	ND	101	101	0.0	94	104	10.1	70 - 130	30
Styrene	ND	89	84	5.8	82	92	11.5	70 - 130	30
tert-Butylbenzene	ND	104	104	0.0	96	106	9.9	70 - 130	30
Tetrachloroethene	ND	100	101	1.0	94	99	5.2	70 - 130	30
Tetrahydrofuran (THF)	ND	101	88	13.8	70	91	26.1	70 - 130	30
Toluene	ND	116	107	8.1	93	105	12.1	70 - 130	30
trans-1,2-Dichloroethene	ND	102	102	0.0	94	101	7.2	70 - 130	30
trans-1,3-Dichloropropene	ND	112	111	0.9	89	98	9.6	70 - 130	30
trans-1,4-dichloro-2-butene	ND	114	119	4.3	88	95	7.7	70 - 130	30
Trichloroethene	ND	106	107	0.9	94	102	8.2	70 - 130	30
Trichlorofluoromethane	ND	121	117	3.4	90	94	4.3	70 - 130	30
Trichlorotrifluoroethane	ND	102	98	4.0	92	99	7.3	70 - 130	30
Vinyl chloride	ND	113	107	5.5	87	97	10.9	70 - 130	30
% 1,2-dichlorobenzene-d4	96	94	98	4.2	96	95	1.0	70 - 130	30
% Bromofluorobenzene	101	103	99	4.0	96	100	4.1	70 - 130	30
% Dibromofluoromethane	91	109	91	18.0	93	107	14.0	70 - 130	30
% Toluene-d8	95	102	100	2.0	98	101	3.0	70 - 130	30

QA/QC Batch 197740, QC Sample No: BB60872 (BB59663, BB59667)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	110	104	5.6	100	104	3.9	70 - 130	30
1,1,1-Trichloroethane	ND	109	106	2.8	112	119	6.1	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	105	91	14.3	106	97	8.9	70 - 130	30
1,1,2-Trichloroethane	ND	112	103	8.4	102	99	3.0	70 - 130	30
1,1-Dichloroethane	ND	109	105	3.7	112	114	1.8	70 - 130	30
1,1-Dichloroethene	ND	102	99	3.0	115	116	0.9	70 - 130	30
1,1-Dichloropropene	ND	106	103	2.9	109	117	7.1	70 - 130	30
1,2,3-Trichlorobenzene	ND	94	96	2.1	68	71	4.3	70 - 130	30
1,2,3-Trichloropropane	ND	111	99	11.4	113	99	13.2	70 - 130	30
1,2,4-Trichlorobenzene	ND	84	81	3.6	69	68	1.5	70 - 130	30
1,2,4-Trimethylbenzene	ND	103	98	5.0	48	51	6.1	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	112	102	9.3	111	101	9.4	70 - 130	30
1,2-Dichlorobenzene	ND	98	94	4.2	90	91	1.1	70 - 130	30
1,2-Dichloroethane	ND	108	101	6.7	104	100	3.9	70 - 130	30
1,2-Dichloropropane	ND	111	105	5.6	103	106	2.9	70 - 130	30
1,3,5-Trimethylbenzene	ND	105	100	4.9	91	96	5.3	70 - 130	30
1,3-Dichlorobenzene	ND	94	91	3.2	78	80	2.5	70 - 130	30
1,3-Dichloropropane	ND	110	103	6.6	103	100	3.0	70 - 130	30
1,4-Dichlorobenzene	ND	92	88	4.4	56	57	1.8	70 - 130	30
2,2-Dichloropropane	ND	99	97	2.0	101	105	3.9	70 - 130	30
2-Chlorotoluene	ND	100	96	4.1	100	104	3.9	70 - 130	30
2-Hexanone	ND	69	72	4.3	45	<40	NC	70 - 130	30

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2-Isopropyltoluene	ND	100	99	1.0	101	106	4.8	70 - 130	30	
4-Chlorotoluene	ND	94	90	4.3	96	99	3.1	70 - 130	30	
4-Methyl-2-pentanone	ND	99	90	9.5	88	75	16.0	70 - 130	30	
Acetone	ND	70	79	12.1	<40	<40	NC	70 - 130	30	m
Acrylonitrile	ND	109	99	9.6	83	72	14.2	70 - 130	30	
Benzene	ND	107	105	1.9	105	109	3.7	70 - 130	30	
Bromobenzene	ND	104	100	3.9	98	100	2.0	70 - 130	30	
Bromochloromethane	ND	110	104	5.6	110	105	4.7	70 - 130	30	
Bromodichloromethane	ND	112	105	6.5	102	102	0.0	70 - 130	30	
Bromoform	ND	111	100	10.4	98	92	6.3	70 - 130	30	
Bromomethane	ND	116	99	15.8	122	109	11.3	70 - 130	30	
Carbon Disulfide	ND	103	98	5.0	76	75	1.3	70 - 130	30	
Carbon tetrachloride	ND	112	98	13.3	109	108	0.9	70 - 130	30	
Chlorobenzene	ND	102	99	3.0	52	55	5.6	70 - 130	30	m
Chloroethane	ND	108	105	2.8	116	118	1.7	70 - 130	30	
Chloroform	ND	111	107	3.7	109	112	2.7	70 - 130	30	
Chloromethane	ND	95	102	7.1	110	126	13.6	70 - 130	30	
cis-1,2-Dichloroethene	ND	107	106	0.9	106	110	3.7	70 - 130	30	
cis-1,3-Dichloropropene	ND	105	99	5.9	96	94	2.1	70 - 130	30	
Dibromochloromethane	ND	110	101	8.5	98	98	0.0	70 - 130	30	
Dibromoethane	ND	112	103	8.4	105	100	4.9	70 - 130	30	
Dibromomethane	ND	115	105	9.1	107	102	4.8	70 - 130	30	
Dichlorodifluoromethane	ND	93	89	4.4	121	129	6.4	70 - 130	30	
Ethylbenzene	ND	105	101	3.9	86	92	6.7	70 - 130	30	
Hexachlorobutadiene	ND	89	96	7.6	88	97	9.7	70 - 130	30	
Isopropylbenzene	ND	105	101	3.9	109	115	5.4	70 - 130	30	
m&p-Xylene	ND	102	99	3.0	74	78	5.3	70 - 130	30	
Methyl ethyl ketone	ND	69	76	9.7	50	42	17.4	70 - 130	30	l,m
Methyl t-butyl ether (MTBE)	ND	101	103	2.0	96	92	4.3	70 - 130	30	
Methylene chloride	ND	106	100	5.8	104	99	4.9	70 - 130	30	
Naphthalene	ND	101	114	12.1	<40	<40	NC	70 - 130	30	m
n-Butylbenzene	ND	96	92	4.3	88	90	2.2	70 - 130	30	
n-Propylbenzene	ND	96	93	3.2	102	107	4.8	70 - 130	30	
o-Xylene	ND	104	101	2.9	85	90	5.7	70 - 130	30	
p-Isopropyltoluene	ND	104	100	3.9	96	101	5.1	70 - 130	30	
sec-Butylbenzene	ND	100	98	2.0	106	113	6.4	70 - 130	30	
Styrene	ND	105	99	5.9	92	91	1.1	70 - 130	30	
tert-Butylbenzene	ND	103	102	1.0	108	115	6.3	70 - 130	30	
Tetrachloroethene	ND	101	96	5.1	103	108	4.7	70 - 130	30	
Tetrahydrofuran (THF)	ND	105	90	15.4	108	88	20.4	70 - 130	30	
Toluene	ND	107	105	1.9	105	108	2.8	70 - 130	30	
trans-1,2-Dichloroethene	ND	104	104	0.0	107	113	5.5	70 - 130	30	
trans-1,3-Dichloropropene	ND	105	98	6.9	94	91	3.2	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	98	88	10.8	90	80	11.8	70 - 130	30	
Trichloroethene	ND	111	108	2.7	104	109	4.7	70 - 130	30	
Trichlorofluoromethane	ND	124	119	4.1	118	120	1.7	70 - 130	30	
Trichlorotrifluoroethane	ND	105	96	9.0	117	116	0.9	70 - 130	30	
Vinyl chloride	ND	102	103	1.0	119	127	6.5	70 - 130	30	
% 1,2-dichlorobenzene-d4	99	98	98	0.0	102	98	4.0	70 - 130	30	
% Bromofluorobenzene	96	99	99	0.0	98	98	0.0	70 - 130	30	
% Dibromofluoromethane	92	99	99	0.0	103	102	1.0	70 - 130	30	
% Toluene-d8	101	101	101	0.0	101	100	1.0	70 - 130	30	

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

l = This parameter is outside laboratory lcs/lcsd specified recovery limits.

m = This parameter is outside laboratory ms/msd specified recovery limits.

r = This parameter is outside laboratory rpd specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

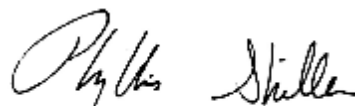
LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria



Phyllis Shiller, Laboratory Director
April 10, 2012

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59659	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	200	10	ug/Kg
BB59659	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1900	10	ug/Kg
BB59659	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	400	5	ug/Kg
BB59659	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	6000	5	ug/Kg
BB59659	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7000	200	10	ug/Kg
BB59659	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	2700	5	ug/Kg
BB59659	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	100	5	ug/Kg
BB59659	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	200	5	ug/Kg
BB59659	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7000	300	10	ug/Kg
BB59659	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	800	5	ug/Kg
BB59659	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	600	5	ug/Kg
BB59659	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	60	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	100	5	ug/Kg
BB59659	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	700	5	ug/Kg
BB59659	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7000	1000	10	ug/Kg
BB59659	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	4100	1400	1500	5	ug/Kg
BB59659	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1400	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59659	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400		5	ug/Kg
BB59659	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1700	5	ug/Kg
BB59659	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	9200	1400	5500	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	600	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	400	5	ug/Kg
BB59659	EMCI	\$8260SMR	Naphthalene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	5200	1400	3400	330	ug/Kg
BB59659	EMCI	\$8260SMR	Total Xylenes	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	42000	1400	1200		ug/Kg
BB59659	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	30	330	ug/Kg
BB59659	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	370	100	330	ug/Kg
BB59659	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	100	330	ug/Kg
BB59659	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	200	330	ug/Kg
BB59659	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	220	330	ug/Kg
BB59659	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	240	330	ug/Kg
BB59659	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	100	330	ug/Kg
BB59659	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	600	500	1600	ug/Kg
BB59659	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	600	200	1600	ug/Kg
BB59659	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	1600	ug/Kg
BB59659	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	600	430	1600	ug/Kg
BB59659	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	61	330	ug/Kg
BB59659	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	224	330	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59659	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	14	330	ug/Kg
BB59660	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59660	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	6000	5	ug/Kg
BB59660	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	200	10	ug/Kg
BB59660	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	2700	5	ug/Kg
BB59660	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59660	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	200	5	ug/Kg
BB59660	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	300	10	ug/Kg
BB59660	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	800	5	ug/Kg
BB59660	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59660	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	60	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59660	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	700	5	ug/Kg
BB59660	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	1000	10	ug/Kg
BB59660	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1400	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59660	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1700	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59660	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59660	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	340	100	330	ug/Kg
BB59660	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59660	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59660	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59660	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59660	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	540	500	1600	ug/Kg
BB59660	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	540	200	1600	ug/Kg
BB59660	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	980	100	1600	ug/Kg
BB59660	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	540	430	1600	ug/Kg
BB59660	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59660	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	224	330	ug/Kg
BB59660	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg
BB59661	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59661	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	6000	5	ug/Kg
BB59661	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	200	10	ug/Kg
BB59661	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	2700	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59661	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59661	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	200	5	ug/Kg
BB59661	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	300	10	ug/Kg
BB59661	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	800	5	ug/Kg
BB59661	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59661	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	60	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59661	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	700	5	ug/Kg
BB59661	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	1000	10	ug/Kg
BB59661	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1500	5	ug/Kg
BB59661	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1400	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59661	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2		5	ug/Kg
BB59661	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1700	5	ug/Kg
BB59661	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	5500	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59661	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59661	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	340	100	330	ug/Kg
BB59661	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59661	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59661	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59661	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59661	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	500	1600	ug/Kg
BB59661	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	200	1600	ug/Kg
BB59661	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	1600	ug/Kg
BB59661	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	430	1600	ug/Kg
BB59661	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59661	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	224	330	ug/Kg
BB59661	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg
BB59662	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	200	10	ug/Kg
BB59662	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1900	10	ug/Kg
BB59662	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	400	5	ug/Kg
BB59662	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	6000	5	ug/Kg
BB59662	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	200	10	ug/Kg
BB59662	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	2700	5	ug/Kg
BB59662	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	100	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59662	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	200	5	ug/Kg
BB59662	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	300	10	ug/Kg
BB59662	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	800	5	ug/Kg
BB59662	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	600	5	ug/Kg
BB59662	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	60	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	100	5	ug/Kg
BB59662	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	700	5	ug/Kg
BB59662	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	1000	10	ug/Kg
BB59662	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1500	5	ug/Kg
BB59662	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1400	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg
BB59662	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130		5	ug/Kg
BB59662	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1700	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	600	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	400	5	ug/Kg
BB59662	EMCI	\$8260SMR	Total Xylenes	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	1280	130	1200		ug/Kg
BB59662	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59662	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	990	100	330	ug/Kg
BB59662	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59662	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59662	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59662	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59662	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	500	1600	ug/Kg
BB59662	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	200	1600	ug/Kg
BB59662	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	990	100	1600	ug/Kg
BB59662	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	430	1600	ug/Kg
BB59662	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59662	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	480	240	224	330	ug/Kg
BB59662	EMCI	\$8270-SMR	Chrysene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	590	240	400	330	ug/Kg
BB59662	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg
BB59663	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59663	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	6000	5	ug/Kg
BB59663	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	200	10	ug/Kg
BB59663	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	2700	5	ug/Kg
BB59663	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59663	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	200	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59663	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	300	10	ug/Kg
BB59663	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	800	5	ug/Kg
BB59663	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59663	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	60	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59663	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	700	5	ug/Kg
BB59663	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	1000	10	ug/Kg
BB59663	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1400	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59663	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2		5	ug/Kg
BB59663	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1700	5	ug/Kg
BB59663	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	5500	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59663	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59663	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	340	100	330	ug/Kg
BB59663	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59663	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59663	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59663	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59663	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	500	1600	ug/Kg
BB59663	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	200	1600	ug/Kg
BB59663	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	990	100	1600	ug/Kg
BB59663	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	430	1600	ug/Kg
BB59663	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59663	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	224	330	ug/Kg
BB59663	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg
BB59664	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	400	5	ug/Kg
BB59664	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	6000	5	ug/Kg
BB59664	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	200	10	ug/Kg
BB59664	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	2700	5	ug/Kg
BB59664	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	100	5	ug/Kg
BB59664	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	200	5	ug/Kg
BB59664	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	300	10	ug/Kg
BB59664	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	800	5	ug/Kg
BB59664	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	600	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59664	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	60	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	100	5	ug/Kg
BB59664	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	700	5	ug/Kg
BB59664	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	1000	10	ug/Kg
BB59664	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	1500	5	ug/Kg
BB59664	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	1400	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59664	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3		5	ug/Kg
BB59664	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	1700	5	ug/Kg
BB59664	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	5500	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	600	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	400	5	ug/Kg
BB59664	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	30	330	ug/Kg
BB59664	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	350	100	330	ug/Kg
BB59664	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB59664	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	200	330	ug/Kg
BB59664	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	220	330	ug/Kg
BB59664	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	240	330	ug/Kg
BB59664	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB59664	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	500	1600	ug/Kg
BB59664	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	200	1600	ug/Kg
BB59664	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	1600	ug/Kg
BB59664	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	430	1600	ug/Kg
BB59664	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	61	330	ug/Kg
BB59664	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	224	330	ug/Kg
BB59664	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	14	330	ug/Kg
BB59665	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	200	10	ug/Kg
BB59665	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1900	10	ug/Kg
BB59665	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	400	5	ug/Kg
BB59665	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	6000	5	ug/Kg
BB59665	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	6900	200	10	ug/Kg
BB59665	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	2700	5	ug/Kg
BB59665	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	100	5	ug/Kg
BB59665	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	200	5	ug/Kg
BB59665	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	6900	300	10	ug/Kg
BB59665	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	800	5	ug/Kg
BB59665	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	600	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59665	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	60	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	100	5	ug/Kg
BB59665	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	700	5	ug/Kg
BB59665	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	6900	1000	10	ug/Kg
BB59665	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	6200	1400	1500	5	ug/Kg
BB59665	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1400	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59665	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400		5	ug/Kg
BB59665	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1700	5	ug/Kg
BB59665	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	13000	1400	5500	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	600	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	400	5	ug/Kg
BB59665	EMCI	\$8260SMR	Naphthalene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	15000	1400	3400	330	ug/Kg
BB59665	EMCI	\$8260SMR	Total Xylenes	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	74000	1400	1200		ug/Kg
BB59665	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	30	330	ug/Kg
BB59665	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	360	100	330	ug/Kg
BB59665	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB59665	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	200	330	ug/Kg
BB59665	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	220	330	ug/Kg
BB59665	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	240	330	ug/Kg
BB59665	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB59665	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	500	1600	ug/Kg
BB59665	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	200	1600	ug/Kg
BB59665	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	1600	ug/Kg
BB59665	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	430	1600	ug/Kg
BB59665	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	61	330	ug/Kg
BB59665	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	224	330	ug/Kg
BB59665	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	14	330	ug/Kg
BB59666	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	200	10	ug/Kg
BB59666	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1900	10	ug/Kg
BB59666	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	400	5	ug/Kg
BB59666	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	6000	5	ug/Kg
BB59666	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	200	10	ug/Kg
BB59666	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	2700	5	ug/Kg
BB59666	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	100	5	ug/Kg
BB59666	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg
BB59666	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	200	5	ug/Kg
BB59666	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	300	10	ug/Kg
BB59666	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59666	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	800	5	ug/Kg
BB59666	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	600	5	ug/Kg
BB59666	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	60	5	ug/Kg
BB59666	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	100	5	ug/Kg
BB59666	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	700	5	ug/Kg
BB59666	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	1000	10	ug/Kg
BB59666	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1500	5	ug/Kg
BB59666	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1400	5	ug/Kg
BB59666	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg
BB59666	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130		5	ug/Kg
BB59666	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1700	5	ug/Kg
BB59666	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	600	5	ug/Kg
BB59666	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	400	5	ug/Kg
BB59666	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59666	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	330	ug/Kg
BB59666	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59666	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59666	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59666	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59666	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	500	1600	ug/Kg
BB59666	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	200	1600	ug/Kg
BB59666	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	1600	ug/Kg
BB59666	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	430	1600	ug/Kg
BB59666	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59666	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	224	330	ug/Kg
BB59666	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg
BB59667	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	400	5	ug/Kg
BB59667	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	6000	5	ug/Kg
BB59667	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	200	10	ug/Kg
BB59667	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	11	2700	5	ug/Kg
BB59667	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	100	5	ug/Kg
BB59667	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	200	5	ug/Kg
BB59667	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	300	10	ug/Kg
BB59667	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	800	5	ug/Kg
BB59667	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	600	5	ug/Kg
BB59667	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	60	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	100	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59667	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	700	5	ug/Kg
BB59667	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	1000	10	ug/Kg
BB59667	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	1400	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59667	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3		5	ug/Kg
BB59667	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	1700	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	600	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	400	5	ug/Kg
BB59667	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59667	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	350	100	330	ug/Kg
BB59667	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59667	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59667	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59667	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59667	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	500	1600	ug/Kg
BB59667	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	200	1600	ug/Kg
BB59667	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	1600	ug/Kg
BB59667	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	430	1600	ug/Kg
BB59667	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59667	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	224	330	ug/Kg
BB59667	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Monday, April 16, 2012

Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK
Sample ID#s: BB59665 - BB59667

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 16, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/27/12 12:40
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59665

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBH-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	90		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			03/29/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1,1-Trichloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1,2-Trichloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1-Dichloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1-Dichloroethene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,1-Dichloropropene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2,3-Trichlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	1
1,2,3-Trichloropropane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2,4-Trichlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2,4-Trimethylbenzene	56000	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2-Dichlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2-Dichloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,2-Dichloropropane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,3,5-Trimethylbenzene	22000	1400	ug/Kg	04/03/12		H/J	SW8260	
1,3-Dichlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,3-Dichloropropane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
1,4-Dichlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
2,2-Dichloropropane	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
2-Chlorotoluene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	
2-Hexanone	ND	6900	ug/Kg	04/03/12		H/J	SW8260	
2-Isopropyltoluene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	1
4-Chlorotoluene	ND	1400	ug/Kg	04/03/12		H/J	SW8260	

Client ID: SBH-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	6900	ug/Kg	04/03/12		H/J	SW8260
Acetone	ND	6900	ug/Kg	04/03/12		H/J	SW8260
Acrylonitrile	ND	2800	ug/Kg	04/03/12		H/J	SW8260
Benzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Bromobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Bromochloromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Bromodichloromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Bromoform	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Bromomethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Carbon Disulfide	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Carbon tetrachloride	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Chlorobenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Chloroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Chloroform	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Chloromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Dibromochloromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Dibromoethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Dibromomethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Dichlorodifluoromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Ethylbenzene	13000	1400	ug/Kg	04/03/12		H/J	SW8260
Hexachlorobutadiene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Isopropylbenzene	3000	1400	ug/Kg	04/03/12		H/J	SW8260
m&p-Xylene	48000	1400	ug/Kg	04/03/12		H/J	SW8260
Methyl Ethyl Ketone	ND	6900	ug/Kg	04/03/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	2800	ug/Kg	04/03/12		H/J	SW8260
Methylene chloride	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Naphthalene	15000	1400	ug/Kg	04/03/12		H/J	SW8260
n-Butylbenzene	3500	1400	ug/Kg	04/03/12		H/J	SW8260
n-Propylbenzene	11000	1400	ug/Kg	04/03/12		H/J	SW8260
o-Xylene	26000	1400	ug/Kg	04/03/12		H/J	SW8260
p-Isopropyltoluene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
sec-Butylbenzene	1600	1400	ug/Kg	04/03/12		H/J	SW8260
Styrene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
tert-Butylbenzene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Tetrachloroethene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	2800	ug/Kg	04/03/12		H/J	SW8260
Toluene	6200	1400	ug/Kg	04/03/12		H/J	SW8260
Total Xylenes	74000	1400	ug/Kg	04/03/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	2800	ug/Kg	04/03/12		H/J	SW8260
Trichloroethene	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Trichlorofluoromethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Trichlorotrifluoroethane	ND	1400	ug/Kg	04/03/12		H/J	SW8260
Vinyl chloride	ND	1400	ug/Kg	04/03/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	98		%	04/03/12		H/J	70 - 130 %
% Bromofluorobenzene	99		%	04/03/12		H/J	70 - 130 %

Client ID: SBH-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	105		%	04/03/12		H/J	70 - 130 %
% Toluene-d8	95		%	04/03/12		H/J	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,2,4-Trichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,2-Dichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,3-Dichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
1,4-Dichlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4,5-Trichlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4,6-Trichlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4-Dichlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4-Dimethylphenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrophenol	ND	580	ug/Kg	03/30/12		DD	SW 8270
2,4-Dinitrotoluene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2,6-Dinitrotoluene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Chloronaphthalene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Chlorophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Methylnaphthalene	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Methylphenol (o-cresol)	ND	250	ug/Kg	03/30/12		DD	SW 8270
2-Nitroaniline	ND	580	ug/Kg	03/30/12		DD	SW 8270
2-Nitrophenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	360	ug/Kg	03/30/12		DD	SW 8270
3,3'-Dichlorobenzidine	ND	250	ug/Kg	03/30/12		DD	SW 8270
3-Nitroaniline	ND	580	ug/Kg	03/30/12		DD	SW 8270
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	03/30/12		DD	SW 8270
4-Bromophenyl phenyl ether	ND	360	ug/Kg	03/30/12		DD	SW 8270
4-Chloro-3-methylphenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
4-Chloroaniline	ND	250	ug/Kg	03/30/12		DD	SW 8270
4-Chlorophenyl phenyl ether	ND	250	ug/Kg	03/30/12		DD	SW 8270
4-Nitroaniline	ND	580	ug/Kg	03/30/12		DD	SW 8270
4-Nitrophenol	ND	1100	ug/Kg	03/30/12		DD	SW 8270
Acenaphthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Acenaphthylene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Acetophenone	ND	250	ug/Kg	03/30/12		DD	SW 8270
Aniline	ND	360	ug/Kg	03/30/12		DD	SW 8270
Anthracene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Azobenzene	ND	360	ug/Kg	03/30/12		DD	SW 8270
Benz(a)anthracene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzidine	ND	440	ug/Kg	03/30/12		DD	SW 8270
Benzo(a)pyrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzo(b)fluoranthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzo(ghi)perylene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzo(k)fluoranthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Benzoic acid	ND	1100	ug/Kg	03/30/12		DD	SW 8270
Benzyl butyl phthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethoxy)methane	ND	250	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroethyl)ether	ND	360	ug/Kg	03/30/12		DD	SW 8270
Bis(2-chloroisopropyl)ether	ND	250	ug/Kg	03/30/12		DD	SW 8270
Bis(2-ethylhexyl)phthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Carbazole	ND	540	ug/Kg	03/30/12		DD	SW 8270

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Dibenzofuran	ND	250	ug/Kg	03/30/12		DD	SW 8270
Diethyl phthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Dimethylphthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Di-n-butylphthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Di-n-octylphthalate	ND	250	ug/Kg	03/30/12		DD	SW 8270
Fluoranthene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Fluorene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachlorobutadiene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Hexachloroethane	ND	250	ug/Kg	03/30/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Isophorone	ND	250	ug/Kg	03/30/12		DD	SW 8270
Naphthalene	12000	250	ug/Kg	03/30/12		DD	SW 8270
Nitrobenzene	ND	250	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodimethylamine	ND	360	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	250	ug/Kg	03/30/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	360	ug/Kg	03/30/12		DD	SW 8270
Pentachloronitrobenzene	ND	360	ug/Kg	03/30/12		DD	SW 8270
Pentachlorophenol	ND	360	ug/Kg	03/30/12		DD	SW 8270
Phenanthrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Phenol	ND	250	ug/Kg	03/30/12		DD	SW 8270
Pyrene	ND	250	ug/Kg	03/30/12		DD	SW 8270
Pyridine	ND	360	ug/Kg	03/30/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	87		%	03/30/12		DD	15 - 130 %
% 2-Fluorobiphenyl	77		%	03/30/12		DD	15 - 130 %
% 2-Fluorophenol	87		%	03/30/12		DD	15 - 130 %
% Nitrobenzene-d5	93		%	03/30/12		DD	15 - 130 %
% Phenol-d5	80		%	03/30/12		DD	15 - 130 %
% Terphenyl-d14	96		%	03/30/12		DD	15 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

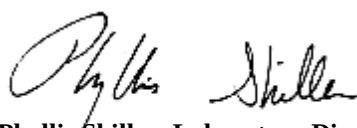
Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 16, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 16, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/27/12 12:55
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59666

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBC-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	94		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			04/02/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1,1-Trichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1,2-Trichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloropropene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2,3-Trichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	1
1,2,3-Trichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trimethylbenzene	1400	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,3,5-Trimethylbenzene	470	130	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
1,4-Dichlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
2,2-Dichloropropane	ND	130	ug/Kg	04/04/12		H/J	SW8260	
2-Chlorotoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260	
2-Hexanone	ND	660	ug/Kg	04/04/12		H/J	SW8260	
2-Isopropyltoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260	1
4-Chlorotoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260	

Client ID: SBC-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	660	ug/Kg	04/04/12		H/J	SW8260
Acetone	ND	660	ug/Kg	04/04/12		H/J	SW8260
Acrylonitrile	ND	270	ug/Kg	04/04/12		H/J	SW8260
Benzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromochloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromodichloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromoform	ND	130	ug/Kg	04/04/12		H/J	SW8260
Bromomethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Carbon Disulfide	ND	130	ug/Kg	04/04/12		H/J	SW8260
Carbon tetrachloride	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chlorobenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chloroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chloroform	ND	130	ug/Kg	04/04/12		H/J	SW8260
Chloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dibromochloromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dibromoethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dibromomethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Dichlorodifluoromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Ethylbenzene	140	130	ug/Kg	04/04/12		H/J	SW8260
Hexachlorobutadiene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Isopropylbenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
m&p-Xylene	620	130	ug/Kg	04/04/12		H/J	SW8260
Methyl Ethyl Ketone	ND	660	ug/Kg	04/04/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	270	ug/Kg	04/04/12		H/J	SW8260
Methylene chloride	ND	130	ug/Kg	04/04/12		H/J	SW8260
Naphthalene	820	130	ug/Kg	04/04/12		H/J	SW8260
n-Butylbenzene	150	130	ug/Kg	04/04/12		H/J	SW8260
n-Propylbenzene	170	130	ug/Kg	04/04/12		H/J	SW8260
o-Xylene	290	130	ug/Kg	04/04/12		H/J	SW8260
p-Isopropyltoluene	ND	130	ug/Kg	04/04/12		H/J	SW8260
sec-Butylbenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Styrene	ND	130	ug/Kg	04/04/12		H/J	SW8260
tert-Butylbenzene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Tetrachloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	270	ug/Kg	04/04/12		H/J	SW8260
Toluene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Total Xylenes	910	130	ug/Kg	04/04/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	130	ug/Kg	04/04/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	270	ug/Kg	04/04/12		H/J	SW8260
Trichloroethene	ND	130	ug/Kg	04/04/12		H/J	SW8260
Trichlorofluoromethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Trichlorotrifluoroethane	ND	130	ug/Kg	04/04/12		H/J	SW8260
Vinyl chloride	ND	130	ug/Kg	04/04/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	93		%	04/04/12		H/J	70 - 130 %
% Bromofluorobenzene	100		%	04/04/12		H/J	70 - 130 %

Client ID: SBC-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
% Dibromofluoromethane	102		%	04/04/12		H/J	70 - 130 %
% Toluene-d8	100		%	04/04/12		H/J	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
1,2,4-Trichlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
1,2-Dichlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
1,3-Dichlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
1,4-Dichlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,4,5-Trichlorophenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,4,6-Trichlorophenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,4-Dichlorophenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,4-Dimethylphenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,4-Dinitrophenol	ND	560	ug/Kg	04/03/12		KCA	SW 8270
2,4-Dinitrotoluene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2,6-Dinitrotoluene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2-Chloronaphthalene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2-Chlorophenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2-Methylnaphthalene	420	240	ug/Kg	04/03/12		KCA	SW 8270
2-Methylphenol (o-cresol)	ND	240	ug/Kg	04/03/12		KCA	SW 8270
2-Nitroaniline	ND	560	ug/Kg	04/03/12		KCA	SW 8270
2-Nitrophenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	350	ug/Kg	04/03/12		KCA	SW 8270
3,3'-Dichlorobenzidine	ND	240	ug/Kg	04/03/12		KCA	SW 8270
3-Nitroaniline	ND	560	ug/Kg	04/03/12		KCA	SW 8270
4,6-Dinitro-2-methylphenol	ND	1000	ug/Kg	04/03/12		KCA	SW 8270
4-Bromophenyl phenyl ether	ND	350	ug/Kg	04/03/12		KCA	SW 8270
4-Chloro-3-methylphenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
4-Chloroaniline	ND	240	ug/Kg	04/03/12		KCA	SW 8270
4-Chlorophenyl phenyl ether	ND	240	ug/Kg	04/03/12		KCA	SW 8270
4-Nitroaniline	ND	560	ug/Kg	04/03/12		KCA	SW 8270
4-Nitrophenol	ND	1000	ug/Kg	04/03/12		KCA	SW 8270
Acenaphthene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Acenaphthylene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Acetophenone	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Aniline	ND	1000	ug/Kg	04/03/12		KCA	SW 8270
Anthracene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Azobenzene	ND	350	ug/Kg	04/03/12		KCA	SW 8270
Benz(a)anthracene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Benzidine	ND	420	ug/Kg	04/03/12		KCA	SW 8270
Benzo(a)pyrene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Benzo(b)fluoranthene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Benzo(ghi)perylene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Benzo(k)fluoranthene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Benzoic acid	ND	1000	ug/Kg	04/03/12		KCA	SW 8270
Benzyl butyl phthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Bis(2-chloroethoxy)methane	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Bis(2-chloroethyl)ether	ND	350	ug/Kg	04/03/12		KCA	SW 8270
Bis(2-chloroisopropyl)ether	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Bis(2-ethylhexyl)phthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Carbazole	ND	520	ug/Kg	04/03/12		KCA	SW 8270

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Dibenz(a,h)anthracene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Dibenzofuran	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Diethyl phthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Dimethylphthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Di-n-butylphthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Di-n-octylphthalate	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Fluoranthene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Fluorene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Hexachlorobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Hexachlorobutadiene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Hexachlorocyclopentadiene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Hexachloroethane	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Isophorone	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Naphthalene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Nitrobenzene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
N-Nitrosodimethylamine	ND	350	ug/Kg	04/03/12		KCA	SW 8270
N-Nitrosodi-n-propylamine	ND	240	ug/Kg	04/03/12		KCA	SW 8270
N-Nitrosodiphenylamine	ND	350	ug/Kg	04/03/12		KCA	SW 8270
Pentachloronitrobenzene	ND	350	ug/Kg	04/03/12		KCA	SW 8270
Pentachlorophenol	ND	350	ug/Kg	04/03/12		KCA	SW 8270
Phenanthrene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Phenol	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Pyrene	ND	240	ug/Kg	04/03/12		KCA	SW 8270
Pyridine	ND	350	ug/Kg	04/03/12		KCA	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	<5		%	04/03/12		KCA	15 - 130 %
% 2-Fluorobiphenyl	71		%	04/03/12		KCA	15 - 130 %
% 2-Fluorophenol	22		%	04/03/12		KCA	15 - 130 %
% Nitrobenzene-d5	74		%	04/03/12		KCA	15 - 130 %
% Phenol-d5	60		%	04/03/12		KCA	15 - 130 %
% Terphenyl-d14	120		%	04/03/12		KCA	15 - 130 %

3

Client ID: SBC-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

3 = This parameter exceeds laboratory specified limits.

Comments:

* The surrogate failed method criteria due to sample matrix interference for the semivolatile analysis. The other surrogates associated with this sample were within QA/QC criteria. No further action was necessary.

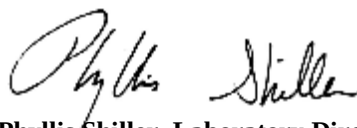
*For semivolatiles, poor surrogate recovery was observed. Sample was re-extracted with similar results. The other surrogates associated with this sample were within QA/QC criteria. No further action was necessary.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 16, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 16, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: SOIL
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by: JM
Received by: LB
Analyzed by: see "By" below

Date Time
03/27/12 12:45
03/29/12 14:52

Laboratory Data

SDG ID: GBB59659
Phoenix ID: BB59667

Project ID: 1676 THIRD AVE., NYC, NY-SIDEWALK

Client ID: SBD-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Percent Solid	94		%	03/29/12		JL	E160.3
Soil Extraction for SVOA	Completed			03/29/12		RB/R	SW3545

Volatiles

1,1,1,2-Tetrachloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1,1-Trichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1,2,2-Tetrachloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1,2-Trichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,1-Dichloropropene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2,3-Trichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	1
1,2,3-Trichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2,4-Trimethylbenzene	500	130	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dibromo-3-chloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,2-Dichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,3,5-Trimethylbenzene	230	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,3-Dichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
1,4-Dichlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
2,2-Dichloropropane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
2-Chlorotoluene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	
2-Hexanone	ND	27	ug/Kg	04/04/12		H/J	SW8260	
2-Isopropyltoluene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	1
4-Chlorotoluene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260	

Client ID: SBD-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference
4-Methyl-2-pentanone	ND	27	ug/Kg	04/04/12		H/J	SW8260
Acetone	ND	27	ug/Kg	04/04/12		H/J	SW8260
Acrylonitrile	ND	11	ug/Kg	04/04/12		H/J	SW8260
Benzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromochloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromodichloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromoform	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Bromomethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Carbon Disulfide	ND	11	ug/Kg	04/04/12		H/J	SW8260
Carbon tetrachloride	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chlorobenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chloroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chloroform	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Chloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
cis-1,2-Dichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
cis-1,3-Dichloropropene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dibromochloromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dibromoethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dibromomethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Dichlorodifluoromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Ethylbenzene	99	5.3	ug/Kg	04/04/12		H/J	SW8260
Hexachlorobutadiene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Isopropylbenzene	26	5.3	ug/Kg	04/04/12		H/J	SW8260
m&p-Xylene	410	5.3	ug/Kg	04/04/12		H/J	SW8260
Methyl Ethyl Ketone	ND	27	ug/Kg	04/04/12		H/J	SW8260
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	04/04/12		H/J	SW8260
Methylene chloride	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Naphthalene	380	130	ug/Kg	04/04/12		H/J	SW8260
n-Butylbenzene	27	5.3	ug/Kg	04/04/12		H/J	SW8260
n-Propylbenzene	85	5.3	ug/Kg	04/04/12		H/J	SW8260
o-Xylene	250	5.3	ug/Kg	04/04/12		H/J	SW8260
p-Isopropyltoluene	9.9	5.3	ug/Kg	04/04/12		H/J	SW8260
sec-Butylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Styrene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
tert-Butylbenzene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Tetrachloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Tetrahydrofuran (THF)	ND	11	ug/Kg	04/04/12		H/J	SW8260
Toluene	38	5.3	ug/Kg	04/04/12		H/J	SW8260
Total Xylenes	660	5.3	ug/Kg	04/04/12		H/J	SW8260
trans-1,2-Dichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
trans-1,3-Dichloropropene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	04/04/12		H/J	SW8260
Trichloroethene	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Trichlorofluoromethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Trichlorotrifluoroethane	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
Vinyl chloride	ND	5.3	ug/Kg	04/04/12		H/J	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	101		%	04/04/12		H/J	70 - 130 %
% Bromofluorobenzene	96		%	04/04/12		H/J	70 - 130 %

Parameter	Result	RL	Units ^	Date	Time	By	Reference	
% Dibromofluoromethane	51		%	04/04/12		H/J	70 - 130 %	3
% Toluene-d8	100		%	04/04/12		H/J	70 - 130 %	
Semivolatiles								
1,2,4,5-Tetrachlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
1,2,4-Trichlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
1,2-Dichlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
1,3-Dichlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
1,4-Dichlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,4,5-Trichlorophenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,4,6-Trichlorophenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,4-Dichlorophenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,4-Dimethylphenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,4-Dinitrophenol	ND	560	ug/Kg	03/31/12		DD	SW 8270	
2,4-Dinitrotoluene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2,6-Dinitrotoluene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2-Chloronaphthalene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2-Chlorophenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2-Methylnaphthalene	760	240	ug/Kg	03/31/12		DD	SW 8270	
2-Methylphenol (o-cresol)	ND	240	ug/Kg	03/31/12		DD	SW 8270	
2-Nitroaniline	ND	560	ug/Kg	03/31/12		DD	SW 8270	
2-Nitrophenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
3&4-Methylphenol (m&p-cresol)	ND	350	ug/Kg	03/31/12		DD	SW 8270	
3,3'-Dichlorobenzidine	ND	240	ug/Kg	03/31/12		DD	SW 8270	
3-Nitroaniline	ND	560	ug/Kg	03/31/12		DD	SW 8270	
4,6-Dinitro-2-methylphenol	ND	1000	ug/Kg	03/31/12		DD	SW 8270	
4-Bromophenyl phenyl ether	ND	350	ug/Kg	03/31/12		DD	SW 8270	
4-Chloro-3-methylphenol	ND	240	ug/Kg	03/31/12		DD	SW 8270	
4-Chloroaniline	ND	240	ug/Kg	03/31/12		DD	SW 8270	
4-Chlorophenyl phenyl ether	ND	240	ug/Kg	03/31/12		DD	SW 8270	
4-Nitroaniline	ND	560	ug/Kg	03/31/12		DD	SW 8270	
4-Nitrophenol	ND	1000	ug/Kg	03/31/12		DD	SW 8270	
Acenaphthene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Acenaphthylene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Acetophenone	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Aniline	ND	350	ug/Kg	03/31/12		DD	SW 8270	LO
Anthracene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Azobenzene	ND	350	ug/Kg	03/31/12		DD	SW 8270	1
Benz(a)anthracene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Benzidine	ND	420	ug/Kg	03/31/12		DD	SW 8270	
Benzo(a)pyrene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Benzo(b)fluoranthene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Benzo(ghi)perylene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Benzo(k)fluoranthene	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Benzoic acid	ND	1000	ug/Kg	03/31/12		DD	SW 8270	LO
Benzyl butyl phthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Bis(2-chloroethoxy)methane	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Bis(2-chloroethyl)ether	ND	350	ug/Kg	03/31/12		DD	SW 8270	
Bis(2-chloroisopropyl)ether	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Bis(2-ethylhexyl)phthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270	
Carbazole	ND	520	ug/Kg	03/31/12		DD	SW 8270	

Parameter	Result	RL	Units ^	Date	Time	By	Reference
Chrysene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Dibenz(a,h)anthracene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Dibenzofuran	ND	240	ug/Kg	03/31/12		DD	SW 8270
Diethyl phthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270
Dimethylphthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270
Di-n-butylphthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270
Di-n-octylphthalate	ND	240	ug/Kg	03/31/12		DD	SW 8270
Fluoranthene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Fluorene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Hexachlorobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Hexachlorobutadiene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Hexachlorocyclopentadiene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Hexachloroethane	ND	240	ug/Kg	03/31/12		DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Isophorone	ND	240	ug/Kg	03/31/12		DD	SW 8270
Naphthalene	540	240	ug/Kg	03/31/12		DD	SW 8270
Nitrobenzene	ND	240	ug/Kg	03/31/12		DD	SW 8270
N-Nitrosodimethylamine	ND	350	ug/Kg	03/31/12		DD	SW 8270
N-Nitrosodi-n-propylamine	ND	240	ug/Kg	03/31/12		DD	SW 8270
N-Nitrosodiphenylamine	ND	350	ug/Kg	03/31/12		DD	SW 8270
Pentachloronitrobenzene	ND	350	ug/Kg	03/31/12		DD	SW 8270
Pentachlorophenol	ND	350	ug/Kg	03/31/12		DD	SW 8270
Phenanthrene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Phenol	ND	240	ug/Kg	03/31/12		DD	SW 8270
Pyrene	ND	240	ug/Kg	03/31/12		DD	SW 8270
Pyridine	ND	350	ug/Kg	03/31/12		DD	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	7.2		%	03/31/12		DD	15 - 130 %
% 2-Fluorobiphenyl	79		%	03/31/12		DD	15 - 130 %
% 2-Fluorophenol	33		%	03/31/12		DD	15 - 130 %
% Nitrobenzene-d5	82		%	03/31/12		DD	15 - 130 %
% Phenol-d5	63		%	03/31/12		DD	15 - 130 %
% Terphenyl-d14	77		%	03/31/12		DD	15 - 130 %

3

Client ID: SBD-3

Parameter	Result	RL	Units ^	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

3 = This parameter exceeds laboratory specified limits.

Comments:

* Poor surrogate recovery was observed for semivolatiles. The other surrogates associated with this sample were within QA/QC criteria. No further action was necessary.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

Units^ = All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 16, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



QA/QC Report

April 16, 2012

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 197574, QC Sample No: BB58840 (BB59665)									
Volatiles - Soil									
1,1,1,2-Tetrachloroethane	ND	118	122	3.3	112	123	9.4	70 - 130	30
1,1,1-Trichloroethane	ND	100	117	15.7	107	96	10.8	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	118	112	5.2	105	124	16.6	70 - 130	30
1,1,2-Trichloroethane	ND	106	108	1.9	99	108	8.7	70 - 130	30
1,1-Dichloroethane	ND	97	122	22.8	118	101	15.5	70 - 130	30
1,1-Dichloroethene	ND	100	106	5.8	100	101	1.0	70 - 130	30
1,1-Dichloropropene	ND	88	110	22.2	97	81	18.0	70 - 130	30
1,2,3-Trichlorobenzene	ND	120	107	11.5	83	105	23.4	70 - 130	30
1,2,3-Trichloropropane	ND	119	108	9.7	108	126	15.4	70 - 130	30
1,2,4-Trichlorobenzene	ND	110	101	8.5	77	89	14.5	70 - 130	30
1,2,4-Trimethylbenzene	ND	115	114	0.9	106	114	7.3	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	106	99	6.8	91	119	26.7	70 - 130	30
1,2-Dichlorobenzene	ND	106	105	0.9	101	109	7.6	70 - 130	30
1,2-Dichloroethane	ND	106	104	1.9	103	107	3.8	70 - 130	30
1,2-Dichloropropane	ND	104	108	3.8	102	106	3.8	70 - 130	30
1,3,5-Trimethylbenzene	ND	118	116	1.7	108	114	5.4	70 - 130	30
1,3-Dichlorobenzene	ND	108	108	0.0	97	104	7.0	70 - 130	30
1,3-Dichloropropane	ND	106	109	2.8	103	110	6.6	70 - 130	30
1,4-Dichlorobenzene	ND	105	106	0.9	94	101	7.2	70 - 130	30
2,2-Dichloropropane	ND	95	112	16.4	86	81	6.0	70 - 130	30
2-Chlorotoluene	ND	108	108	0.0	105	106	0.9	70 - 130	30
2-Hexanone	ND	73	75	2.7	50	58	14.8	70 - 130	30 m
2-Isopropyltoluene	ND	110	112	1.8	109	114	4.5	70 - 130	30
4-Chlorotoluene	ND	110	111	0.9	106	111	4.6	70 - 130	30
4-Methyl-2-pentanone	ND	94	87	7.7	78	96	20.7	70 - 130	30
Acetone	ND	96	84	13.3	53	68	24.8	70 - 130	30 m
Acrylonitrile	ND	93	112	18.5	105	107	1.9	70 - 130	30
Benzene	ND	104	105	1.0	100	101	1.0	70 - 130	30
Bromobenzene	ND	109	109	0.0	107	109	1.9	70 - 130	30
Bromochloromethane	ND	98	125	24.2	120	108	10.5	70 - 130	30
Bromodichloromethane	ND	106	110	3.7	104	105	1.0	70 - 130	30
Bromoform	ND	96	98	2.1	94	109	14.8	70 - 130	30
Bromomethane	ND	87	107	20.6	105	91	14.3	70 - 130	30
Carbon Disulfide	ND	92	98	6.3	96	97	1.0	70 - 130	30
Carbon tetrachloride	ND	91	106	15.2	94	82	13.6	70 - 130	30
Chlorobenzene	ND	102	108	5.7	101	105	3.9	70 - 130	30
Chloroethane	ND	103	113	9.3	109	102	6.6	70 - 130	30
Chloroform	ND	102	121	17.0	117	105	10.8	70 - 130	30
Chloromethane	ND	93	99	6.3	102	102	0.0	70 - 130	30
cis-1,2-Dichloroethene	ND	97	124	24.4	119	101	16.4	70 - 130	30
cis-1,3-Dichloropropene	ND	101	103	2.0	90	96	6.5	70 - 130	30

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Dibromochloromethane	ND	106	107	0.9	101	110	8.5	70 - 130	30
Dibromoethane	ND	107	105	1.9	99	110	10.5	70 - 130	30
Dibromomethane	ND	104	107	2.8	101	111	9.4	70 - 130	30
Dichlorodifluoromethane	ND	77	94	19.9	102	85	18.2	70 - 130	30
Ethylbenzene	ND	101	108	6.7	100	99	1.0	70 - 130	30
Hexachlorobutadiene	ND	104	100	3.9	83	92	10.3	70 - 130	30
Isopropylbenzene	ND	117	118	0.9	116	117	0.9	70 - 130	30
m&p-Xylene	ND	103	112	8.4	102	101	1.0	70 - 130	30
Methyl ethyl ketone	ND	74	89	18.4	55	58	5.3	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	96	94	2.1	89	97	8.6	70 - 130	30
Methylene chloride	ND	103	108	4.7	111	117	5.3	70 - 130	30
Naphthalene	ND	119	103	14.4	89	121	30.5	70 - 130	30
n-Butylbenzene	ND	107	111	3.7	88	90	2.2	70 - 130	30
n-Propylbenzene	ND	106	108	1.9	105	103	1.9	70 - 130	30
o-Xylene	ND	110	116	5.3	109	111	1.8	70 - 130	30
p-Isopropyltoluene	ND	112	115	2.6	99	100	1.0	70 - 130	30
sec-Butylbenzene	ND	112	114	1.8	107	108	0.9	70 - 130	30
Styrene	ND	89	95	6.5	93	93	0.0	70 - 130	30
tert-Butylbenzene	ND	107	110	2.8	108	112	3.6	70 - 130	30
Tetrachloroethene	ND	102	103	1.0	94	95	1.1	70 - 130	30
Tetrahydrofuran (THF)	ND	89	107	18.4	104	102	1.9	70 - 130	30
Toluene	ND	102	106	3.8	99	100	1.0	70 - 130	30
trans-1,2-Dichloroethene	ND	102	109	6.6	102	105	2.9	70 - 130	30
trans-1,3-Dichloropropene	ND	104	105	1.0	88	98	10.8	70 - 130	30
trans-1,4-dichloro-2-butene	ND	117	112	4.4	92	108	16.0	70 - 130	30
Trichloroethene	ND	104	105	1.0	102	103	1.0	70 - 130	30
Trichlorofluoromethane	ND	116	122	5.0	97	95	2.1	70 - 130	30
Trichlorotrifluoroethane	ND	99	106	6.8	99	94	5.2	70 - 130	30
Vinyl chloride	ND	92	104	12.2	99	96	3.1	70 - 130	30
% 1,2-dichlorobenzene-d4	98	100	99	1.0	100	103	3.0	70 - 130	30
% Bromofluorobenzene	94	96	100	4.1	96	93	3.2	70 - 130	30
% Dibromofluoromethane	104	93	116	22.0	116	101	13.8	70 - 130	30
% Toluene-d8	97	97	98	1.0	97	96	1.0	70 - 130	30

QA/QC Batch 197150, QC Sample No: BB59295 (BB59659, BB59660, BB59661, BB59662, BB59663, BB59664, BB59665, BB59666, BB59667)

Semivolatiles - Soil

1,2,4,5-Tetrachlorobenzene	ND	56	57	1.8	59	60	1.7	30 - 130	30
1,2,4-Trichlorobenzene	ND	70	71	1.4	76	77	1.3	30 - 130	30
1,2-Dichlorobenzene	ND	68	70	2.9	75	76	1.3	30 - 130	30
1,3-Dichlorobenzene	ND	65	67	3.0	71	73	2.8	30 - 130	30
1,4-Dichlorobenzene	ND	67	68	1.5	73	75	2.7	30 - 130	30
2,4,5-Trichlorophenol	ND	80	79	1.3	85	84	1.2	30 - 130	30
2,4,6-Trichlorophenol	ND	81	81	0.0	89	90	1.1	30 - 130	30
2,4-Dichlorophenol	ND	82	82	0.0	87	88	1.1	30 - 130	30
2,4-Dimethylphenol	ND	39	39	0.0	48	48	0.0	30 - 130	30
2,4-Dinitrophenol	ND	33	12	93.3	9.2	10	8.3	30 - 130	30
2,4-Dinitrotoluene	ND	82	85	3.6	88	89	1.1	30 - 130	30
2,6-Dinitrotoluene	ND	81	84	3.6	84	85	1.2	30 - 130	30
2-Chloronaphthalene	ND	75	75	0.0	81	83	2.4	30 - 130	30
2-Chlorophenol	ND	72	73	1.4	78	80	2.5	30 - 130	30
2-Methylnaphthalene	ND	72	73	1.4	NC	NC	NC	30 - 130	30
2-Methylphenol (o-cresol)	ND	68	69	1.5	87	88	1.1	30 - 130	30

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2-Nitroaniline	ND	>150	>150	NC	>130	>130	NC	30 - 130	30	l,m
2-Nitrophenol	ND	75	77	2.6	79	80	1.3	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	72	73	1.4	78	78	0.0	30 - 130	30	
3,3'-Dichlorobenzidine	ND	82	82	0.0	78	84	7.4	30 - 130	30	
3-Nitroaniline	ND	83	85	2.4	88	91	3.4	30 - 130	30	m
4,6-Dinitro-2-methylphenol	ND	75	62	19.0	26	21	21.3	30 - 130	30	
4-Bromophenyl phenyl ether	ND	79	80	1.3	85	87	2.3	30 - 130	30	
4-Chloro-3-methylphenol	ND	83	84	1.2	87	89	2.3	30 - 130	30	
4-Chloroaniline	ND	54	53	1.9	37	49	27.9	30 - 130	30	m,r
4-Chlorophenyl phenyl ether	ND	79	79	0.0	82	84	2.4	30 - 130	30	
4-Nitroaniline	ND	83	85	2.4	88	91	3.4	30 - 130	30	
4-Nitrophenol	ND	87	88	1.1	99	98	1.0	30 - 130	30	
Acenaphthene	ND	75	75	0.0	55	56	1.8	30 - 130	30	m,r
Acenaphthylene	ND	73	74	1.4	NC	NC	NC	30 - 130	30	
Acetophenone	ND	48	49	2.1	56	57	1.8	30 - 130	30	
Aniline	ND	51	52	1.9	19	46	83.1	30 - 130	30	
Anthracene	ND	76	76	0.0	NC	NC	NC	30 - 130	30	m
Azobenzene	ND	49	49	0.0	48	47	2.1	30 - 130	30	
Benz(a)anthracene	ND	79	80	1.3	NC	NC	NC	30 - 130	30	
Benzidine	ND	69	72	4.3	<5	<5	NC	30 - 130	30	
Benzo(a)pyrene	ND	77	77	0.0	NC	NC	NC	30 - 130	30	r
Benzo(b)fluoranthene	ND	82	80	2.5	NC	NC	NC	30 - 130	30	
Benzo(ghi)perylene	ND	83	81	2.4	NC	NC	NC	30 - 130	30	
Benzo(k)fluoranthene	ND	82	79	3.7	50	66	27.6	30 - 130	30	
Benzyl butyl phthalate	ND	80	80	0.0	107	105	1.9	30 - 130	30	r
Bis(2-chloroethoxy)methane	ND	73	75	2.7	80	81	1.2	30 - 130	30	
Bis(2-chloroethyl)ether	ND	64	65	1.6	106	74	35.6	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	71	73	2.8	77	79	2.6	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	74	71	4.1	130	100	26.1	30 - 130	30	m
Carbazole	ND	109	110	0.9	78	81	3.8	30 - 130	30	
Chrysene	ND	79	80	1.3	NC	NC	NC	30 - 130	30	
Dibenz(a,h)anthracene	ND	84	84	0.0	53	50	5.8	30 - 130	30	
Dibenzofuran	ND	75	75	0.0	55	64	15.1	30 - 130	30	m
Diethyl phthalate	ND	79	79	0.0	80	82	2.5	30 - 130	30	
Dimethylphthalate	ND	78	78	0.0	81	83	2.4	30 - 130	30	
Di-n-butylphthalate	ND	76	76	0.0	78	79	1.3	30 - 130	30	
Di-n-octylphthalate	ND	79	79	0.0	107	108	0.9	30 - 130	30	m
Fluoranthene	ND	79	80	1.3	NC	NC	NC	30 - 130	30	
Fluorene	ND	78	78	0.0	NC	NC	NC	30 - 130	30	
Hexachlorobenzene	ND	79	79	0.0	80	81	1.2	30 - 130	30	
Hexachlorobutadiene	ND	72	74	2.7	79	80	1.3	30 - 130	30	m
Hexachlorocyclopentadiene	ND	54	58	7.1	5.6	4.6	19.6	30 - 130	30	
Hexachloroethane	ND	66	67	1.5	80	76	5.1	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	84	83	1.2	28	24	15.4	30 - 130	30	
Isophorone	ND	59	61	3.3	66	66	0.0	30 - 130	30	m
Naphthalene	ND	73	74	1.4	NC	NC	NC	30 - 130	30	
Nitrobenzene	ND	73	75	2.7	81	84	3.6	30 - 130	30	
N-Nitrosodimethylamine	ND	63	65	3.1	69	72	4.3	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	74	76	2.7	77	79	2.6	30 - 130	30	m
N-Nitrosodiphenylamine	ND	87	87	0.0	96	98	2.1	30 - 130	30	
Pentachloronitrobenzene	ND	108	108	0.0	98	98	0.0	30 - 130	30	
Pentachlorophenol	ND	70	67	4.4	97	92	5.3	30 - 130	30	
Phenanthrene	ND	80	80	0.0	NC	NC	NC	30 - 130	30	

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Phenol	ND	78	79	1.3	99	97	2.0	30 - 130	30
Pyrene	ND	81	81	0.0	NC	NC	NC	30 - 130	30
Pyridine	ND	34	36	5.7	43	50	15.1	30 - 130	30
% 2,4,6-Tribromophenol	80	81	82	1.2	85	89	4.6	15 - 130	30
% 2-Fluorobiphenyl	71	70	71	1.4	74	77	4.0	30 - 130	30
% 2-Fluorophenol	73	72	73	1.4	78	81	3.8	15 - 130	30
% Nitrobenzene-d5	74	70	73	4.2	76	79	3.9	30 - 130	30
% Phenol-d5	72	71	73	2.8	75	78	3.9	15 - 130	30
% Terphenyl-d14	93	93	94	1.1	93	95	2.1	30 - 130	30

QA/QC Batch 197640, QC Sample No: BB59621 (BB59660)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	109	113	3.6	101	100	1.0	70 - 130	30	
1,1,1-Trichloroethane	ND	107	107	0.0	111	110	0.9	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	102	109	6.6	113	103	9.3	70 - 130	30	
1,1,2-Trichloroethane	ND	103	113	9.3	101	94	7.2	70 - 130	30	
1,1-Dichloroethane	ND	105	108	2.8	110	108	1.8	70 - 130	30	
1,1-Dichloroethene	ND	98	101	3.0	113	110	2.7	70 - 130	30	
1,1-Dichloropropene	ND	109	107	1.9	107	109	1.9	70 - 130	30	
1,2,3-Trichlorobenzene	ND	118	110	7.0	61	70	13.7	70 - 130	30	m
1,2,3-Trichloropropane	ND	98	112	13.3	113	98	14.2	70 - 130	30	
1,2,4-Trichlorobenzene	ND	113	106	6.4	65	72	10.2	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	110	109	0.9	101	103	2.0	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	106	111	4.6	104	93	11.2	70 - 130	30	
1,2-Dichlorobenzene	ND	105	107	1.9	93	93	0.0	70 - 130	30	
1,2-Dichloroethane	ND	102	110	7.5	102	96	6.1	70 - 130	30	
1,2-Dichloropropane	ND	105	110	4.7	104	102	1.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	111	111	0.0	106	108	1.9	70 - 130	30	
1,3-Dichlorobenzene	ND	107	107	0.0	93	96	3.2	70 - 130	30	
1,3-Dichloropropane	ND	103	113	9.3	105	98	6.9	70 - 130	30	
1,4-Dichlorobenzene	ND	105	105	0.0	92	94	2.2	70 - 130	30	
2,2-Dichloropropane	ND	108	108	0.0	106	105	0.9	70 - 130	30	
2-Chlorotoluene	ND	108	108	0.0	104	107	2.8	70 - 130	30	
2-Hexanone	ND	90	115	24.4	41	<40	NC	70 - 130	30	m
2-Isopropyltoluene	ND	106	105	0.9	103	106	2.9	70 - 130	30	
4-Chlorotoluene	ND	102	104	1.9	99	103	4.0	70 - 130	30	
4-Methyl-2-pentanone	ND	96	112	15.4	80	70	13.3	70 - 130	30	
Acetone	ND	87	114	26.9	<40	<40	NC	70 - 130	30	m
Acrylonitrile	ND	97	109	11.7	92	79	15.2	70 - 130	30	
Benzene	ND	107	109	1.9	105	105	0.0	70 - 130	30	
Bromobenzene	ND	108	110	1.8	102	103	1.0	70 - 130	30	
Bromochloromethane	ND	104	112	7.4	109	103	5.7	70 - 130	30	
Bromodichloromethane	ND	106	113	6.4	103	98	5.0	70 - 130	30	
Bromoform	ND	106	117	9.9	93	88	5.5	70 - 130	30	
Bromomethane	ND	117	115	1.7	119	97	20.4	70 - 130	30	
Carbon Disulfide	ND	99	103	4.0	77	73	5.3	70 - 130	30	
Carbon tetrachloride	ND	105	113	7.3	105	99	5.9	70 - 130	30	
Chlorobenzene	ND	106	108	1.9	101	100	1.0	70 - 130	30	
Chloroethane	ND	103	107	3.8	115	114	0.9	70 - 130	30	
Chloroform	ND	108	110	1.8	110	107	2.8	70 - 130	30	
Chloromethane	ND	99	93	6.3	105	117	10.8	70 - 130	30	
cis-1,2-Dichloroethene	ND	107	107	0.0	107	107	0.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	105	110	4.7	99	94	5.2	70 - 130	30	

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Dibromochloromethane	ND	105	114	8.2	100	94	6.2	70 - 130	30	
Dibromoethane	ND	104	114	9.2	104	96	8.0	70 - 130	30	
Dibromomethane	ND	106	115	8.1	107	98	8.8	70 - 130	30	
Dichlorodifluoromethane	ND	92	90	2.2	113	113	0.0	70 - 130	30	
Ethylbenzene	ND	109	110	0.9	103	104	1.0	70 - 130	30	
Hexachlorobutadiene	ND	112	100	11.3	82	95	14.7	70 - 130	30	
Isopropylbenzene	ND	109	107	1.9	110	114	3.6	70 - 130	30	
m&p-Xylene	ND	108	109	0.9	100	102	2.0	70 - 130	30	
Methyl ethyl ketone	ND	82	120	37.6	48	41	15.7	70 - 130	30	m,r
Methyl t-butyl ether (MTBE)	ND	94	102	8.2	94	91	3.2	70 - 130	30	
Methylene chloride	ND	98	105	6.9	107	97	9.8	70 - 130	30	
Naphthalene	ND	123	105	15.8	69	87	23.1	70 - 130	30	m
n-Butylbenzene	ND	112	109	2.7	95	101	6.1	70 - 130	30	
n-Propylbenzene	ND	103	103	0.0	107	110	2.8	70 - 130	30	
o-Xylene	ND	107	109	1.9	98	99	1.0	70 - 130	30	
p-Isopropyltoluene	ND	114	113	0.9	102	105	2.9	70 - 130	30	
sec-Butylbenzene	ND	107	105	1.9	107	110	2.8	70 - 130	30	
Styrene	ND	107	109	1.9	96	94	2.1	70 - 130	30	
tert-Butylbenzene	ND	107	106	0.9	108	111	2.7	70 - 130	30	
Tetrachloroethene	ND	107	110	2.8	102	105	2.9	70 - 130	30	
Tetrahydrofuran (THF)	ND	89	103	14.6	101	86	16.0	70 - 130	30	
Toluene	ND	109	111	1.8	101	100	1.0	70 - 130	30	
trans-1,2-Dichloroethene	ND	103	103	0.0	109	111	1.8	70 - 130	30	
trans-1,3-Dichloropropene	ND	106	112	5.5	99	94	5.2	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	105	116	10.0	100	90	10.5	70 - 130	30	
Trichloroethene	ND	108	109	0.9	102	104	1.9	70 - 130	30	
Trichlorofluoromethane	ND	119	121	1.7	115	113	1.8	70 - 130	30	
Trichlorotrifluoroethane	ND	101	106	4.8	114	106	7.3	70 - 130	30	
Vinyl chloride	ND	103	101	2.0	115	117	1.7	70 - 130	30	
% 1,2-dichlorobenzene-d4	101	98	100	2.0	99	98	1.0	70 - 130	30	
% Bromofluorobenzene	98	99	100	1.0	98	97	1.0	70 - 130	30	
% Dibromofluoromethane	100	100	100	0.0	100	101	1.0	70 - 130	30	
% Toluene-d8	101	101	101	0.0	101	100	1.0	70 - 130	30	

QA/QC Batch 197746, QC Sample No: BB60421 (BB59666)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	106	108	1.9	76	95	22.2	70 - 130	30	
1,1,1-Trichloroethane	ND	102	94	8.2	79	97	20.5	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	102	112	9.3	91	103	12.4	70 - 130	30	
1,1,2-Trichloroethane	ND	105	105	0.0	80	89	10.7	70 - 130	30	
1,1-Dichloroethane	ND	107	88	19.5	81	104	24.9	70 - 130	30	
1,1-Dichloroethene	ND	87	89	2.3	94	94	0.0	70 - 130	30	
1,1-Dichloropropene	ND	101	104	2.9	74	98	27.9	70 - 130	30	
1,2,3-Trichlorobenzene	ND	95	103	8.1	<40	<40	NC	70 - 130	30	m
1,2,3-Trichloropropane	ND	99	114	14.1	99	97	2.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	92	94	2.2	<40	<40	NC	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	98	102	4.0	68	85	22.2	70 - 130	30	m
1,2-Dibromo-3-chloropropane	ND	112	124	10.2	85	90	5.7	70 - 130	30	
1,2-Dichlorobenzene	ND	94	95	1.1	44	63	35.5	70 - 130	30	m,r
1,2-Dichloroethane	ND	98	99	1.0	79	83	4.9	70 - 130	30	
1,2-Dichloropropane	ND	101	97	4.0	83	97	15.6	70 - 130	30	
1,3,5-Trimethylbenzene	ND	107	112	4.6	78	97	21.7	70 - 130	30	
1,3-Dichlorobenzene	ND	100	98	2.0	52	70	29.5	70 - 130	30	m

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,3-Dichloropropane	ND	101	103	2.0	81	91	11.6	70 - 130	30	
1,4-Dichlorobenzene	ND	95	95	0.0	49	63	25.0	70 - 130	30	m
2,2-Dichloropropane	ND	101	90	11.5	82	99	18.8	70 - 130	30	
2-Chlorotoluene	ND	97	99	2.0	70	88	22.8	70 - 130	30	
2-Hexanone	ND	83	80	3.7	99	101	2.0	70 - 130	30	
2-Isopropyltoluene	ND	105	105	0.0	67	88	27.1	70 - 130	30	m
4-Chlorotoluene	ND	96	95	1.0	64	81	23.4	70 - 130	30	m
4-Methyl-2-pentanone	ND	98	105	6.9	101	95	6.1	70 - 130	30	
Acetone	ND	77	73	5.3	91	83	9.2	70 - 130	30	
Acrylonitrile	ND	109	91	18.0	85	97	13.2	70 - 130	30	
Benzene	ND	99	98	1.0	115	119	3.4	70 - 130	30	
Bromobenzene	ND	97	98	1.0	65	79	19.4	70 - 130	30	m
Bromochloromethane	ND	109	86	23.6	73	95	26.2	70 - 130	30	
Bromodichloromethane	ND	105	100	4.9	75	87	14.8	70 - 130	30	
Bromoform	ND	94	100	6.2	61	81	28.2	70 - 130	30	m
Bromomethane	ND	90	79	13.0	83	83	0.0	70 - 130	30	
Carbon Disulfide	ND	128	125	2.4	80	83	3.7	70 - 130	30	
Carbon tetrachloride	ND	112	88	24.0	78	93	17.5	70 - 130	30	
Chlorobenzene	ND	101	99	2.0	69	83	18.4	70 - 130	30	m
Chloroethane	ND	94	88	6.6	92	101	9.3	70 - 130	30	
Chloroform	ND	106	90	16.3	77	97	23.0	70 - 130	30	
Chloromethane	ND	88	84	4.7	99	98	1.0	70 - 130	30	
cis-1,2-Dichloroethene	ND	111	87	24.2	75	97	25.6	70 - 130	30	
cis-1,3-Dichloropropene	ND	105	100	4.9	73	81	10.4	70 - 130	30	
Dibromochloromethane	ND	101	104	2.9	71	84	16.8	70 - 130	30	
Dibromoethane	ND	103	102	1.0	67	76	12.6	70 - 130	30	m
Dibromomethane	ND	101	99	2.0	72	76	5.4	70 - 130	30	
Dichlorodifluoromethane	ND	80	72	10.5	93	113	19.4	70 - 130	30	
Ethylbenzene	ND	102	100	2.0	73	91	22.0	70 - 130	30	
Hexachlorobutadiene	ND	91	94	3.2	<40	53	NC	70 - 130	30	m
Isopropylbenzene	ND	101	103	2.0	87	102	15.9	70 - 130	30	
m&p-Xylene	ND	102	100	2.0	76	94	21.2	70 - 130	30	
Methyl ethyl ketone	ND	90	83	8.1	87	105	18.8	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	115	106	8.1	104	108	3.8	70 - 130	30	
Methylene chloride	ND	92	90	2.2	84	87	3.5	70 - 130	30	
Naphthalene	ND	98	112	13.3	NC	NC	NC	70 - 130	30	
n-Butylbenzene	ND	102	103	1.0	56	75	29.0	70 - 130	30	m
n-Propylbenzene	ND	99	100	1.0	83	99	17.6	70 - 130	30	
o-Xylene	ND	105	102	2.9	70	91	26.1	70 - 130	30	
p-Isopropyltoluene	ND	107	108	0.9	68	89	26.8	70 - 130	30	m
sec-Butylbenzene	ND	97	97	0.0	68	88	25.6	70 - 130	30	m
Styrene	ND	90	92	2.2	65	80	20.7	70 - 130	30	m
tert-Butylbenzene	ND	101	101	0.0	77	95	20.9	70 - 130	30	
Tetrachloroethene	ND	93	98	5.2	96	NC	NC	70 - 130	30	
Tetrahydrofuran (THF)	ND	103	91	12.4	84	101	18.4	70 - 130	30	
Toluene	ND	104	106	1.9	93	109	15.8	70 - 130	30	
trans-1,2-Dichloroethene	ND	93	90	3.3	85	86	1.2	70 - 130	30	
trans-1,3-Dichloropropene	ND	109	103	5.7	63	56	11.8	70 - 130	30	m
trans-1,4-dichloro-2-butene	ND	112	120	6.9	82	84	2.4	70 - 130	30	
Trichloroethene	ND	103	100	3.0	83	98	16.6	70 - 130	30	
Trichlorofluoromethane	ND	103	102	1.0	82	88	7.1	70 - 130	30	
Trichlorotrifluoroethane	ND	90	89	1.1	90	95	5.4	70 - 130	30	
Vinyl chloride	ND	91	87	4.5	98	100	2.0	70 - 130	30	

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
% 1,2-dichlorobenzene-d4	95	94	98	4.2	95	96	1.0	70 - 130	30
% Bromofluorobenzene	98	104	100	3.9	88	97	9.7	70 - 130	30
% Dibromofluoromethane	89	109	89	20.2	101	116	13.8	70 - 130	30
% Toluene-d8	96	103	101	2.0	97	101	4.0	70 - 130	30

QA/QC Batch 197648, QC Sample No: BB60813 (BB59659, BB59661, BB59662, BB59664)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	108	113	4.5	99	105	5.9	70 - 130	30	
1,1,1-Trichloroethane	ND	108	101	6.7	90	106	16.3	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	106	114	7.3	97	103	6.0	70 - 130	30	
1,1,2-Trichloroethane	ND	109	108	0.9	90	98	8.5	70 - 130	30	
1,1-Dichloroethane	ND	112	95	16.4	84	108	25.0	70 - 130	30	
1,1-Dichloroethene	ND	103	103	0.0	92	99	7.3	70 - 130	30	
1,1-Dichloropropene	ND	112	106	5.5	95	107	11.9	70 - 130	30	
1,2,3-Trichlorobenzene	ND	96	107	10.8	81	82	1.2	70 - 130	30	
1,2,3-Trichloropropane	ND	99	108	8.7	89	95	6.5	70 - 130	30	
1,2,4-Trichlorobenzene	ND	90	99	9.5	79	83	4.9	70 - 130	30	
1,2,4-Trimethylbenzene	ND	116	105	10.0	93	99	6.3	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	110	117	6.2	88	90	2.2	70 - 130	30	
1,2-Dichlorobenzene	ND	97	100	3.0	86	94	8.9	70 - 130	30	
1,2-Dichloroethane	ND	101	104	2.9	87	94	7.7	70 - 130	30	
1,2-Dichloropropane	ND	106	106	0.0	91	100	9.4	70 - 130	30	
1,3,5-Trimethylbenzene	ND	114	114	0.0	101	109	7.6	70 - 130	30	
1,3-Dichlorobenzene	ND	103	103	0.0	90	99	9.5	70 - 130	30	
1,3-Dichloropropane	ND	104	108	3.8	89	97	8.6	70 - 130	30	
1,4-Dichlorobenzene	ND	99	100	1.0	88	96	8.7	70 - 130	30	
2,2-Dichloropropane	ND	106	97	8.9	84	97	14.4	70 - 130	30	
2-Chlorotoluene	ND	101	101	0.0	91	100	9.4	70 - 130	30	
2-Hexanone	ND	80	90	11.8	48	50	4.1	70 - 130	30	m
2-Isopropyltoluene	ND	108	109	0.9	99	109	9.6	70 - 130	30	
4-Chlorotoluene	ND	98	97	1.0	91	103	12.4	70 - 130	30	
4-Methyl-2-pentanone	ND	97	103	6.0	80	82	2.5	70 - 130	30	
Acetone	ND	80	91	12.9	<40	<40	NC	70 - 130	30	m
Acrylonitrile	ND	111	97	13.5	76	91	18.0	70 - 130	30	
Benzene	ND	106	107	0.9	94	101	7.2	70 - 130	30	
Bromobenzene	ND	100	102	2.0	89	98	9.6	70 - 130	30	
Bromochloromethane	ND	112	91	20.7	80	105	27.0	70 - 130	30	
Bromodichloromethane	ND	107	106	0.9	91	100	9.4	70 - 130	30	
Bromoform	ND	85	84	1.2	81	85	4.8	70 - 130	30	
Bromomethane	ND	109	96	12.7	86	99	14.1	70 - 130	30	
Carbon Disulfide	ND	>150	>150	NC	93	97	4.2	70 - 130	30	l
Carbon tetrachloride	ND	105	98	6.9	85	106	22.0	70 - 130	30	
Chlorobenzene	ND	104	103	1.0	93	102	9.2	70 - 130	30	
Chloroethane	ND	109	101	7.6	90	103	13.5	70 - 130	30	
Chloroform	ND	107	99	7.8	85	102	18.2	70 - 130	30	
Chloromethane	ND	111	109	1.8	88	91	3.4	70 - 130	30	
cis-1,2-Dichloroethene	ND	117	95	20.8	83	110	28.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	108	108	0.0	92	97	5.3	70 - 130	30	
Dibromochloromethane	ND	105	110	4.7	92	99	7.3	70 - 130	30	
Dibromoethane	ND	104	107	2.8	87	96	9.8	70 - 130	30	
Dibromomethane	ND	103	104	1.0	88	94	6.6	70 - 130	30	
Dichlorodifluoromethane	ND	118	104	12.6	78	93	17.5	70 - 130	30	
Ethylbenzene	ND	112	104	7.4	94	105	11.1	70 - 130	30	

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Hexachlorobutadiene	ND	93	94	1.1	87	88	1.1	70 - 130	30
Isopropylbenzene	ND	105	105	0.0	96	106	9.9	70 - 130	30
m&p-Xylene	ND	119	105	12.5	94	104	10.1	70 - 130	30
Methyl ethyl ketone	ND	92	94	2.2	44	45	2.2	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	108	110	1.8	89	96	7.6	70 - 130	30
Methylene chloride	ND	100	99	1.0	83	93	11.4	70 - 130	30
Naphthalene	ND	100	113	12.2	83	81	2.4	70 - 130	30
n-Butylbenzene	ND	105	104	1.0	92	103	11.3	70 - 130	30
n-Propylbenzene	ND	106	102	3.8	97	112	14.4	70 - 130	30
o-Xylene	ND	110	107	2.8	92	103	11.3	70 - 130	30
p-Isopropyltoluene	ND	111	110	0.9	96	106	9.9	70 - 130	30
sec-Butylbenzene	ND	101	101	0.0	94	104	10.1	70 - 130	30
Styrene	ND	89	84	5.8	82	92	11.5	70 - 130	30
tert-Butylbenzene	ND	104	104	0.0	96	106	9.9	70 - 130	30
Tetrachloroethene	ND	100	101	1.0	94	99	5.2	70 - 130	30
Tetrahydrofuran (THF)	ND	101	88	13.8	70	91	26.1	70 - 130	30
Toluene	ND	116	107	8.1	93	105	12.1	70 - 130	30
trans-1,2-Dichloroethene	ND	102	102	0.0	94	101	7.2	70 - 130	30
trans-1,3-Dichloropropene	ND	112	111	0.9	89	98	9.6	70 - 130	30
trans-1,4-dichloro-2-butene	ND	114	119	4.3	88	95	7.7	70 - 130	30
Trichloroethene	ND	106	107	0.9	94	102	8.2	70 - 130	30
Trichlorofluoromethane	ND	121	117	3.4	90	94	4.3	70 - 130	30
Trichlorotrifluoroethane	ND	102	98	4.0	92	99	7.3	70 - 130	30
Vinyl chloride	ND	113	107	5.5	87	97	10.9	70 - 130	30
% 1,2-dichlorobenzene-d4	96	94	98	4.2	96	95	1.0	70 - 130	30
% Bromofluorobenzene	101	103	99	4.0	96	100	4.1	70 - 130	30
% Dibromofluoromethane	91	109	91	18.0	93	107	14.0	70 - 130	30
% Toluene-d8	95	102	100	2.0	98	101	3.0	70 - 130	30

QA/QC Batch 197740, QC Sample No: BB60872 (BB59663, BB59667)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	110	104	5.6	100	104	3.9	70 - 130	30
1,1,1-Trichloroethane	ND	109	106	2.8	112	119	6.1	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	105	91	14.3	106	97	8.9	70 - 130	30
1,1,2-Trichloroethane	ND	112	103	8.4	102	99	3.0	70 - 130	30
1,1-Dichloroethane	ND	109	105	3.7	112	114	1.8	70 - 130	30
1,1-Dichloroethene	ND	102	99	3.0	115	116	0.9	70 - 130	30
1,1-Dichloropropene	ND	106	103	2.9	109	117	7.1	70 - 130	30
1,2,3-Trichlorobenzene	ND	94	96	2.1	68	71	4.3	70 - 130	30
1,2,3-Trichloropropane	ND	111	99	11.4	113	99	13.2	70 - 130	30
1,2,4-Trichlorobenzene	ND	84	81	3.6	69	68	1.5	70 - 130	30
1,2,4-Trimethylbenzene	ND	103	98	5.0	48	51	6.1	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	112	102	9.3	111	101	9.4	70 - 130	30
1,2-Dichlorobenzene	ND	98	94	4.2	90	91	1.1	70 - 130	30
1,2-Dichloroethane	ND	108	101	6.7	104	100	3.9	70 - 130	30
1,2-Dichloropropane	ND	111	105	5.6	103	106	2.9	70 - 130	30
1,3,5-Trimethylbenzene	ND	105	100	4.9	91	96	5.3	70 - 130	30
1,3-Dichlorobenzene	ND	94	91	3.2	78	80	2.5	70 - 130	30
1,3-Dichloropropane	ND	110	103	6.6	103	100	3.0	70 - 130	30
1,4-Dichlorobenzene	ND	92	88	4.4	56	57	1.8	70 - 130	30
2,2-Dichloropropane	ND	99	97	2.0	101	105	3.9	70 - 130	30
2-Chlorotoluene	ND	100	96	4.1	100	104	3.9	70 - 130	30
2-Hexanone	ND	69	72	4.3	45	44	2.2	70 - 130	30

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2-Isopropyltoluene	ND	100	99	1.0	101	106	4.8	70 - 130	30	
4-Chlorotoluene	ND	94	90	4.3	96	99	3.1	70 - 130	30	
4-Methyl-2-pentanone	ND	99	90	9.5	88	75	16.0	70 - 130	30	
Acetone	ND	70	79	12.1	42	42	0.0	70 - 130	30	m
Acrylonitrile	ND	109	99	9.6	83	72	14.2	70 - 130	30	
Benzene	ND	107	105	1.9	105	109	3.7	70 - 130	30	
Bromobenzene	ND	104	100	3.9	98	100	2.0	70 - 130	30	
Bromochloromethane	ND	110	104	5.6	110	105	4.7	70 - 130	30	
Bromodichloromethane	ND	112	105	6.5	102	102	0.0	70 - 130	30	
Bromoform	ND	111	100	10.4	98	92	6.3	70 - 130	30	
Bromomethane	ND	116	99	15.8	122	109	11.3	70 - 130	30	
Carbon Disulfide	ND	103	98	5.0	76	75	1.3	70 - 130	30	
Carbon tetrachloride	ND	112	98	13.3	109	108	0.9	70 - 130	30	
Chlorobenzene	ND	102	99	3.0	52	55	5.6	70 - 130	30	m
Chloroethane	ND	108	105	2.8	116	118	1.7	70 - 130	30	
Chloroform	ND	111	107	3.7	109	112	2.7	70 - 130	30	
Chloromethane	ND	95	102	7.1	110	126	13.6	70 - 130	30	
cis-1,2-Dichloroethene	ND	107	106	0.9	106	110	3.7	70 - 130	30	
cis-1,3-Dichloropropene	ND	105	99	5.9	96	94	2.1	70 - 130	30	
Dibromochloromethane	ND	110	101	8.5	98	98	0.0	70 - 130	30	
Dibromoethane	ND	112	103	8.4	105	100	4.9	70 - 130	30	
Dibromomethane	ND	115	105	9.1	107	102	4.8	70 - 130	30	
Dichlorodifluoromethane	ND	93	89	4.4	121	129	6.4	70 - 130	30	
Ethylbenzene	ND	105	101	3.9	86	92	6.7	70 - 130	30	
Hexachlorobutadiene	ND	89	96	7.6	88	97	9.7	70 - 130	30	
Isopropylbenzene	ND	105	101	3.9	109	115	5.4	70 - 130	30	
m&p-Xylene	ND	102	99	3.0	74	78	5.3	70 - 130	30	
Methyl ethyl ketone	ND	69	76	9.7	50	42	17.4	70 - 130	30	l,m
Methyl t-butyl ether (MTBE)	ND	101	103	2.0	96	92	4.3	70 - 130	30	
Methylene chloride	ND	106	100	5.8	104	99	4.9	70 - 130	30	
Naphthalene	ND	101	114	12.1	82	74	10.3	70 - 130	30	
n-Butylbenzene	ND	96	92	4.3	88	90	2.2	70 - 130	30	
n-Propylbenzene	ND	96	93	3.2	102	107	4.8	70 - 130	30	
o-Xylene	ND	104	101	2.9	85	90	5.7	70 - 130	30	
p-Isopropyltoluene	ND	104	100	3.9	96	101	5.1	70 - 130	30	
sec-Butylbenzene	ND	100	98	2.0	106	113	6.4	70 - 130	30	
Styrene	ND	105	99	5.9	92	91	1.1	70 - 130	30	
tert-Butylbenzene	ND	103	102	1.0	108	115	6.3	70 - 130	30	
Tetrachloroethene	ND	101	96	5.1	103	108	4.7	70 - 130	30	
Tetrahydrofuran (THF)	ND	105	90	15.4	108	88	20.4	70 - 130	30	
Toluene	ND	107	105	1.9	105	108	2.8	70 - 130	30	
trans-1,2-Dichloroethene	ND	104	104	0.0	107	113	5.5	70 - 130	30	
trans-1,3-Dichloropropene	ND	105	98	6.9	94	91	3.2	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	98	88	10.8	90	80	11.8	70 - 130	30	
Trichloroethene	ND	111	108	2.7	104	109	4.7	70 - 130	30	
Trichlorofluoromethane	ND	124	119	4.1	118	120	1.7	70 - 130	30	
Trichlorotrifluoroethane	ND	105	96	9.0	117	116	0.9	70 - 130	30	
Vinyl chloride	ND	102	103	1.0	119	127	6.5	70 - 130	30	
% 1,2-dichlorobenzene-d4	99	98	98	0.0	102	98	4.0	70 - 130	30	
% Bromofluorobenzene	96	99	99	0.0	98	98	0.0	70 - 130	30	
% Dibromofluoromethane	92	99	99	0.0	103	102	1.0	70 - 130	30	
% Toluene-d8	101	101	101	0.0	101	100	1.0	70 - 130	30	

QA/QC Data

SDG I.D.: GBB59659

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

l = This parameter is outside laboratory lcs/lcsd specified recovery limits.

m = This parameter is outside laboratory ms/msd specified recovery limits.

r = This parameter is outside laboratory rpd specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

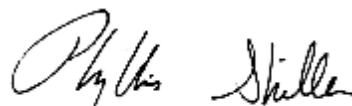
LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria



Phyllis Shiller, Laboratory Director
April 16, 2012

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59659	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	200	10	ug/Kg
BB59659	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1900	10	ug/Kg
BB59659	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	400	5	ug/Kg
BB59659	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	6000	5	ug/Kg
BB59659	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7000	200	10	ug/Kg
BB59659	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	2700	5	ug/Kg
BB59659	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	100	5	ug/Kg
BB59659	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	200	5	ug/Kg
BB59659	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7000	300	10	ug/Kg
BB59659	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	800	5	ug/Kg
BB59659	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	600	5	ug/Kg
BB59659	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	60	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	100	5	ug/Kg
BB59659	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	700	5	ug/Kg
BB59659	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	7000	1000	10	ug/Kg
BB59659	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	4100	1400	1500	5	ug/Kg
BB59659	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1400	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59659	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400		5	ug/Kg
BB59659	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1700	5	ug/Kg
BB59659	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	9200	1400	5500	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	600	5	ug/Kg
BB59659	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	400	5	ug/Kg
BB59659	EMCI	\$8260SMR	Naphthalene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	5200	1400	3400	330	ug/Kg
BB59659	EMCI	\$8260SMR	Total Xylenes	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	42000	1400	1200		ug/Kg
BB59659	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	30	330	ug/Kg
BB59659	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	370	100	330	ug/Kg
BB59659	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	100	330	ug/Kg
BB59659	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	200	330	ug/Kg
BB59659	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	220	330	ug/Kg
BB59659	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	240	330	ug/Kg
BB59659	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	100	330	ug/Kg
BB59659	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	600	500	1600	ug/Kg
BB59659	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	600	200	1600	ug/Kg
BB59659	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	1600	ug/Kg
BB59659	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	600	430	1600	ug/Kg
BB59659	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	61	330	ug/Kg
BB59659	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	224	330	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59659	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	260	14	330	ug/Kg
BB59660	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59660	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	6000	5	ug/Kg
BB59660	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	200	10	ug/Kg
BB59660	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	2700	5	ug/Kg
BB59660	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59660	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	200	5	ug/Kg
BB59660	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	300	10	ug/Kg
BB59660	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	800	5	ug/Kg
BB59660	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59660	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	60	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59660	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	700	5	ug/Kg
BB59660	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	1000	10	ug/Kg
BB59660	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1400	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59660	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1700	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59660	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59660	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59660	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	340	100	330	ug/Kg
BB59660	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59660	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59660	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59660	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59660	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	540	500	1600	ug/Kg
BB59660	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	540	200	1600	ug/Kg
BB59660	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	980	100	1600	ug/Kg
BB59660	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	540	430	1600	ug/Kg
BB59660	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59660	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	224	330	ug/Kg
BB59660	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg
BB59661	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59661	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	6000	5	ug/Kg
BB59661	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	200	10	ug/Kg
BB59661	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	2700	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59661	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59661	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	200	5	ug/Kg
BB59661	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	300	10	ug/Kg
BB59661	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	800	5	ug/Kg
BB59661	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59661	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	60	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59661	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	700	5	ug/Kg
BB59661	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	1000	10	ug/Kg
BB59661	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1500	5	ug/Kg
BB59661	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1400	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59661	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2		5	ug/Kg
BB59661	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1700	5	ug/Kg
BB59661	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	5500	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59661	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59661	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59661	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	340	100	330	ug/Kg
BB59661	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59661	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59661	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59661	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59661	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	500	1600	ug/Kg
BB59661	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	200	1600	ug/Kg
BB59661	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	1600	ug/Kg
BB59661	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	430	1600	ug/Kg
BB59661	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59661	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	224	330	ug/Kg
BB59661	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg
BB59662	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	200	10	ug/Kg
BB59662	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1900	10	ug/Kg
BB59662	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	400	5	ug/Kg
BB59662	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	6000	5	ug/Kg
BB59662	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	200	10	ug/Kg
BB59662	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	2700	5	ug/Kg
BB59662	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	100	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59662	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	200	5	ug/Kg
BB59662	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	300	10	ug/Kg
BB59662	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	800	5	ug/Kg
BB59662	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	600	5	ug/Kg
BB59662	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	60	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	100	5	ug/Kg
BB59662	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	700	5	ug/Kg
BB59662	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	1000	10	ug/Kg
BB59662	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1500	5	ug/Kg
BB59662	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1400	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg
BB59662	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130		5	ug/Kg
BB59662	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1700	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	600	5	ug/Kg
BB59662	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	400	5	ug/Kg
BB59662	EMCI	\$8260SMR	Total Xylenes	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	1280	130	1200		ug/Kg
BB59662	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59662	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	990	100	330	ug/Kg
BB59662	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59662	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59662	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59662	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59662	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	500	1600	ug/Kg
BB59662	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	200	1600	ug/Kg
BB59662	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	990	100	1600	ug/Kg
BB59662	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	430	1600	ug/Kg
BB59662	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59662	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	480	240	224	330	ug/Kg
BB59662	EMCI	\$8270-SMR	Chrysene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	590	240	400	330	ug/Kg
BB59662	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg
BB59663	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59663	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	6000	5	ug/Kg
BB59663	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	200	10	ug/Kg
BB59663	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	2700	5	ug/Kg
BB59663	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59663	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	200	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59663	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	300	10	ug/Kg
BB59663	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	800	5	ug/Kg
BB59663	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59663	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	60	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	100	5	ug/Kg
BB59663	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	700	5	ug/Kg
BB59663	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	26	1000	10	ug/Kg
BB59663	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1400	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	300	5	ug/Kg
BB59663	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2		5	ug/Kg
BB59663	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	1700	5	ug/Kg
BB59663	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	5500	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	600	5	ug/Kg
BB59663	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.2	400	5	ug/Kg
BB59663	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59663	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	340	100	330	ug/Kg
BB59663	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59663	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59663	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59663	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59663	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	500	1600	ug/Kg
BB59663	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	200	1600	ug/Kg
BB59663	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	990	100	1600	ug/Kg
BB59663	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	550	430	1600	ug/Kg
BB59663	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59663	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	224	330	ug/Kg
BB59663	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg
BB59664	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	400	5	ug/Kg
BB59664	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	6000	5	ug/Kg
BB59664	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	200	10	ug/Kg
BB59664	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	2700	5	ug/Kg
BB59664	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	100	5	ug/Kg
BB59664	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	200	5	ug/Kg
BB59664	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	300	10	ug/Kg
BB59664	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	800	5	ug/Kg
BB59664	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	600	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59664	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	60	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	100	5	ug/Kg
BB59664	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	700	5	ug/Kg
BB59664	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	1000	10	ug/Kg
BB59664	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	1500	5	ug/Kg
BB59664	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	1400	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59664	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3		5	ug/Kg
BB59664	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	1700	5	ug/Kg
BB59664	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	5500	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	600	5	ug/Kg
BB59664	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	400	5	ug/Kg
BB59664	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	30	330	ug/Kg
BB59664	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	350	100	330	ug/Kg
BB59664	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB59664	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	200	330	ug/Kg
BB59664	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	220	330	ug/Kg
BB59664	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	240	330	ug/Kg
BB59664	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB59664	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	500	1600	ug/Kg
BB59664	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	200	1600	ug/Kg
BB59664	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	1600	ug/Kg
BB59664	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	430	1600	ug/Kg
BB59664	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	61	330	ug/Kg
BB59664	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	224	330	ug/Kg
BB59664	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	14	330	ug/Kg
BB59665	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	200	10	ug/Kg
BB59665	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1900	10	ug/Kg
BB59665	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	400	5	ug/Kg
BB59665	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	6000	5	ug/Kg
BB59665	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	6900	200	10	ug/Kg
BB59665	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	2700	5	ug/Kg
BB59665	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	100	5	ug/Kg
BB59665	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	200	5	ug/Kg
BB59665	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	6900	300	10	ug/Kg
BB59665	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	800	5	ug/Kg
BB59665	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	600	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59665	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	60	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	100	5	ug/Kg
BB59665	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	700	5	ug/Kg
BB59665	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	6900	1000	10	ug/Kg
BB59665	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	6200	1400	1500	5	ug/Kg
BB59665	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1400	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	300	5	ug/Kg
BB59665	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400		5	ug/Kg
BB59665	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	1700	5	ug/Kg
BB59665	EMCI	\$8260SMR	Ethylbenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	13000	1400	5500	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	600	5	ug/Kg
BB59665	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	1400	400	5	ug/Kg
BB59665	EMCI	\$8260SMR	Naphthalene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	15000	1400	3400	330	ug/Kg
BB59665	EMCI	\$8260SMR	Total Xylenes	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	74000	1400	1200		ug/Kg
BB59665	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	30	330	ug/Kg
BB59665	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	360	100	330	ug/Kg
BB59665	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB59665	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	200	330	ug/Kg
BB59665	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	220	330	ug/Kg
BB59665	EMCI	\$8270-SMR	4-Chloro-3-methylphenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	240	330	ug/Kg
BB59665	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	100	330	ug/Kg
BB59665	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	500	1600	ug/Kg
BB59665	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	200	1600	ug/Kg
BB59665	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1100	100	1600	ug/Kg
BB59665	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	580	430	1600	ug/Kg
BB59665	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	61	330	ug/Kg
BB59665	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	224	330	ug/Kg
BB59665	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	250	14	330	ug/Kg
BB59666	EMCI	\$8260SMR	Vinyl chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	200	10	ug/Kg
BB59666	EMCI	\$8260SMR	Chloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1900	10	ug/Kg
BB59666	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	400	5	ug/Kg
BB59666	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	6000	5	ug/Kg
BB59666	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	200	10	ug/Kg
BB59666	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	2700	5	ug/Kg
BB59666	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	100	5	ug/Kg
BB59666	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg
BB59666	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	200	5	ug/Kg
BB59666	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	300	10	ug/Kg
BB59666	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59666	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	800	5	ug/Kg
BB59666	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	600	5	ug/Kg
BB59666	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	60	5	ug/Kg
BB59666	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	100	5	ug/Kg
BB59666	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	700	5	ug/Kg
BB59666	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	660	1000	10	ug/Kg
BB59666	EMCI	\$8260SMR	Toluene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1500	5	ug/Kg
BB59666	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1400	5	ug/Kg
BB59666	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	300	5	ug/Kg
BB59666	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130		5	ug/Kg
BB59666	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	1700	5	ug/Kg
BB59666	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	600	5	ug/Kg
BB59666	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	130	400	5	ug/Kg
BB59666	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59666	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	330	ug/Kg
BB59666	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59666	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59666	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59666	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59666	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	500	1600	ug/Kg
BB59666	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	200	1600	ug/Kg
BB59666	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	1600	ug/Kg
BB59666	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	430	1600	ug/Kg
BB59666	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59666	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	224	330	ug/Kg
BB59666	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg
BB59667	EMCI	\$8260SMR	1,1-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	400	5	ug/Kg
BB59667	EMCI	\$8260SMR	Trichlorotrifluoroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	6000	5	ug/Kg
BB59667	EMCI	\$8260SMR	Acetone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	200	10	ug/Kg
BB59667	EMCI	\$8260SMR	Carbon Disulfide	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	11	2700	5	ug/Kg
BB59667	EMCI	\$8260SMR	Methylene chloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	100	5	ug/Kg
BB59667	EMCI	\$8260SMR	trans-1,2-Dichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,1-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	200	5	ug/Kg
BB59667	EMCI	\$8260SMR	Methyl Ethyl Ketone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	300	10	ug/Kg
BB59667	EMCI	\$8260SMR	Chloroform	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,1,1-Trichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	800	5	ug/Kg
BB59667	EMCI	\$8260SMR	Carbon tetrachloride	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	600	5	ug/Kg
BB59667	EMCI	\$8260SMR	Benzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	60	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,2-Dichloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	100	5	ug/Kg

Sample Criteria Exceedences Report

Requested Criteria: TAGS

GBB59659

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BB59667	EMCI	\$8260SMR	Trichloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	700	5	ug/Kg
BB59667	EMCI	\$8260SMR	4-Methyl-2-pentanone	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	27	1000	10	ug/Kg
BB59667	EMCI	\$8260SMR	Tetrachloroethene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	1400	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,3-Dichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	300	5	ug/Kg
BB59667	EMCI	\$8260SMR	Dibromochloromethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3		5	ug/Kg
BB59667	EMCI	\$8260SMR	Chlorobenzene	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	1700	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,1,2,2-Tetrachloroethane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	600	5	ug/Kg
BB59667	EMCI	\$8260SMR	1,2,3-Trichloropropane	mg/kg	NY	Tagm - Volatile Organics	Soil Standards	ND	5.3	400	5	ug/Kg
BB59667	EMCI	\$8270-SMR	Phenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	30	330	ug/Kg
BB59667	EMCI	\$8270-SMR	Aniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	350	100	330	ug/Kg
BB59667	EMCI	\$8270-SMR	2-Methylphenol (o-cresol)	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59667	EMCI	\$8270-SMR	Nitrobenzene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	200	330	ug/Kg
BB59667	EMCI	\$8270-SMR	4-Chloroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	220	330	ug/Kg
BB59667	EMCI	\$8270-SMR	2,4,5-Trichlorophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	100	330	ug/Kg
BB59667	EMCI	\$8270-SMR	3-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	500	1600	ug/Kg
BB59667	EMCI	\$8270-SMR	2,4-Dinitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	200	1600	ug/Kg
BB59667	EMCI	\$8270-SMR	4-Nitrophenol	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	1000	100	1600	ug/Kg
BB59667	EMCI	\$8270-SMR	2-Nitroaniline	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	560	430	1600	ug/Kg
BB59667	EMCI	\$8270-SMR	Bis(2-ethylhexyl)phthalate	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	61	330	ug/Kg
BB59667	EMCI	\$8270-SMR	Benz(a)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	224	330	ug/Kg
BB59667	EMCI	\$8270-SMR	Dibenz(a,h)anthracene	mg/kg	NY	Tagm - Semi-volatiles	Soil Standards	ND	240	14	330	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Thursday, April 19, 2012

Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Project ID: 1676 THIRD AVE., NYC, NY
Sample ID#s: BB71497 - BB71498

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 19, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: GROUND WATER
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LB
Analyzed by: see "By" below

Date Time
04/11/12 15:00
04/12/12 16:36

Laboratory Data

SDG ID: GBB71497
Phoenix ID: BB71497

Project ID: 1676 THIRD AVE., NYC, NY

Client ID: MW-B

Parameter	Result	RL	Units	Date	Time	By	Reference
Semi-Volatile Extraction	Completed			04/12/12		R/K	SW3520
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	20	ug/L	04/15/12		R/T	SW8260
1,1,1-Trichloroethane	ND	20	ug/L	04/15/12		R/T	SW8260
1,1,2,2-Tetrachloroethane	ND	10	ug/L	04/15/12		R/T	SW8260
1,1,2-Trichloroethane	ND	20	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethane	ND	20	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethene	ND	20	ug/L	04/15/12		R/T	SW8260
1,1-Dichloropropene	ND	20	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichlorobenzene	ND	20	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichloropropane	ND	20	ug/L	04/15/12		R/T	SW8260
1,2,4-Trichlorobenzene	ND	20	ug/L	04/15/12		R/T	SW8260
1,2,4-Trimethylbenzene	150	20	ug/L	04/15/12		R/T	SW8260
1,2-Dibromo-3-chloropropane	ND	20	ug/L	04/15/12		R/T	SW8260
1,2-Dichlorobenzene	ND	20	ug/L	04/15/12		R/T	SW8260
1,2-Dichloroethane	ND	12	ug/L	04/15/12		R/T	SW8260
1,2-Dichloropropane	ND	20	ug/L	04/15/12		R/T	SW8260
1,3,5-Trimethylbenzene	52	20	ug/L	04/15/12		R/T	SW8260
1,3-Dichlorobenzene	ND	20	ug/L	04/15/12		R/T	SW8260
1,3-Dichloropropane	ND	20	ug/L	04/15/12		R/T	SW8260
1,4-Dichlorobenzene	ND	20	ug/L	04/15/12		R/T	SW8260
2,2-Dichloropropane	ND	20	ug/L	04/15/12		R/T	SW8260
2-Chlorotoluene	ND	20	ug/L	04/15/12		R/T	SW8260
2-Hexanone	ND	100	ug/L	04/15/12		R/T	SW8260
2-Isopropyltoluene	ND	20	ug/L	04/15/12		R/T	SW8260
4-Chlorotoluene	ND	20	ug/L	04/15/12		R/T	SW8260
4-Methyl-2-pentanone	ND	100	ug/L	04/15/12		R/T	SW8260

Client ID: MW-B

Parameter	Result	RL	Units	Date	Time	By	Reference
Acetone	ND	500	ug/L	04/15/12		R/T	SW8260
Acrylonitrile	ND	100	ug/L	04/15/12		R/T	SW8260
Benzene	ND	14	ug/L	04/15/12		R/T	SW8260
Bromobenzene	ND	20	ug/L	04/15/12		R/T	SW8260
Bromochloromethane	ND	20	ug/L	04/15/12		R/T	SW8260
Bromodichloromethane	ND	10	ug/L	04/15/12		R/T	SW8260
Bromoform	ND	20	ug/L	04/15/12		R/T	SW8260
Bromomethane	ND	20	ug/L	04/15/12		R/T	SW8260
Carbon Disulfide	ND	100	ug/L	04/15/12		R/T	SW8260
Carbon tetrachloride	ND	20	ug/L	04/15/12		R/T	SW8260
Chlorobenzene	ND	20	ug/L	04/15/12		R/T	SW8260
Chloroethane	ND	20	ug/L	04/15/12		R/T	SW8260
Chloroform	ND	20	ug/L	04/15/12		R/T	SW8260
Chloromethane	ND	20	ug/L	04/15/12		R/T	SW8260
cis-1,2-Dichloroethene	ND	20	ug/L	04/15/12		R/T	SW8260
cis-1,3-Dichloropropene	ND	10	ug/L	04/15/12		R/T	SW8260
Dibromochloromethane	ND	10	ug/L	04/15/12		R/T	SW8260
Dibromoethane	ND	20	ug/L	04/15/12		R/T	SW8260
Dibromomethane	ND	20	ug/L	04/15/12		R/T	SW8260
Dichlorodifluoromethane	ND	20	ug/L	04/15/12		R/T	SW8260
Ethylbenzene	270	20	ug/L	04/15/12		R/T	SW8260
Hexachlorobutadiene	ND	8.0	ug/L	04/15/12		R/T	SW8260
Isopropylbenzene	40	20	ug/L	04/15/12		R/T	SW8260
m&p-Xylene	230	20	ug/L	04/15/12		R/T	SW8260
Methyl ethyl ketone	ND	100	ug/L	04/15/12		R/T	SW8260
Methyl t-butyl ether (MTBE)	ND	20	ug/L	04/15/12		R/T	SW8260
Methylene chloride	ND	20	ug/L	04/15/12		R/T	SW8260
Naphthalene	48	20	ug/L	04/15/12		R/T	SW8260
n-Butylbenzene	35	20	ug/L	04/15/12		R/T	SW8260
n-Propylbenzene	120	20	ug/L	04/15/12		R/T	SW8260
o-Xylene	90	20	ug/L	04/15/12		R/T	SW8260
p-Isopropyltoluene	ND	20	ug/L	04/15/12		R/T	SW8260
sec-Butylbenzene	ND	20	ug/L	04/15/12		R/T	SW8260
Styrene	ND	20	ug/L	04/15/12		R/T	SW8260
tert-Butylbenzene	ND	20	ug/L	04/15/12		R/T	SW8260
Tetrachloroethene	ND	20	ug/L	04/15/12		R/T	SW8260
Tetrahydrofuran (THF)	ND	100	ug/L	04/15/12		R/T	SW8260
Toluene	47	20	ug/L	04/15/12		R/T	SW8260
Total Xylenes	320	20	ug/L	04/15/12		R/T	SW8260
trans-1,2-Dichloroethene	ND	20	ug/L	04/15/12		R/T	SW8260
trans-1,3-Dichloropropene	ND	10	ug/L	04/15/12		R/T	SW8260
trans-1,4-dichloro-2-butene	ND	100	ug/L	04/15/12		R/T	SW8260
Trichloroethene	ND	20	ug/L	04/15/12		R/T	SW8260
Trichlorofluoromethane	ND	20	ug/L	04/15/12		R/T	SW8260
Trichlorotrifluoroethane	ND	20	ug/L	04/15/12		R/T	SW8260
Vinyl chloride	ND	20	ug/L	04/15/12		R/T	SW8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	04/15/12		R/T	70 - 130 %
% Bromofluorobenzene	89		%	04/15/12		R/T	70 - 130 %
% Dibromofluoromethane	97		%	04/15/12		R/T	70 - 130 %

Client ID: MW-B

Parameter	Result	RL	Units	Date	Time	By	Reference
% Toluene-d8	93		%	04/15/12		R/T	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,2,4-Trichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,2-Dichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,3-Dichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,4-Dichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
2,4,5-Trichlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2,4,6-Trichlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2,4-Dichlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2,4-Dimethylphenol	10	10	ug/L	04/14/12		DD	SW8270
2,4-Dinitrophenol	ND	50	ug/L	04/14/12		DD	SW8270
2,4-Dinitrotoluene	ND	10	ug/L	04/14/12		DD	SW8270
2,6-Dinitrotoluene	ND	10	ug/L	04/14/12		DD	SW8270
2-Chloronaphthalene	ND	10	ug/L	04/14/12		DD	SW8270
2-Chlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2-Methylnaphthalene	54	10	ug/L	04/14/12		DD	SW8270
2-Methylphenol (o-cresol)	ND	10	ug/L	04/14/12		DD	SW8270
2-Nitroaniline	ND	50	ug/L	04/14/12		DD	SW8270
2-Nitrophenol	ND	10	ug/L	04/14/12		DD	SW8270
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	04/14/12		DD	SW8270
3,3'-Dichlorobenzidine	ND	20	ug/L	04/14/12		DD	SW8270
3-Nitroaniline	ND	50	ug/L	04/14/12		DD	SW8270
4,6-Dinitro-2-methylphenol	ND	50	ug/L	04/14/12		DD	SW8270
4-Bromophenyl phenyl ether	ND	10	ug/L	04/14/12		DD	SW8270
4-Chloro-3-methylphenol	ND	20	ug/L	04/14/12		DD	SW8270
4-Chloroaniline	ND	20	ug/L	04/14/12		DD	SW8270
4-Chlorophenyl phenyl ether	ND	10	ug/L	04/14/12		DD	SW8270
4-Nitroaniline	ND	50	ug/L	04/14/12		DD	SW8270
4-Nitrophenol	ND	50	ug/L	04/14/12		DD	SW8270
Acenaphthene	ND	10	ug/L	04/14/12		DD	SW8270
Acenaphthylene	ND	10	ug/L	04/14/12		DD	SW8270
Acetophenone	ND	10	ug/L	04/14/12		DD	SW8270
Aniline	ND	50	ug/L	04/14/12		DD	SW8270
Anthracene	ND	10	ug/L	04/14/12		DD	SW8270
Azobenzene	ND	10	ug/L	04/14/12		DD	SW8270
Benz(a)anthracene	ND	10	ug/L	04/14/12		DD	SW8270
Benzidine	ND	20	ug/L	04/14/12		DD	SW8270
Benzo(a)pyrene	ND	10	ug/L	04/14/12		DD	SW8270
Benzo(b)fluoranthene	ND	10	ug/L	04/14/12		DD	SW8270
Benzo(ghi)perylene	ND	10	ug/L	04/14/12		DD	SW8270
Benzo(k)fluoranthene	ND	10	ug/L	04/14/12		DD	SW8270
Benzoic acid	ND	50	ug/L	04/14/12		DD	SW8270
Benzyl butyl phthalate	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-chloroethoxy)methane	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-chloroethyl)ether	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-chloroisopropyl)ether	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-ethylhexyl)phthalate	11	10	ug/L	04/14/12		DD	SW8270
Carbazole	ND	50	ug/L	04/14/12		DD	SW8270
Chrysene	ND	10	ug/L	04/14/12		DD	SW8270

LO

1

1P

Client ID: MW-B

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibenz(a,h)anthracene	ND	10	ug/L	04/14/12		DD	SW8270
Dibenzofuran	ND	10	ug/L	04/14/12		DD	SW8270
Diethyl phthalate	ND	10	ug/L	04/14/12		DD	SW8270
Dimethylphthalate	ND	10	ug/L	04/14/12		DD	SW8270
Di-n-butylphthalate	ND	10	ug/L	04/14/12		DD	SW8270
Di-n-octylphthalate	ND	10	ug/L	04/14/12		DD	SW8270
Fluoranthene	ND	10	ug/L	04/14/12		DD	SW8270
Fluorene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachlorobutadiene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachlorocyclopentadiene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachloroethane	ND	10	ug/L	04/14/12		DD	SW8270
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	04/14/12		DD	SW8270
Isophorone	ND	10	ug/L	04/14/12		DD	SW8270
Naphthalene	49	10	ug/L	04/14/12		DD	SW8270
Nitrobenzene	ND	10	ug/L	04/14/12		DD	SW8270
N-Nitrosodimethylamine	ND	10	ug/L	04/14/12		DD	SW8270
N-Nitrosodi-n-propylamine	ND	10	ug/L	04/14/12		DD	SW8270
N-Nitrosodiphenylamine	ND	10	ug/L	04/14/12		DD	SW8270
Pentachloronitrobenzene	ND	10	ug/L	04/14/12		DD	SW8270
Pentachlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
Phenanthrene	ND	10	ug/L	04/14/12		DD	SW8270
Phenol	ND	10	ug/L	04/14/12		DD	SW8270
Pyrene	ND	10	ug/L	04/14/12		DD	SW8270
Pyridine	ND	10	ug/L	04/14/12		DD	SW8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	*Diluted Out		%	04/14/12		DD	15 - 130 %
% 2-Fluorobiphenyl	*Diluted Out		%	04/14/12		DD	15 - 130 %
% 2-Fluorophenol	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Nitrobenzene-d5	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Phenol-d5	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Terphenyl-d14	*Diluted Out		%	04/14/12		DD	15 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

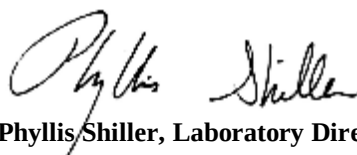
Comments:

* Due to matrix interference and/or the presence of a large amount of non-target material in the sample an elevated RL was reported for the semivolatile analysis.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 19, 2012

Reviewed and Released by: Sarah Bell, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 19, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: GROUND WATER
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LB
Analyzed by: see "By" below

Date Time
04/11/12 0:00
04/12/12 16:36

Laboratory Data

SDG ID: GBB71497
Phoenix ID: BB71498

Project ID: 1676 THIRD AVE., NYC, NY

Client ID: TRIP BLANK

Parameter	Result	RL	Units	Date	Time	By	Reference
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,1,1-Trichloroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	04/15/12		R/T	SW8260
1,1,2-Trichloroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,1-Dichloropropene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichloropropane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2,4-Trichlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2,4-Trimethylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2-Dichlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2-Dichloroethane	ND	0.60	ug/L	04/15/12		R/T	SW8260
1,2-Dichloropropane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,3,5-Trimethylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,3-Dichlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,3-Dichloropropane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,4-Dichlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
2,2-Dichloropropane	ND	1.0	ug/L	04/15/12		R/T	SW8260
2-Chlorotoluene	ND	1.0	ug/L	04/15/12		R/T	SW8260
2-Hexanone	ND	5.0	ug/L	04/15/12		R/T	SW8260
2-Isopropyltoluene	ND	1.0	ug/L	04/15/12		R/T	SW8260
4-Chlorotoluene	ND	1.0	ug/L	04/15/12		R/T	SW8260
4-Methyl-2-pentanone	ND	5.0	ug/L	04/15/12		R/T	SW8260
Acetone	ND	25	ug/L	04/15/12		R/T	SW8260

Client ID: TRIP BLANK

Parameter	Result	RL	Units	Date	Time	By	Reference
Acrylonitrile	ND	5.0	ug/L	04/15/12		R/T	SW8260
Benzene	ND	0.70	ug/L	04/15/12		R/T	SW8260
Bromobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Bromochloromethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Bromodichloromethane	ND	0.50	ug/L	04/15/12		R/T	SW8260
Bromoform	ND	1.0	ug/L	04/15/12		R/T	SW8260
Bromomethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Carbon Disulfide	ND	5.0	ug/L	04/15/12		R/T	SW8260
Carbon tetrachloride	ND	1.0	ug/L	04/15/12		R/T	SW8260
Chlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Chloroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Chloroform	ND	1.0	ug/L	04/15/12		R/T	SW8260
Chloromethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	04/15/12		R/T	SW8260
cis-1,3-Dichloropropene	ND	0.50	ug/L	04/15/12		R/T	SW8260
Dibromochloromethane	ND	0.50	ug/L	04/15/12		R/T	SW8260
Dibromoethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Dibromomethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Dichlorodifluoromethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Ethylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Hexachlorobutadiene	ND	0.40	ug/L	04/15/12		R/T	SW8260
Isopropylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
m&p-Xylene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Methyl ethyl ketone	ND	5.0	ug/L	04/15/12		R/T	SW8260
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	04/15/12		R/T	SW8260
Methylene chloride	ND	1.0	ug/L	04/15/12		R/T	SW8260
Naphthalene	ND	1.0	ug/L	04/15/12		R/T	SW8260
n-Butylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
n-Propylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
o-Xylene	ND	1.0	ug/L	04/15/12		R/T	SW8260
p-Isopropyltoluene	ND	1.0	ug/L	04/15/12		R/T	SW8260
sec-Butylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Styrene	ND	1.0	ug/L	04/15/12		R/T	SW8260
tert-Butylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Tetrachloroethene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Tetrahydrofuran (THF)	ND	5.0	ug/L	04/15/12		R/T	SW8260
Toluene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Total Xylenes	ND	1.0	ug/L	04/15/12		R/T	SW8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	04/15/12		R/T	SW8260
trans-1,3-Dichloropropene	ND	0.50	ug/L	04/15/12		R/T	SW8260
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	04/15/12		R/T	SW8260
Trichloroethene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Trichlorofluoromethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Trichlorotrifluoroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Vinyl chloride	ND	1.0	ug/L	04/15/12		R/T	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	98		%	04/15/12		R/T	70 - 130 %
% Bromofluorobenzene	87		%	04/15/12		R/T	70 - 130 %
% Dibromofluoromethane	99		%	04/15/12		R/T	70 - 130 %
% Toluene-d8	95		%	04/15/12		R/T	70 - 130 %

Client ID: TRIP BLANK

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

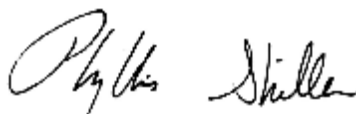
Comments:

TRIP BLANK INCLUDED

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 19, 2012

Reviewed and Released by: Sarah Bell, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



QA/QC Report

April 19, 2012

QA/QC Data

SDG I.D.: GBB71497

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 198156, QC Sample No: BB70278 (BB71497)									
<u>Semivolatiles - Ground Water</u>									
1,2,4,5-Tetrachlorobenzene	ND	58	59	1.7				30 - 130	20
1,2,4-Trichlorobenzene	ND	83	83	0.0				30 - 130	20
1,2-Dichlorobenzene	ND	80	81	1.2				30 - 130	20
1,3-Dichlorobenzene	ND	77	77	0.0				30 - 130	20
1,4-Dichlorobenzene	ND	82	79	3.7				30 - 130	20
2,4,5-Trichlorophenol	ND	91	88	3.4				30 - 130	20
2,4,6-Trichlorophenol	ND	97	95	2.1				30 - 130	20
2,4-Dichlorophenol	ND	86	88	2.3				30 - 130	20
2,4-Dimethylphenol	ND	41	41	0.0				30 - 130	20
2,4-Dinitrophenol	ND	52	49	5.9				30 - 130	20
2,4-Dinitrotoluene	ND	95	95	0.0				30 - 130	20
2,6-Dinitrotoluene	ND	98	97	1.0				30 - 130	20
2-Chloronaphthalene	ND	94	96	2.1				30 - 130	20
2-Chlorophenol	ND	73	73	0.0				30 - 130	20
2-Methylnaphthalene	ND	90	90	0.0				30 - 130	20
2-Methylphenol (o-cresol)	ND	70	67	4.4				30 - 130	20
2-Nitroaniline	ND	>150	>150	NC				30 - 130	20
2-Nitrophenol	ND	81	79	2.5				30 - 130	20
3&4-Methylphenol (m&p-cresol)	ND	73	75	2.7				30 - 130	20
3,3'-Dichlorobenzidine	ND	N/A	N/A	NC				30 - 130	20
3-Nitroaniline	ND	>150	>150	NC				30 - 130	20
4,6-Dinitro-2-methylphenol	ND	66	64	3.1				30 - 130	20
4-Bromophenyl phenyl ether	ND	91	90	1.1				30 - 130	20
4-Chloro-3-methylphenol	ND	100	100	0.0				30 - 130	20
4-Chloroaniline	ND	51	50	2.0				30 - 130	20
4-Chlorophenyl phenyl ether	ND	100	103	3.0				30 - 130	20
4-Nitroaniline	ND	96	98	2.1				30 - 130	20
4-Nitrophenol	ND	89	90	1.1				30 - 130	20
Acenaphthene	ND	96	97	1.0				30 - 130	20
Acenaphthylene	ND	91	91	0.0				30 - 130	20
Acetophenone	ND	47	47	0.0				30 - 130	20
Aniline	ND	N/A	N/A	NC				30 - 130	20
Anthracene	ND	93	92	1.1				30 - 130	20
Azobenzene	ND	50	50	0.0				30 - 130	20
Benz(a)anthracene	ND	94	94	0.0				30 - 130	20
Benzidine	ND	N/A	N/A	NC				30 - 130	20
Benzo(a)pyrene	ND	90	88	2.2				30 - 130	20
Benzo(b)fluoranthene	ND	91	94	3.2				30 - 130	20
Benzo(ghi)perylene	ND	91	93	2.2				30 - 130	20
Benzo(k)fluoranthene	ND	105	100	4.9				30 - 130	20
Benzoic acid	ND	N/A	N/A	NC				30 - 130	20

QA/QC Data

SDG I.D.: GBB71497

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Benzyl butyl phthalate	ND	84	84	0.0				30 - 130	20
Bis(2-chloroethoxy)methane	ND	84	84	0.0				30 - 130	20
Bis(2-chloroethyl)ether	ND	71	71	0.0				30 - 130	20
Bis(2-chloroisopropyl)ether	ND	80	80	0.0				30 - 130	20
Bis(2-ethylhexyl)phthalate	ND	93	90	3.3				30 - 130	20
Carbazole	ND	117	116	0.9				30 - 130	20
Chrysene	ND	97	97	0.0				30 - 130	20
Dibenz(a,h)anthracene	ND	94	92	2.2				30 - 130	20
Dibenzofuran	ND	96	95	1.0				30 - 130	20
Diethyl phthalate	ND	97	97	0.0				30 - 130	20
Dimethylphthalate	ND	96	96	0.0				30 - 130	20
Di-n-butylphthalate	ND	100	96	4.1				30 - 130	20
Di-n-octylphthalate	ND	98	98	0.0				30 - 130	20
Fluoranthene	ND	100	99	1.0				30 - 130	20
Fluorene	ND	101	101	0.0				30 - 130	20
Hexachlorobenzene	ND	98	96	2.1				30 - 130	20
Hexachlorobutadiene	ND	92	93	1.1				30 - 130	20
Hexachlorocyclopentadiene	ND	69	70	1.4				30 - 130	20
Hexachloroethane	ND	86	85	1.2				30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	92	94	2.2				30 - 130	20
Isophorone	ND	66	67	1.5				30 - 130	20
Naphthalene	ND	90	91	1.1				30 - 130	20
Nitrobenzene	ND	92	89	3.3				30 - 130	20
N-Nitrosodimethylamine	ND	52	48	8.0				30 - 130	20
N-Nitrosodi-n-propylamine	ND	92	89	3.3				30 - 130	20
N-Nitrosodiphenylamine	ND	97	98	1.0				30 - 130	20
Pentachloronitrobenzene	ND	109	107	1.9				30 - 130	20
Pentachlorophenol	ND	85	82	3.6				30 - 130	20
Phenanthrene	ND	101	101	0.0				30 - 130	20
Phenol	ND	67	66	1.5				30 - 130	20
Pyrene	ND	103	104	1.0				30 - 130	20
Pyridine	ND	<5	<5	NC				30 - 130	20
% 2,4,6-Tribromophenol	112	92	89	3.3				15 - 130	20
% 2-Fluorobiphenyl	69	86	86	0.0				30 - 130	20
% 2-Fluorophenol	75	59	57	3.4				15 - 130	20
% Nitrobenzene-d5	83	86	84	2.4				30 - 130	20
% Phenol-d5	74	58	58	0.0				15 - 130	20
% Terphenyl-d14	96	111	108	2.7				30 - 130	20

QA/QC Batch 198445, QC Sample No: BB71382 (BB71497, BB71498)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	129	127	1.6	127	118	7.3	70 - 130	30
1,1,1-Trichloroethane	ND	95	93	2.1	96	86	11.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	96	96	0.0	96	98	2.1	70 - 130	30
1,1,2-Trichloroethane	ND	90	91	1.1	88	89	1.1	70 - 130	30
1,1-Dichloroethane	ND	86	85	1.2	87	79	9.6	70 - 130	30
1,1-Dichloroethene	ND	86	85	1.2	96	84	13.3	70 - 130	30
1,1-Dichloropropene	ND	97	95	2.1	99	90	9.5	70 - 130	30
1,2,3-Trichlorobenzene	ND	83	89	7.0	83	84	1.2	70 - 130	30
1,2,3-Trichloropropane	ND	94	90	4.3	92	90	2.2	70 - 130	30
1,2,4-Trichlorobenzene	ND	88	90	2.2	91	89	2.2	70 - 130	30
1,2,4-Trimethylbenzene	ND	106	105	0.9	109	104	4.7	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	87	87	0.0	78	83	6.2	70 - 130	30

QA/QC Data

SDG I.D.: GBB71497

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2-Dichlorobenzene	ND	97	96	1.0	100	96	4.1	70 - 130	30	
1,2-Dichloroethane	ND	93	92	1.1	88	84	4.7	70 - 130	30	
1,2-Dichloropropane	ND	87	87	0.0	89	83	7.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	106	105	0.9	105	99	5.9	70 - 130	30	
1,3-Dichlorobenzene	ND	98	100	2.0	102	97	5.0	70 - 130	30	
1,3-Dichloropropane	ND	91	92	1.1	91	87	4.5	70 - 130	30	
1,4-Dichlorobenzene	ND	95	95	0.0	99	95	4.1	70 - 130	30	
2,2-Dichloropropane	ND	95	94	1.1	78	68	13.7	70 - 130	30	m
2-Chlorotoluene	ND	98	99	1.0	102	96	6.1	70 - 130	30	
2-Hexanone	ND	84	85	1.2	79	78	1.3	70 - 130	30	
2-Isopropyltoluene	ND	105	104	1.0	106	100	5.8	70 - 130	30	
4-Chlorotoluene	ND	99	98	1.0	105	99	5.9	70 - 130	30	
4-Methyl-2-pentanone	ND	80	81	1.2	76	76	0.0	70 - 130	30	
Acetone	ND	94	87	7.7	83	80	3.7	70 - 130	30	
Acrylonitrile	ND	85	84	1.2	81	77	5.1	70 - 130	30	
Benzene	ND	94	93	1.1	97	91	6.4	70 - 130	30	
Bromobenzene	ND	93	94	1.1	96	92	4.3	70 - 130	30	
Bromochloromethane	ND	95	96	1.0	95	89	6.5	70 - 130	30	
Bromodichloromethane	ND	99	96	3.1	93	87	6.7	70 - 130	30	
Bromoform	ND	143	146	2.1	129	129	0.0	70 - 130	30	l
Bromomethane	ND	91	90	1.1	67	70	4.4	70 - 130	30	m
Carbon Disulfide	ND	132	134	1.5	135	120	11.8	70 - 130	30	l,m
Carbon tetrachloride	ND	108	106	1.9	104	95	9.0	70 - 130	30	
Chlorobenzene	ND	106	106	0.0	112	104	7.4	70 - 130	30	
Chloroethane	ND	88	88	0.0	82	79	3.7	70 - 130	30	
Chloroform	ND	90	89	1.1	90	82	9.3	70 - 130	30	
Chloromethane	ND	87	87	0.0	88	78	12.0	70 - 130	30	
cis-1,2-Dichloroethene	ND	88	86	2.3	91	86	5.6	70 - 130	30	
cis-1,3-Dichloropropene	ND	93	94	1.1	93	87	6.7	70 - 130	30	
Dibromochloromethane	ND	107	106	0.9	104	100	3.9	70 - 130	30	
Dibromoethane	ND	93	94	1.1	95	93	2.1	70 - 130	30	
Dibromomethane	ND	96	97	1.0	94	90	4.3	70 - 130	30	
Dichlorodifluoromethane	ND	86	90	4.5	87	74	16.1	70 - 130	30	
Ethylbenzene	ND	115	112	2.6	118	110	7.0	70 - 130	30	
Hexachlorobutadiene	ND	87	90	3.4	93	86	7.8	70 - 130	30	
Isopropylbenzene	ND	102	103	1.0	110	102	7.5	70 - 130	30	
m&p-Xylene	ND	110	109	0.9	112	106	5.5	70 - 130	30	
Methyl ethyl ketone	ND	73	77	5.3	64	65	1.6	70 - 130	30	m
Methyl t-butyl ether (MTBE)	ND	91	95	4.3	81	77	5.1	70 - 130	30	
Methylene chloride	ND	78	77	1.3	79	72	9.3	70 - 130	30	
Naphthalene	ND	79	85	7.3	81	86	6.0	70 - 130	30	
n-Butylbenzene	ND	101	100	1.0	102	96	6.1	70 - 130	30	
n-Propylbenzene	ND	94	94	0.0	99	94	5.2	70 - 130	30	
o-Xylene	ND	110	110	0.0	110	102	7.5	70 - 130	30	
p-Isopropyltoluene	ND	109	108	0.9	107	101	5.8	70 - 130	30	
sec-Butylbenzene	ND	102	102	0.0	106	101	4.8	70 - 130	30	
Styrene	ND	114	115	0.9	112	107	4.6	70 - 130	30	
tert-Butylbenzene	ND	101	99	2.0	103	97	6.0	70 - 130	30	
Tetrachloroethene	ND	101	99	2.0	107	97	9.8	70 - 130	30	
Tetrahydrofuran (THF)	ND	74	76	2.7	75	71	5.5	70 - 130	30	
Toluene	ND	96	96	0.0	102	94	8.2	70 - 130	30	
trans-1,2-Dichloroethene	ND	90	87	3.4	94	84	11.2	70 - 130	30	
trans-1,3-Dichloropropene	ND	102	101	1.0	95	90	5.4	70 - 130	30	

QA/QC Data

SDG I.D.: GBB71497

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
trans-1,4-dichloro-2-butene	ND	107	117	8.9	93	92	1.1	70 - 130	30
Trichloroethene	ND	102	101	1.0	107	98	8.8	70 - 130	30
Trichlorofluoromethane	ND	107	108	0.9	95	82	14.7	70 - 130	30
Trichlorotrifluoroethane	ND	92	92	0.0	99	85	15.2	70 - 130	30
Vinyl chloride	ND	84	83	1.2	85	76	11.2	70 - 130	30
% 1,2-dichlorobenzene-d4	97	100	98	2.0	98	100	2.0	70 - 130	30
% Bromofluorobenzene	88	97	97	0.0	92	92	0.0	70 - 130	30
% Dibromofluoromethane	100	102	100	2.0	101	101	0.0	70 - 130	30
% Toluene-d8	94	96	95	1.0	97	97	0.0	70 - 130	30

l = This parameter is outside laboratory lcs/lcsd specified recovery limits.

m = This parameter is outside laboratory ms/msd specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

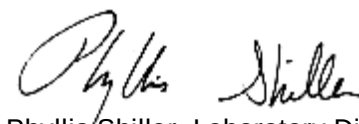
LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria



Phyllis Shiller, Laboratory Director

April 19, 2012



Wednesday, April 18, 2012

Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Project ID: 1676 THIRD AVE., NYC, NY
Sample ID#s: BB71379 - BB71382

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 18, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: GROUND WATER
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LB
Analyzed by: see "By" below

Date Time
04/11/12 12:45
04/12/12 15:42

Laboratory Data

SDG ID: GBB71379
Phoenix ID: BB71379

Project ID: 1676 THIRD AVE., NYC, NY

Client ID: MW-1

Parameter	Result	RL	Units	Date	Time	By	Reference
Semi-Volatile Extraction	Completed			04/12/12		R/K	SW3520
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1,1-Trichloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1,2,2-Tetrachloroethane	ND	25	ug/L	04/15/12		R/T	SW8260
1,1,2-Trichloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
1,1-Dichloropropene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,4-Trichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,4-Trimethylbenzene	1100	50	ug/L	04/15/12		R/T	SW8260
1,2-Dibromo-3-chloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,2-Dichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2-Dichloroethane	ND	30	ug/L	04/15/12		R/T	SW8260
1,2-Dichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,3,5-Trimethylbenzene	500	50	ug/L	04/15/12		R/T	SW8260
1,3-Dichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,3-Dichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,4-Dichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
2,2-Dichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
2-Chlorotoluene	ND	50	ug/L	04/15/12		R/T	SW8260
2-Hexanone	ND	250	ug/L	04/15/12		R/T	SW8260
2-Isopropyltoluene	ND	50	ug/L	04/15/12		R/T	SW8260
4-Chlorotoluene	ND	50	ug/L	04/15/12		R/T	SW8260
4-Methyl-2-pentanone	ND	250	ug/L	04/15/12		R/T	SW8260

Client ID: MW-1

Parameter	Result	RL	Units	Date	Time	By	Reference
Acetone	ND	1300	ug/L	04/15/12		R/T	SW8260
Acrylonitrile	ND	250	ug/L	04/15/12		R/T	SW8260
Benzene	1500	35	ug/L	04/15/12		R/T	SW8260
Bromobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
Bromochloromethane	ND	50	ug/L	04/15/12		R/T	SW8260
Bromodichloromethane	ND	25	ug/L	04/15/12		R/T	SW8260
Bromoform	ND	50	ug/L	04/15/12		R/T	SW8260
Bromomethane	ND	50	ug/L	04/15/12		R/T	SW8260
Carbon Disulfide	ND	250	ug/L	04/15/12		R/T	SW8260
Carbon tetrachloride	ND	50	ug/L	04/15/12		R/T	SW8260
Chlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
Chloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
Chloroform	ND	50	ug/L	04/15/12		R/T	SW8260
Chloromethane	ND	50	ug/L	04/15/12		R/T	SW8260
cis-1,2-Dichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
cis-1,3-Dichloropropene	ND	25	ug/L	04/15/12		R/T	SW8260
Dibromochloromethane	ND	25	ug/L	04/15/12		R/T	SW8260
Dibromoethane	ND	50	ug/L	04/15/12		R/T	SW8260
Dibromomethane	ND	50	ug/L	04/15/12		R/T	SW8260
Dichlorodifluoromethane	ND	50	ug/L	04/15/12		R/T	SW8260
Ethylbenzene	720	50	ug/L	04/15/12		R/T	SW8260
Hexachlorobutadiene	ND	20	ug/L	04/15/12		R/T	SW8260
Isopropylbenzene	87	50	ug/L	04/15/12		R/T	SW8260
m&p-Xylene	2100	50	ug/L	04/15/12		R/T	SW8260
Methyl ethyl ketone	ND	250	ug/L	04/15/12		R/T	SW8260
Methyl t-butyl ether (MTBE)	ND	50	ug/L	04/15/12		R/T	SW8260
Methylene chloride	ND	50	ug/L	04/15/12		R/T	SW8260
Naphthalene	160	50	ug/L	04/15/12		R/T	SW8260
n-Butylbenzene	74	50	ug/L	04/15/12		R/T	SW8260
n-Propylbenzene	240	50	ug/L	04/15/12		R/T	SW8260
o-Xylene	980	50	ug/L	04/15/12		R/T	SW8260
p-Isopropyltoluene	ND	50	ug/L	04/15/12		R/T	SW8260
sec-Butylbenzene	ND	50	ug/L	04/15/12		R/T	SW8260
Styrene	ND	50	ug/L	04/15/12		R/T	SW8260
tert-Butylbenzene	ND	50	ug/L	04/15/12		R/T	SW8260
Tetrachloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
Tetrahydrofuran (THF)	ND	250	ug/L	04/15/12		R/T	SW8260
Toluene	900	50	ug/L	04/15/12		R/T	SW8260
Total Xylenes	3080	50	ug/L	04/15/12		R/T	SW8260
trans-1,2-Dichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
trans-1,3-Dichloropropene	ND	25	ug/L	04/15/12		R/T	SW8260
trans-1,4-dichloro-2-butene	ND	250	ug/L	04/15/12		R/T	SW8260
Trichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
Trichlorofluoromethane	ND	50	ug/L	04/15/12		R/T	SW8260
Trichlorotrifluoroethane	ND	50	ug/L	04/15/12		R/T	SW8260
Vinyl chloride	ND	50	ug/L	04/15/12		R/T	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	96		%	04/15/12		R/T	70 - 130 %
% Bromofluorobenzene	91		%	04/15/12		R/T	70 - 130 %
% Dibromofluoromethane	97		%	04/15/12		R/T	70 - 130 %

Client ID: MW-1

Parameter	Result	RL	Units	Date	Time	By	Reference
% Toluene-d8	94		%	04/15/12		R/T	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,2,4-Trichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,2-Dichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,3-Dichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,4-Dichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
2,4,5-Trichlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2,4,6-Trichlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2,4-Dichlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2,4-Dimethylphenol	61	10	ug/L	04/14/12		DD	SW8270
2,4-Dinitrophenol	ND	50	ug/L	04/14/12		DD	SW8270
2,4-Dinitrotoluene	ND	10	ug/L	04/14/12		DD	SW8270
2,6-Dinitrotoluene	ND	10	ug/L	04/14/12		DD	SW8270
2-Chloronaphthalene	ND	10	ug/L	04/14/12		DD	SW8270
2-Chlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2-Methylnaphthalene	83	10	ug/L	04/14/12		DD	SW8270
2-Methylphenol (o-cresol)	35	10	ug/L	04/14/12		DD	SW8270
2-Nitroaniline	ND	50	ug/L	04/14/12		DD	SW8270
2-Nitrophenol	ND	10	ug/L	04/14/12		DD	SW8270
3&4-Methylphenol (m&p-cresol)	46	10	ug/L	04/14/12		DD	SW8270
3,3'-Dichlorobenzidine	ND	20	ug/L	04/14/12		DD	SW8270
3-Nitroaniline	ND	50	ug/L	04/14/12		DD	SW8270
4,6-Dinitro-2-methylphenol	ND	50	ug/L	04/14/12		DD	SW8270
4-Bromophenyl phenyl ether	ND	10	ug/L	04/14/12		DD	SW8270
4-Chloro-3-methylphenol	ND	20	ug/L	04/14/12		DD	SW8270
4-Chloroaniline	ND	20	ug/L	04/14/12		DD	SW8270
4-Chlorophenyl phenyl ether	ND	10	ug/L	04/14/12		DD	SW8270
4-Nitroaniline	ND	50	ug/L	04/14/12		DD	SW8270
4-Nitrophenol	ND	50	ug/L	04/14/12		DD	SW8270
Acenaphthene	ND	10	ug/L	04/14/12		DD	SW8270
Acenaphthylene	ND	10	ug/L	04/14/12		DD	SW8270
Acetophenone	ND	10	ug/L	04/14/12		DD	SW8270
Aniline	ND	50	ug/L	04/14/12		DD	SW8270
Anthracene	ND	10	ug/L	04/14/12		DD	SW8270
Azobenzene	ND	10	ug/L	04/14/12		DD	SW8270
Benz(a)anthracene	ND	10	ug/L	04/14/12		DD	SW8270
Benzidine	ND	20	ug/L	04/14/12		DD	SW8270
Benzo(a)pyrene	ND	10	ug/L	04/14/12		DD	SW8270
Benzo(b)fluoranthene	ND	10	ug/L	04/14/12		DD	SW8270
Benzo(ghi)perylene	ND	10	ug/L	04/14/12		DD	SW8270
Benzo(k)fluoranthene	ND	10	ug/L	04/14/12		DD	SW8270
Benzoic acid	ND	50	ug/L	04/14/12		DD	SW8270
Benzyl butyl phthalate	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-chloroethoxy)methane	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-chloroethyl)ether	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-chloroisopropyl)ether	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-ethylhexyl)phthalate	ND	10	ug/L	04/14/12		DD	SW8270
Carbazole	ND	50	ug/L	04/14/12		DD	SW8270
Chrysene	ND	10	ug/L	04/14/12		DD	SW8270

LO

1

1P

Client ID: MW-1

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibenz(a,h)anthracene	ND	10	ug/L	04/14/12		DD	SW8270
Dibenzofuran	ND	10	ug/L	04/14/12		DD	SW8270
Diethyl phthalate	ND	10	ug/L	04/14/12		DD	SW8270
Dimethylphthalate	ND	10	ug/L	04/14/12		DD	SW8270
Di-n-butylphthalate	ND	10	ug/L	04/14/12		DD	SW8270
Di-n-octylphthalate	ND	10	ug/L	04/14/12		DD	SW8270
Fluoranthene	ND	10	ug/L	04/14/12		DD	SW8270
Fluorene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachlorobutadiene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachlorocyclopentadiene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachloroethane	ND	10	ug/L	04/14/12		DD	SW8270
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	04/14/12		DD	SW8270
Isophorone	ND	10	ug/L	04/14/12		DD	SW8270
Naphthalene	160	10	ug/L	04/14/12		DD	SW8270
Nitrobenzene	ND	10	ug/L	04/14/12		DD	SW8270
N-Nitrosodimethylamine	ND	10	ug/L	04/14/12		DD	SW8270
N-Nitrosodi-n-propylamine	ND	10	ug/L	04/14/12		DD	SW8270
N-Nitrosodiphenylamine	ND	10	ug/L	04/14/12		DD	SW8270
Pentachloronitrobenzene	ND	10	ug/L	04/14/12		DD	SW8270
Pentachlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
Phenanthrene	ND	10	ug/L	04/14/12		DD	SW8270
Phenol	63	10	ug/L	04/14/12		DD	SW8270
Pyrene	ND	10	ug/L	04/14/12		DD	SW8270
Pyridine	ND	10	ug/L	04/14/12		DD	SW8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	*Diluted Out		%	04/14/12		DD	15 - 130 %
% 2-Fluorobiphenyl	*Diluted Out		%	04/14/12		DD	15 - 130 %
% 2-Fluorophenol	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Nitrobenzene-d5	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Phenol-d5	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Terphenyl-d14	*Diluted Out		%	04/14/12		DD	15 - 130 %

LO

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

Comments:

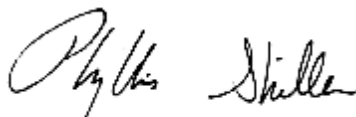
* Due to a matrix interference and/or the presence of a large amount of non-target material in the sample, an elevated RL was reported for the semivolatile analysis.

Elevated reporting limits for volatiles due to the oily nature of the sample.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 18, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 18, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: GROUND WATER
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LB
Analyzed by: see "By" below

Date Time
04/11/12 13:45
04/12/12 15:42

Laboratory Data

SDG ID: GBB71379
Phoenix ID: BB71380

Project ID: 1676 THIRD AVE., NYC, NY

Client ID: MW-2

Parameter	Result	RL	Units	Date	Time	By	Reference
Semi-Volatile Extraction	Completed			04/12/12		R/K	SW3520
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1,1-Trichloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1,2,2-Tetrachloroethane	ND	25	ug/L	04/15/12		R/T	SW8260
1,1,2-Trichloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
1,1-Dichloropropene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,4-Trichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,4-Trimethylbenzene	4200	500	ug/L	04/15/12		R/T	SW8260
1,2-Dibromo-3-chloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,2-Dichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2-Dichloroethane	ND	30	ug/L	04/15/12		R/T	SW8260
1,2-Dichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,3,5-Trimethylbenzene	1200	500	ug/L	04/15/12		R/T	SW8260
1,3-Dichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,3-Dichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,4-Dichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
2,2-Dichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
2-Chlorotoluene	ND	50	ug/L	04/15/12		R/T	SW8260
2-Hexanone	ND	250	ug/L	04/15/12		R/T	SW8260
2-Isopropyltoluene	ND	50	ug/L	04/15/12		R/T	SW8260
4-Chlorotoluene	ND	50	ug/L	04/15/12		R/T	SW8260
4-Methyl-2-pentanone	ND	250	ug/L	04/15/12		R/T	SW8260

1P

1

Client ID: MW-2

Parameter	Result	RL	Units	Date	Time	By	Reference
Acetone	ND	1300	ug/L	04/15/12		R/T	SW8260
Acrylonitrile	ND	250	ug/L	04/15/12		R/T	SW8260
Benzene	1500	350	ug/L	04/15/12		R/T	SW8260
Bromobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
Bromochloromethane	ND	50	ug/L	04/15/12		R/T	SW8260
Bromodichloromethane	ND	25	ug/L	04/15/12		R/T	SW8260
Bromoform	ND	50	ug/L	04/15/12		R/T	SW8260
Bromomethane	ND	50	ug/L	04/15/12		R/T	SW8260
Carbon Disulfide	ND	250	ug/L	04/15/12		R/T	SW8260
Carbon tetrachloride	ND	50	ug/L	04/15/12		R/T	SW8260
Chlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
Chloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
Chloroform	ND	50	ug/L	04/15/12		R/T	SW8260
Chloromethane	ND	50	ug/L	04/15/12		R/T	SW8260
cis-1,2-Dichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
cis-1,3-Dichloropropene	ND	25	ug/L	04/15/12		R/T	SW8260
Dibromochloromethane	ND	25	ug/L	04/15/12		R/T	SW8260
Dibromoethane	ND	50	ug/L	04/15/12		R/T	SW8260
Dibromomethane	ND	50	ug/L	04/15/12		R/T	SW8260
Dichlorodifluoromethane	ND	50	ug/L	04/15/12		R/T	SW8260
Ethylbenzene	4000	500	ug/L	04/15/12		R/T	SW8260
Hexachlorobutadiene	ND	20	ug/L	04/15/12		R/T	SW8260
Isopropylbenzene	750	50	ug/L	04/15/12		R/T	SW8260
m&p-Xylene	13000	500	ug/L	04/15/12		R/T	SW8260
Methyl ethyl ketone	ND	250	ug/L	04/15/12		R/T	SW8260
Methyl t-butyl ether (MTBE)	ND	50	ug/L	04/15/12		R/T	SW8260
Methylene chloride	ND	50	ug/L	04/15/12		R/T	SW8260
Naphthalene	510	500	ug/L	04/15/12		R/T	SW8260
n-Butylbenzene	480	50	ug/L	04/15/12		R/T	SW8260
n-Propylbenzene	480	250	ug/L	04/15/12		R/T	SW8260
o-Xylene	6100	500	ug/L	04/15/12		R/T	SW8260
p-Isopropyltoluene	150	50	ug/L	04/15/12		R/T	SW8260
sec-Butylbenzene	280	50	ug/L	04/15/12		R/T	SW8260
Styrene	ND	50	ug/L	04/15/12		R/T	SW8260
tert-Butylbenzene	ND	50	ug/L	04/15/12		R/T	SW8260
Tetrachloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
Tetrahydrofuran (THF)	ND	250	ug/L	04/15/12		R/T	SW8260
Toluene	6500	500	ug/L	04/15/12		R/T	SW8260
Total Xylenes	19100	50	ug/L	04/15/12		R/T	SW8260
trans-1,2-Dichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
trans-1,3-Dichloropropene	ND	25	ug/L	04/15/12		R/T	SW8260
trans-1,4-dichloro-2-butene	ND	250	ug/L	04/15/12		R/T	SW8260
Trichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
Trichlorofluoromethane	ND	50	ug/L	04/15/12		R/T	SW8260
Trichlorotrifluoroethane	ND	50	ug/L	04/15/12		R/T	SW8260
Vinyl chloride	ND	50	ug/L	04/15/12		R/T	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	98		%	04/15/12		R/T	70 - 130 %
% Bromofluorobenzene	71		%	04/15/12		R/T	70 - 130 %
% Dibromofluoromethane	95		%	04/15/12		R/T	70 - 130 %

Client ID: MW-2

Parameter	Result	RL	Units	Date	Time	By	Reference
% Toluene-d8	89		%	04/15/12		R/T	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,2,4-Trichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,2-Dichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,3-Dichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
1,4-Dichlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
2,4,5-Trichlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2,4,6-Trichlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2,4-Dichlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2,4-Dimethylphenol	280	10	ug/L	04/14/12		DD	SW8270
2,4-Dinitrophenol	ND	50	ug/L	04/14/12		DD	SW8270
2,4-Dinitrotoluene	ND	10	ug/L	04/14/12		DD	SW8270
2,6-Dinitrotoluene	ND	10	ug/L	04/14/12		DD	SW8270
2-Chloronaphthalene	ND	10	ug/L	04/14/12		DD	SW8270
2-Chlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
2-Methylnaphthalene	500	10	ug/L	04/14/12		DD	SW8270
2-Methylphenol (o-cresol)	58	10	ug/L	04/14/12		DD	SW8270
2-Nitroaniline	ND	50	ug/L	04/14/12		DD	SW8270
2-Nitrophenol	ND	10	ug/L	04/14/12		DD	SW8270
3&4-Methylphenol (m&p-cresol)	34	10	ug/L	04/14/12		DD	SW8270
3,3'-Dichlorobenzidine	ND	20	ug/L	04/14/12		DD	SW8270
3-Nitroaniline	ND	50	ug/L	04/14/12		DD	SW8270
4,6-Dinitro-2-methylphenol	ND	50	ug/L	04/14/12		DD	SW8270
4-Bromophenyl phenyl ether	ND	10	ug/L	04/14/12		DD	SW8270
4-Chloro-3-methylphenol	ND	20	ug/L	04/14/12		DD	SW8270
4-Chloroaniline	ND	20	ug/L	04/14/12		DD	SW8270
4-Chlorophenyl phenyl ether	ND	10	ug/L	04/14/12		DD	SW8270
4-Nitroaniline	ND	50	ug/L	04/14/12		DD	SW8270
4-Nitrophenol	ND	50	ug/L	04/14/12		DD	SW8270
Acenaphthene	ND	10	ug/L	04/14/12		DD	SW8270
Acenaphthylene	ND	10	ug/L	04/14/12		DD	SW8270
Acetophenone	ND	10	ug/L	04/14/12		DD	SW8270
Aniline	ND	50	ug/L	04/14/12		DD	SW8270
Anthracene	ND	10	ug/L	04/14/12		DD	SW8270
Azobenzene	ND	10	ug/L	04/14/12		DD	SW8270
Benz(a)anthracene	ND	10	ug/L	04/14/12		DD	SW8270
Benzidine	ND	20	ug/L	04/14/12		DD	SW8270
Benzo(a)pyrene	ND	10	ug/L	04/14/12		DD	SW8270
Benzo(b)fluoranthene	ND	10	ug/L	04/14/12		DD	SW8270
Benzo(ghi)perylene	ND	10	ug/L	04/14/12		DD	SW8270
Benzo(k)fluoranthene	ND	10	ug/L	04/14/12		DD	SW8270
Benzoic acid	ND	50	ug/L	04/14/12		DD	SW8270
Benzyl butyl phthalate	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-chloroethoxy)methane	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-chloroethyl)ether	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-chloroisopropyl)ether	ND	10	ug/L	04/14/12		DD	SW8270
Bis(2-ethylhexyl)phthalate	ND	10	ug/L	04/14/12		DD	SW8270
Carbazole	ND	50	ug/L	04/14/12		DD	SW8270
Chrysene	ND	10	ug/L	04/14/12		DD	SW8270

LO

1

1P

Client ID: MW-2

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibenz(a,h)anthracene	ND	10	ug/L	04/14/12		DD	SW8270
Dibenzofuran	ND	10	ug/L	04/14/12		DD	SW8270
Diethyl phthalate	ND	10	ug/L	04/14/12		DD	SW8270
Dimethylphthalate	ND	10	ug/L	04/14/12		DD	SW8270
Di-n-butylphthalate	ND	10	ug/L	04/14/12		DD	SW8270
Di-n-octylphthalate	ND	10	ug/L	04/14/12		DD	SW8270
Fluoranthene	ND	10	ug/L	04/14/12		DD	SW8270
Fluorene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachlorobenzene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachlorobutadiene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachlorocyclopentadiene	ND	10	ug/L	04/14/12		DD	SW8270
Hexachloroethane	ND	10	ug/L	04/14/12		DD	SW8270
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	04/14/12		DD	SW8270
Isophorone	ND	10	ug/L	04/14/12		DD	SW8270
Naphthalene	1100	10	ug/L	04/14/12		DD	SW8270
Nitrobenzene	ND	10	ug/L	04/14/12		DD	SW8270
N-Nitrosodimethylamine	ND	10	ug/L	04/14/12		DD	SW8270
N-Nitrosodi-n-propylamine	ND	10	ug/L	04/14/12		DD	SW8270
N-Nitrosodiphenylamine	ND	10	ug/L	04/14/12		DD	SW8270
Pentachloronitrobenzene	ND	10	ug/L	04/14/12		DD	SW8270
Pentachlorophenol	ND	10	ug/L	04/14/12		DD	SW8270
Phenanthrene	ND	10	ug/L	04/14/12		DD	SW8270
Phenol	17	10	ug/L	04/14/12		DD	SW8270
Pyrene	ND	10	ug/L	04/14/12		DD	SW8270
Pyridine	ND	10	ug/L	04/14/12		DD	SW8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	*Diluted Out		%	04/14/12		DD	15 - 130 %
% 2-Fluorobiphenyl	*Diluted Out		%	04/14/12		DD	15 - 130 %
% 2-Fluorophenol	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Nitrobenzene-d5	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Phenol-d5	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Terphenyl-d14	*Diluted Out		%	04/14/12		DD	15 - 130 %

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

Comments:

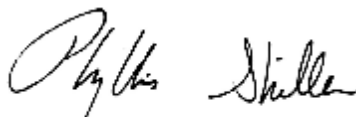
* Due to a matrix interference and/or the presence of a large amount of non-target material in the sample, an elevated RL was reported for the semivolatile analysis.

Elevated reporting limits for volatiles due to the oily nature of the sample.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 18, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 18, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: GROUND WATER
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LB
Analyzed by: see "By" below

Date Time
04/11/12 14:20
04/12/12 15:42

Laboratory Data

SDG ID: GBB71379
Phoenix ID: BB71381

Project ID: 1676 THIRD AVE., NYC, NY

Client ID: MW-3

Parameter	Result	RL	Units	Date	Time	By	Reference
Semi-Volatile Extraction	Completed			04/12/12		R/K	SW3520
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1,1-Trichloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1,2,2-Tetrachloroethane	ND	25	ug/L	04/15/12		R/T	SW8260
1,1,2-Trichloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
1,1-Dichloropropene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,4-Trichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2,4-Trimethylbenzene	3800	500	ug/L	04/15/12		R/T	SW8260
1,2-Dibromo-3-chloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,2-Dichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,2-Dichloroethane	ND	30	ug/L	04/15/12		R/T	SW8260
1,2-Dichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,3,5-Trimethylbenzene	780	50	ug/L	04/15/12		R/T	SW8260
1,3-Dichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
1,3-Dichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
1,4-Dichlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
2,2-Dichloropropane	ND	50	ug/L	04/15/12		R/T	SW8260
2-Chlorotoluene	ND	50	ug/L	04/15/12		R/T	SW8260
2-Hexanone	ND	250	ug/L	04/15/12		R/T	SW8260
2-Isopropyltoluene	ND	50	ug/L	04/15/12		R/T	SW8260
4-Chlorotoluene	ND	50	ug/L	04/15/12		R/T	SW8260
4-Methyl-2-pentanone	ND	250	ug/L	04/15/12		R/T	SW8260

Client ID: MW-3

Parameter	Result	RL	Units	Date	Time	By	Reference
Acetone	ND	1300	ug/L	04/15/12		R/T	SW8260
Acrylonitrile	ND	250	ug/L	04/15/12		R/T	SW8260
Benzene	430	35	ug/L	04/15/12		R/T	SW8260
Bromobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
Bromochloromethane	ND	50	ug/L	04/15/12		R/T	SW8260
Bromodichloromethane	ND	25	ug/L	04/15/12		R/T	SW8260
Bromoform	ND	50	ug/L	04/15/12		R/T	SW8260
Bromomethane	ND	50	ug/L	04/15/12		R/T	SW8260
Carbon Disulfide	ND	250	ug/L	04/15/12		R/T	SW8260
Carbon tetrachloride	ND	50	ug/L	04/15/12		R/T	SW8260
Chlorobenzene	ND	50	ug/L	04/15/12		R/T	SW8260
Chloroethane	ND	50	ug/L	04/15/12		R/T	SW8260
Chloroform	ND	50	ug/L	04/15/12		R/T	SW8260
Chloromethane	ND	50	ug/L	04/15/12		R/T	SW8260
cis-1,2-Dichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
cis-1,3-Dichloropropene	ND	25	ug/L	04/15/12		R/T	SW8260
Dibromochloromethane	ND	25	ug/L	04/15/12		R/T	SW8260
Dibromoethane	ND	50	ug/L	04/15/12		R/T	SW8260
Dibromomethane	ND	50	ug/L	04/15/12		R/T	SW8260
Dichlorodifluoromethane	ND	50	ug/L	04/15/12		R/T	SW8260
Ethylbenzene	2500	500	ug/L	04/15/12		R/T	SW8260
Hexachlorobutadiene	ND	20	ug/L	04/15/12		R/T	SW8260
Isopropylbenzene	160	50	ug/L	04/15/12		R/T	SW8260
m&p-Xylene	11000	500	ug/L	04/15/12		R/T	SW8260
Methyl ethyl ketone	ND	250	ug/L	04/15/12		R/T	SW8260
Methyl t-butyl ether (MTBE)	ND	50	ug/L	04/15/12		R/T	SW8260
Methylene chloride	ND	50	ug/L	04/15/12		R/T	SW8260
Naphthalene	810	50	ug/L	04/15/12		R/T	SW8260
n-Butylbenzene	ND	50	ug/L	04/15/12		R/T	SW8260
n-Propylbenzene	420	50	ug/L	04/15/12		R/T	SW8260
o-Xylene	5800	500	ug/L	04/15/12		R/T	SW8260
p-Isopropyltoluene	ND	50	ug/L	04/15/12		R/T	SW8260
sec-Butylbenzene	ND	50	ug/L	04/15/12		R/T	SW8260
Styrene	ND	50	ug/L	04/15/12		R/T	SW8260
tert-Butylbenzene	ND	50	ug/L	04/15/12		R/T	SW8260
Tetrachloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
Tetrahydrofuran (THF)	ND	250	ug/L	04/15/12		R/T	SW8260
Toluene	3800	500	ug/L	04/15/12		R/T	SW8260
Total Xylenes	16800	50	ug/L	04/15/12		R/T	SW8260
trans-1,2-Dichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
trans-1,3-Dichloropropene	ND	25	ug/L	04/15/12		R/T	SW8260
trans-1,4-dichloro-2-butene	ND	250	ug/L	04/15/12		R/T	SW8260
Trichloroethene	ND	50	ug/L	04/15/12		R/T	SW8260
Trichlorofluoromethane	ND	50	ug/L	04/15/12		R/T	SW8260
Trichlorotrifluoroethane	ND	50	ug/L	04/15/12		R/T	SW8260
Vinyl chloride	ND	50	ug/L	04/15/12		R/T	SW8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	04/15/12		R/T	70 - 130 %
% Bromofluorobenzene	77		%	04/15/12		R/T	70 - 130 %
% Dibromofluoromethane	94		%	04/15/12		R/T	70 - 130 %

Client ID: MW-3

Parameter	Result	RL	Units	Date	Time	By	Reference
% Toluene-d8	93		%	04/15/12		R/T	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	50	ug/L	04/14/12		DD	SW8270
1,2,4-Trichlorobenzene	ND	50	ug/L	04/14/12		DD	SW8270
1,2-Dichlorobenzene	ND	50	ug/L	04/14/12		DD	SW8270
1,3-Dichlorobenzene	ND	50	ug/L	04/14/12		DD	SW8270
1,4-Dichlorobenzene	ND	50	ug/L	04/14/12		DD	SW8270
2,4,5-Trichlorophenol	ND	50	ug/L	04/14/12		DD	SW8270
2,4,6-Trichlorophenol	ND	50	ug/L	04/14/12		DD	SW8270
2,4-Dichlorophenol	ND	50	ug/L	04/14/12		DD	SW8270
2,4-Dimethylphenol	660	50	ug/L	04/14/12		DD	SW8270
2,4-Dinitrophenol	ND	250	ug/L	04/14/12		DD	SW8270
2,4-Dinitrotoluene	ND	50	ug/L	04/14/12		DD	SW8270
2,6-Dinitrotoluene	ND	50	ug/L	04/14/12		DD	SW8270
2-Chloronaphthalene	ND	50	ug/L	04/14/12		DD	SW8270
2-Chlorophenol	ND	50	ug/L	04/14/12		DD	SW8270
2-Methylnaphthalene	1200	50	ug/L	04/14/12		DD	SW8270
2-Methylphenol (o-cresol)	310	50	ug/L	04/14/12		DD	SW8270
2-Nitroaniline	ND	250	ug/L	04/14/12		DD	SW8270
2-Nitrophenol	ND	50	ug/L	04/14/12		DD	SW8270
3&4-Methylphenol (m&p-cresol)	180	50	ug/L	04/14/12		DD	SW8270
3,3'-Dichlorobenzidine	ND	100	ug/L	04/14/12		DD	SW8270
3-Nitroaniline	ND	250	ug/L	04/14/12		DD	SW8270
4,6-Dinitro-2-methylphenol	ND	250	ug/L	04/14/12		DD	SW8270
4-Bromophenyl phenyl ether	ND	50	ug/L	04/14/12		DD	SW8270
4-Chloro-3-methylphenol	ND	100	ug/L	04/14/12		DD	SW8270
4-Chloroaniline	ND	100	ug/L	04/14/12		DD	SW8270
4-Chlorophenyl phenyl ether	ND	50	ug/L	04/14/12		DD	SW8270
4-Nitroaniline	ND	250	ug/L	04/14/12		DD	SW8270
4-Nitrophenol	ND	250	ug/L	04/14/12		DD	SW8270
Acenaphthene	ND	50	ug/L	04/14/12		DD	SW8270
Acenaphthylene	ND	50	ug/L	04/14/12		DD	SW8270
Acetophenone	ND	50	ug/L	04/14/12		DD	SW8270
Aniline	ND	250	ug/L	04/14/12		DD	SW8270
Anthracene	ND	50	ug/L	04/14/12		DD	SW8270
Azobenzene	ND	50	ug/L	04/14/12		DD	SW8270
Benz(a)anthracene	ND	50	ug/L	04/14/12		DD	SW8270
Benzidine	ND	100	ug/L	04/14/12		DD	SW8270
Benzo(a)pyrene	ND	50	ug/L	04/14/12		DD	SW8270
Benzo(b)fluoranthene	ND	50	ug/L	04/14/12		DD	SW8270
Benzo(ghi)perylene	ND	50	ug/L	04/14/12		DD	SW8270
Benzo(k)fluoranthene	ND	50	ug/L	04/14/12		DD	SW8270
Benzoic acid	ND	250	ug/L	04/14/12		DD	SW8270
Benzyl butyl phthalate	ND	50	ug/L	04/14/12		DD	SW8270
Bis(2-chloroethoxy)methane	ND	50	ug/L	04/14/12		DD	SW8270
Bis(2-chloroethyl)ether	ND	50	ug/L	04/14/12		DD	SW8270
Bis(2-chloroisopropyl)ether	ND	50	ug/L	04/14/12		DD	SW8270
Bis(2-ethylhexyl)phthalate	ND	50	ug/L	04/14/12		DD	SW8270
Carbazole	ND	250	ug/L	04/14/12		DD	SW8270
Chrysene	ND	50	ug/L	04/14/12		DD	SW8270

Client ID: MW-3

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibenz(a,h)anthracene	ND	50	ug/L	04/14/12		DD	SW8270
Dibenzofuran	ND	50	ug/L	04/14/12		DD	SW8270
Diethyl phthalate	ND	50	ug/L	04/14/12		DD	SW8270
Dimethylphthalate	ND	50	ug/L	04/14/12		DD	SW8270
Di-n-butylphthalate	ND	50	ug/L	04/14/12		DD	SW8270
Di-n-octylphthalate	ND	50	ug/L	04/14/12		DD	SW8270
Fluoranthene	ND	50	ug/L	04/14/12		DD	SW8270
Fluorene	ND	50	ug/L	04/14/12		DD	SW8270
Hexachlorobenzene	ND	50	ug/L	04/14/12		DD	SW8270
Hexachlorobutadiene	ND	50	ug/L	04/14/12		DD	SW8270
Hexachlorocyclopentadiene	ND	50	ug/L	04/14/12		DD	SW8270
Hexachloroethane	ND	50	ug/L	04/14/12		DD	SW8270
Indeno(1,2,3-cd)pyrene	ND	50	ug/L	04/14/12		DD	SW8270
Isophorone	ND	50	ug/L	04/14/12		DD	SW8270
Naphthalene	1900	50	ug/L	04/14/12		DD	SW8270
Nitrobenzene	ND	50	ug/L	04/14/12		DD	SW8270
N-Nitrosodimethylamine	ND	50	ug/L	04/14/12		DD	SW8270
N-Nitrosodi-n-propylamine	ND	50	ug/L	04/14/12		DD	SW8270
N-Nitrosodiphenylamine	ND	50	ug/L	04/14/12		DD	SW8270
Pentachloronitrobenzene	ND	50	ug/L	04/14/12		DD	SW8270
Pentachlorophenol	ND	50	ug/L	04/14/12		DD	SW8270
Phenanthrene	ND	50	ug/L	04/14/12		DD	SW8270
Phenol	ND	50	ug/L	04/14/12		DD	SW8270
Pyrene	ND	50	ug/L	04/14/12		DD	SW8270
Pyridine	ND	50	ug/L	04/14/12		DD	SW8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	*Diluted Out		%	04/14/12		DD	15 - 130 %
% 2-Fluorobiphenyl	*Diluted Out		%	04/14/12		DD	15 - 130 %
% 2-Fluorophenol	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Nitrobenzene-d5	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Phenol-d5	*Diluted Out		%	04/14/12		DD	15 - 130 %
% Terphenyl-d14	*Diluted Out		%	04/14/12		DD	15 - 130 %

LO

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

Comments:

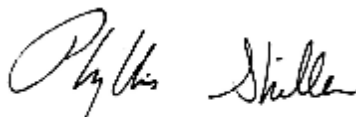
* Due to a matrix interference and/or the presence of a large amount of non-target material in the sample, an elevated RL was reported for the semivolatile analysis.

Elevated reporting limits for volatiles due to the oily nature of the sample.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 18, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

April 18, 2012

FOR: Attn: Mr. Richard Stumbo
EMCI
5 Anderson Lane
Goldens Bridge, NY 10526

Sample Information

Matrix: GROUND WATER
Location Code: EMCI
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LB
Analyzed by: see "By" below

Date Time
04/11/12 0:00
04/12/12 15:42

Laboratory Data

SDG ID: GBB71379
Phoenix ID: BB71382

Project ID: 1676 THIRD AVE., NYC, NY

Client ID: TRIP BLANK

Parameter	Result	RL	Units	Date	Time	By	Reference
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,1,1-Trichloroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	04/15/12		R/T	SW8260
1,1,2-Trichloroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,1-Dichloroethene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,1-Dichloropropene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2,3-Trichloropropane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2,4-Trichlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2,4-Trimethylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2-Dichlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,2-Dichloroethane	ND	0.60	ug/L	04/15/12		R/T	SW8260
1,2-Dichloropropane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,3,5-Trimethylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,3-Dichlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,3-Dichloropropane	ND	1.0	ug/L	04/15/12		R/T	SW8260
1,4-Dichlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
2,2-Dichloropropane	ND	1.0	ug/L	04/15/12		R/T	SW8260
2-Chlorotoluene	ND	1.0	ug/L	04/15/12		R/T	SW8260
2-Hexanone	ND	5.0	ug/L	04/15/12		R/T	SW8260
2-Isopropyltoluene	ND	1.0	ug/L	04/15/12		R/T	SW8260
4-Chlorotoluene	ND	1.0	ug/L	04/15/12		R/T	SW8260
4-Methyl-2-pentanone	ND	5.0	ug/L	04/15/12		R/T	SW8260
Acetone	ND	25	ug/L	04/15/12		R/T	SW8260

Client ID: TRIP BLANK

Parameter	Result	RL	Units	Date	Time	By	Reference
Acrylonitrile	ND	5.0	ug/L	04/15/12		R/T	SW8260
Benzene	ND	0.70	ug/L	04/15/12		R/T	SW8260
Bromobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Bromochloromethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Bromodichloromethane	ND	0.50	ug/L	04/15/12		R/T	SW8260
Bromoform	ND	1.0	ug/L	04/15/12		R/T	SW8260
Bromomethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Carbon Disulfide	ND	5.0	ug/L	04/15/12		R/T	SW8260
Carbon tetrachloride	ND	1.0	ug/L	04/15/12		R/T	SW8260
Chlorobenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Chloroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Chloroform	ND	1.0	ug/L	04/15/12		R/T	SW8260
Chloromethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	04/15/12		R/T	SW8260
cis-1,3-Dichloropropene	ND	0.50	ug/L	04/15/12		R/T	SW8260
Dibromochloromethane	ND	0.50	ug/L	04/15/12		R/T	SW8260
Dibromoethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Dibromomethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Dichlorodifluoromethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Ethylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Hexachlorobutadiene	ND	0.40	ug/L	04/15/12		R/T	SW8260
Isopropylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
m&p-Xylene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Methyl ethyl ketone	ND	5.0	ug/L	04/15/12		R/T	SW8260
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	04/15/12		R/T	SW8260
Methylene chloride	ND	1.0	ug/L	04/15/12		R/T	SW8260
Naphthalene	ND	1.0	ug/L	04/15/12		R/T	SW8260
n-Butylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
n-Propylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
o-Xylene	ND	1.0	ug/L	04/15/12		R/T	SW8260
p-Isopropyltoluene	ND	1.0	ug/L	04/15/12		R/T	SW8260
sec-Butylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Styrene	ND	1.0	ug/L	04/15/12		R/T	SW8260
tert-Butylbenzene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Tetrachloroethene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Tetrahydrofuran (THF)	ND	5.0	ug/L	04/15/12		R/T	SW8260
Toluene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Total Xylenes	ND	1.0	ug/L	04/15/12		R/T	SW8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	04/15/12		R/T	SW8260
trans-1,3-Dichloropropene	ND	0.50	ug/L	04/15/12		R/T	SW8260
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	04/15/12		R/T	SW8260
Trichloroethene	ND	1.0	ug/L	04/15/12		R/T	SW8260
Trichlorofluoromethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Trichlorotrifluoroethane	ND	1.0	ug/L	04/15/12		R/T	SW8260
Vinyl chloride	ND	1.0	ug/L	04/15/12		R/T	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	97		%	04/15/12		R/T	70 - 130 %
% Bromofluorobenzene	86		%	04/15/12		R/T	70 - 130 %
% Dibromofluoromethane	100		%	04/15/12		R/T	70 - 130 %
% Toluene-d8	94		%	04/15/12		R/T	70 - 130 %

Client ID: TRIP BLANK

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

1P = This parameter is pending certification by NY NELAC for this matrix.

1O = This parameter is not certified by NY NELAC for this matrix.

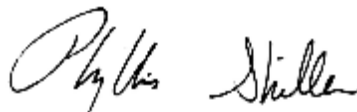
Comments:

TRIP BLANK INCLUDED

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level is equivalent to NELAC LOQ (Limit of quantitation)

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

April 18, 2012

Reviewed and Released by: Johanna Harrington, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



QA/QC Report

April 18, 2012

QA/QC Data

SDG I.D.: GBB71379

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 198156, QC Sample No: BB70278 (BB71379, BB71380, BB71381)									
<u>Semivolatiles - Ground Water</u>									
1,2,4,5-Tetrachlorobenzene	ND	58	59	1.7				30 - 130	20
1,2,4-Trichlorobenzene	ND	83	83	0.0				30 - 130	20
1,2-Dichlorobenzene	ND	80	81	1.2				30 - 130	20
1,3-Dichlorobenzene	ND	77	77	0.0				30 - 130	20
1,4-Dichlorobenzene	ND	82	79	3.7				30 - 130	20
2,4,5-Trichlorophenol	ND	91	88	3.4				30 - 130	20
2,4,6-Trichlorophenol	ND	97	95	2.1				30 - 130	20
2,4-Dichlorophenol	ND	86	88	2.3				30 - 130	20
2,4-Dimethylphenol	ND	41	41	0.0				30 - 130	20
2,4-Dinitrophenol	ND	52	49	5.9				30 - 130	20
2,4-Dinitrotoluene	ND	95	95	0.0				30 - 130	20
2,6-Dinitrotoluene	ND	98	97	1.0				30 - 130	20
2-Chloronaphthalene	ND	94	96	2.1				30 - 130	20
2-Chlorophenol	ND	73	73	0.0				30 - 130	20
2-Methylnaphthalene	ND	90	90	0.0				30 - 130	20
2-Methylphenol (o-cresol)	ND	70	67	4.4				30 - 130	20
2-Nitroaniline	ND	>150	>150	NC				30 - 130	20
2-Nitrophenol	ND	81	79	2.5				30 - 130	20
3&4-Methylphenol (m&p-cresol)	ND	73	75	2.7				30 - 130	20
3,3'-Dichlorobenzidine	ND	N/A	N/A	NC				30 - 130	20
3-Nitroaniline	ND	>150	>150	NC				30 - 130	20
4,6-Dinitro-2-methylphenol	ND	66	64	3.1				30 - 130	20
4-Bromophenyl phenyl ether	ND	91	90	1.1				30 - 130	20
4-Chloro-3-methylphenol	ND	100	100	0.0				30 - 130	20
4-Chloroaniline	ND	51	50	2.0				30 - 130	20
4-Chlorophenyl phenyl ether	ND	100	103	3.0				30 - 130	20
4-Nitroaniline	ND	96	98	2.1				30 - 130	20
4-Nitrophenol	ND	89	90	1.1				30 - 130	20
Acenaphthene	ND	96	97	1.0				30 - 130	20
Acenaphthylene	ND	91	91	0.0				30 - 130	20
Acetophenone	ND	47	47	0.0				30 - 130	20
Aniline	ND	N/A	N/A	NC				30 - 130	20
Anthracene	ND	93	92	1.1				30 - 130	20
Azobenzene	ND	50	50	0.0				30 - 130	20
Benz(a)anthracene	ND	94	94	0.0				30 - 130	20
Benzidine	ND	N/A	N/A	NC				30 - 130	20
Benzo(a)pyrene	ND	90	88	2.2				30 - 130	20
Benzo(b)fluoranthene	ND	91	94	3.2				30 - 130	20
Benzo(ghi)perylene	ND	91	93	2.2				30 - 130	20
Benzo(k)fluoranthene	ND	105	100	4.9				30 - 130	20
Benzoic acid	ND	N/A	N/A	NC				30 - 130	20

QA/QC Data

SDG I.D.: GBB71379

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Benzyl butyl phthalate	ND	84	84	0.0				30 - 130	20
Bis(2-chloroethoxy)methane	ND	84	84	0.0				30 - 130	20
Bis(2-chloroethyl)ether	ND	71	71	0.0				30 - 130	20
Bis(2-chloroisopropyl)ether	ND	80	80	0.0				30 - 130	20
Bis(2-ethylhexyl)phthalate	ND	93	90	3.3				30 - 130	20
Carbazole	ND	117	116	0.9				30 - 130	20
Chrysene	ND	97	97	0.0				30 - 130	20
Dibenz(a,h)anthracene	ND	94	92	2.2				30 - 130	20
Dibenzofuran	ND	96	95	1.0				30 - 130	20
Diethyl phthalate	ND	97	97	0.0				30 - 130	20
Dimethylphthalate	ND	96	96	0.0				30 - 130	20
Di-n-butylphthalate	ND	100	96	4.1				30 - 130	20
Di-n-octylphthalate	ND	98	98	0.0				30 - 130	20
Fluoranthene	ND	100	99	1.0				30 - 130	20
Fluorene	ND	101	101	0.0				30 - 130	20
Hexachlorobenzene	ND	98	96	2.1				30 - 130	20
Hexachlorobutadiene	ND	92	93	1.1				30 - 130	20
Hexachlorocyclopentadiene	ND	69	70	1.4				30 - 130	20
Hexachloroethane	ND	86	85	1.2				30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	92	94	2.2				30 - 130	20
Isophorone	ND	66	67	1.5				30 - 130	20
Naphthalene	ND	90	91	1.1				30 - 130	20
Nitrobenzene	ND	92	89	3.3				30 - 130	20
N-Nitrosodimethylamine	ND	52	48	8.0				30 - 130	20
N-Nitrosodi-n-propylamine	ND	92	89	3.3				30 - 130	20
N-Nitrosodiphenylamine	ND	97	98	1.0				30 - 130	20
Pentachloronitrobenzene	ND	109	107	1.9				30 - 130	20
Pentachlorophenol	ND	85	82	3.6				30 - 130	20
Phenanthrene	ND	101	101	0.0				30 - 130	20
Phenol	ND	67	66	1.5				30 - 130	20
Pyrene	ND	103	104	1.0				30 - 130	20
Pyridine	ND	<5	<5	NC				30 - 130	20
% 2,4,6-Tribromophenol	112	92	89	3.3				15 - 130	20
% 2-Fluorobiphenyl	69	86	86	0.0				30 - 130	20
% 2-Fluorophenol	75	59	57	3.4				15 - 130	20
% Nitrobenzene-d5	83	86	84	2.4				30 - 130	20
% Phenol-d5	74	58	58	0.0				15 - 130	20
% Terphenyl-d14	96	111	108	2.7				30 - 130	20

QA/QC Batch 198445, QC Sample No: BB71382 (BB71379, BB71380, BB71381, BB71382)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	129	127	1.6	127	118	7.3	70 - 130	30
1,1,1-Trichloroethane	ND	95	93	2.1	96	86	11.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	96	96	0.0	96	98	2.1	70 - 130	30
1,1,2-Trichloroethane	ND	90	91	1.1	88	89	1.1	70 - 130	30
1,1-Dichloroethane	ND	86	85	1.2	87	79	9.6	70 - 130	30
1,1-Dichloroethene	ND	86	85	1.2	96	84	13.3	70 - 130	30
1,1-Dichloropropene	ND	97	95	2.1	99	90	9.5	70 - 130	30
1,2,3-Trichlorobenzene	ND	83	89	7.0	83	84	1.2	70 - 130	30
1,2,3-Trichloropropane	ND	94	90	4.3	92	90	2.2	70 - 130	30
1,2,4-Trichlorobenzene	ND	88	90	2.2	91	89	2.2	70 - 130	30
1,2,4-Trimethylbenzene	ND	106	105	0.9	109	104	4.7	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	87	87	0.0	78	83	6.2	70 - 130	30

QA/QC Data

SDG I.D.: GBB71379

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2-Dichlorobenzene	ND	97	96	1.0	100	96	4.1	70 - 130	30	
1,2-Dichloroethane	ND	93	92	1.1	88	84	4.7	70 - 130	30	
1,2-Dichloropropane	ND	87	87	0.0	89	83	7.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	106	105	0.9	105	99	5.9	70 - 130	30	
1,3-Dichlorobenzene	ND	98	100	2.0	102	97	5.0	70 - 130	30	
1,3-Dichloropropane	ND	91	92	1.1	91	87	4.5	70 - 130	30	
1,4-Dichlorobenzene	ND	95	95	0.0	99	95	4.1	70 - 130	30	
2,2-Dichloropropane	ND	95	94	1.1	78	68	13.7	70 - 130	30	m
2-Chlorotoluene	ND	98	99	1.0	102	96	6.1	70 - 130	30	
2-Hexanone	ND	84	85	1.2	79	78	1.3	70 - 130	30	
2-Isopropyltoluene	ND	105	104	1.0	106	100	5.8	70 - 130	30	
4-Chlorotoluene	ND	99	98	1.0	105	99	5.9	70 - 130	30	
4-Methyl-2-pentanone	ND	80	81	1.2	76	76	0.0	70 - 130	30	
Acetone	ND	94	87	7.7	83	80	3.7	70 - 130	30	
Acrylonitrile	ND	85	84	1.2	81	77	5.1	70 - 130	30	
Benzene	ND	94	93	1.1	97	91	6.4	70 - 130	30	
Bromobenzene	ND	93	94	1.1	96	92	4.3	70 - 130	30	
Bromochloromethane	ND	95	96	1.0	95	89	6.5	70 - 130	30	
Bromodichloromethane	ND	99	96	3.1	93	87	6.7	70 - 130	30	
Bromoform	ND	143	146	2.1	129	129	0.0	70 - 130	30	l
Bromomethane	ND	91	90	1.1	67	70	4.4	70 - 130	30	m
Carbon Disulfide	ND	132	134	1.5	135	120	11.8	70 - 130	30	l,m
Carbon tetrachloride	ND	108	106	1.9	104	95	9.0	70 - 130	30	
Chlorobenzene	ND	106	106	0.0	112	104	7.4	70 - 130	30	
Chloroethane	ND	88	88	0.0	82	79	3.7	70 - 130	30	
Chloroform	ND	90	89	1.1	90	82	9.3	70 - 130	30	
Chloromethane	ND	87	87	0.0	88	78	12.0	70 - 130	30	
cis-1,2-Dichloroethene	ND	88	86	2.3	91	86	5.6	70 - 130	30	
cis-1,3-Dichloropropene	ND	93	94	1.1	93	87	6.7	70 - 130	30	
Dibromochloromethane	ND	107	106	0.9	104	100	3.9	70 - 130	30	
Dibromoethane	ND	93	94	1.1	95	93	2.1	70 - 130	30	
Dibromomethane	ND	96	97	1.0	94	90	4.3	70 - 130	30	
Dichlorodifluoromethane	ND	86	90	4.5	87	74	16.1	70 - 130	30	
Ethylbenzene	ND	115	112	2.6	118	110	7.0	70 - 130	30	
Hexachlorobutadiene	ND	87	90	3.4	93	86	7.8	70 - 130	30	
Isopropylbenzene	ND	102	103	1.0	110	102	7.5	70 - 130	30	
m&p-Xylene	ND	110	109	0.9	112	106	5.5	70 - 130	30	
Methyl ethyl ketone	ND	73	77	5.3	64	65	1.6	70 - 130	30	m
Methyl t-butyl ether (MTBE)	ND	91	95	4.3	81	77	5.1	70 - 130	30	
Methylene chloride	ND	78	77	1.3	79	72	9.3	70 - 130	30	
Naphthalene	ND	79	85	7.3	81	86	6.0	70 - 130	30	
n-Butylbenzene	ND	101	100	1.0	102	96	6.1	70 - 130	30	
n-Propylbenzene	ND	94	94	0.0	99	94	5.2	70 - 130	30	
o-Xylene	ND	110	110	0.0	110	102	7.5	70 - 130	30	
p-Isopropyltoluene	ND	109	108	0.9	107	101	5.8	70 - 130	30	
sec-Butylbenzene	ND	102	102	0.0	106	101	4.8	70 - 130	30	
Styrene	ND	114	115	0.9	112	107	4.6	70 - 130	30	
tert-Butylbenzene	ND	101	99	2.0	103	97	6.0	70 - 130	30	
Tetrachloroethene	ND	101	99	2.0	107	97	9.8	70 - 130	30	
Tetrahydrofuran (THF)	ND	74	76	2.7	75	71	5.5	70 - 130	30	
Toluene	ND	96	96	0.0	102	94	8.2	70 - 130	30	
trans-1,2-Dichloroethene	ND	90	87	3.4	94	84	11.2	70 - 130	30	
trans-1,3-Dichloropropene	ND	102	101	1.0	95	90	5.4	70 - 130	30	

QA/QC Data

SDG I.D.: GBB71379

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
trans-1,4-dichloro-2-butene	ND	107	117	8.9	93	92	1.1	70 - 130	30
Trichloroethene	ND	102	101	1.0	107	98	8.8	70 - 130	30
Trichlorofluoromethane	ND	107	108	0.9	95	82	14.7	70 - 130	30
Trichlorotrifluoroethane	ND	92	92	0.0	99	85	15.2	70 - 130	30
Vinyl chloride	ND	84	83	1.2	85	76	11.2	70 - 130	30
% 1,2-dichlorobenzene-d4	97	100	98	2.0	98	100	2.0	70 - 130	30
% Bromofluorobenzene	88	97	97	0.0	92	92	0.0	70 - 130	30
% Dibromofluoromethane	100	102	100	2.0	101	101	0.0	70 - 130	30
% Toluene-d8	94	96	95	1.0	97	97	0.0	70 - 130	30

QA/QC Batch 198531, QC Sample No: BB71674 (BB71380 (1000,500X) , BB71381 (500X))

Volatiles - Ground Water

1,2,4-Trimethylbenzene	ND	106	96	9.9	100	105	4.9	70 - 130	30
1,3,5-Trimethylbenzene	ND	103	94	9.1	98	103	5.0	70 - 130	30
Benzene	ND	97	86	12.0	93	98	5.2	70 - 130	30
Ethylbenzene	ND	108	98	9.7	104	110	5.6	70 - 130	30
m&p-Xylene	ND	108	99	8.7	106	110	3.7	70 - 130	30
Naphthalene	ND	92	92	0.0	82	88	7.1	70 - 130	30
n-Propylbenzene	ND	92	84	9.1	91	98	7.4	70 - 130	30
o-Xylene	ND	110	104	5.6	132	112	16.4	70 - 130	30 m
Toluene	ND	103	92	11.3	100	104	3.9	70 - 130	30

l = This parameter is outside laboratory lcs/lcsd specified recovery limits.

m = This parameter is outside laboratory ms/msd specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Phyllis Shiller, Laboratory Director
April 18, 2012

☐ n ☐ ir ☐ n ☐ ☐ a ☐ ☐ ain ☐ ☐ nan ☐ ☐ ☐ ☐ n ra ☐ ☐ ☐ r ☐ ☐ n ☐ ☐

[illegible]

Well ID	Well Name	Well Type	Well Status	Well Depth (m)	Well Diameter (mm)	Well Completion	Well Production (m³/d)
MW-1	1150	13.67	828	6.73	10.2	24.7	147.6
MW-2	1251	14.29	634	7.8	-27.9	17.7	481.7
MW-3	1327	13.9	720	7.13	-98.1	24.9	796.5
MW-B	1400	13.41	412	7.92	-15	34.4	121.5

1676 3rd Avenue, New York, NY
PID Reading Table

□□□□ □a□□□□ □n□□□□□□□□ □ra□□ □□□□ □ra□□ □n □□ □a□ing□

□a □□ □n□□□□	□□ □□a□ing □□□□ □
SB-B-1	19.5
SB-B-2	439
SB-B-3	445
SB-B-4	27.5
SB-B-5	17.8
SB-B-6	22.3

□□□□ □i□□□□ □a□□□□□□□□ □ra□□ □□□□ □ra□□ □n □□ □a□ing□

□a □□ □n□□□□	□□ □□a□ing □□□□ □
SB-1-1	3.5
SB-1-2	5.8
SB-1-3	78.8
SB-1-4	22.3
SB-1-5	714
SB-1-6	275
SB-1-7	32.2

□□□□ □i□□□□ □a□□□□□□□□ □ra□□ □□□□ □ra□□ □n □□ □a□ing□

□a □□ □n□□□□	□□ □□a□ing □□□□ □
SB-2-1	20.1
SB-2-2	141
SB-2-3	23.6
SB-2-4	28.7
SB-2-5	613
SB-2-6	1,103
SB-2-7	207
SB-2-8	137

□□□□ □i□□□□ □a□□□□□□□□ □ra□□ □□□□ □ra□□ □n □□ □a□ing□

□a □□ □n□□□□	□□ □□a□ing □□□□ □
SB-3-1	395
SB-3-2	283
SB-3-3	240
SB-3-4	303
SB-3-5	736
SB-3-6	402
SB-3-7	227
SB-3-8	117

□a □□ing □□□ □ni□□ring W□□□□ □□ □a□ing□ □□□□□□□□□□

□W □□□	□□ □□a□ing □□□□ □
MW-1	138.5
MW-2	249
MW-3	352
MW-B	71.8

REMEDIAL INVESTIGATION REPORT

for

**1676 THIRD AVENUE
New York, New York**

NYSDEC BCP Site No. C231079

Prepared For:

**Bevin Associates, LLC
c/o KLM Construction
155 East 56th Street, 6th Floor
New York, New York 10022**

Prepared By:

**Langan Engineering & Environmental Services, Inc. PC
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, New York 10001
NJ Certificate of Authorization No: 24GA27996400**

**Joel B. Landes
Professional Engineer License No. 076348-1**

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

**December 20, 2012
170206301**

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	SITE PHYSICAL CHARACTERISTICS	2
2.1	Site Description	2
2.1.1	Surrounding Property Land Use	2
2.1.2	Topography	4
2.1.3	Surface Water and Drainage	4
2.2	Geologic Conditions	4
2.2.1	Regional Geology	4
2.2.2	Site Geology	4
2.3	Hydrogeologic Conditions	5
2.3.1	Regional Hydrogeology	5
2.3.2	Site Hydrogeology	5
3.0	SITE BACKGROUND	6
3.1	Site Developmental History	6
3.2	Previous Investigation Reports.....	6
3.2.1	Phase I Environmental Site Assessment, April 2011	7
3.2.2	Phase II Environmental Site Investigation, July 2007	7
3.2.3	Soil Sample Analysis Report, February 2012	8
3.2.4	Soil & Groundwater Sample Analysis Report, April 2012	8
3.3	Summary of Area of Concern (AOC)	9
4.0	FIELD INVESTIGATIONS	10
4.1	Investigation Summary.....	10
4.2	Data Validation	11
4.2.1	Data Usability Summary Report Preparation	12
5.0	FIELD OBSERVATIONS AND ANALYTICAL RESULTS	14
5.1	Geology and Hydrology	15
5.1.1	Geology	15
5.1.2	Hydrology	15
5.2	Soil Findings	15
5.2.1	Site Field Observations	15
5.2.2	Off-Site Field Observations	16

5.2.3	Site Analytical Results	16
5.2.4	Off-Site Analytical Results	17
5.3	Groundwater Findings	18
5.3.1	Field Observations	18
5.3.2	Site Analytical Data	18
5.3.3	Off-Site Analytical Data	18
5.4	Data Usability	19
5.4.1	Data Validation Results	19
6.0	QUALITATIVE HUMAN AND FISH/WILDLIFE EXPOSURE ASSESSMENT	21
6.1	Human Health Exposure Assessment	21
6.2	Fish and Wildlife Exposure Assessment	27
7.0	NATURE AND EXTENT OF CONTAMINATION	28
7.1	On-Site Soil Contamination	28
7.2	Off-Site Soil Contamination.....	29
7.3	On-Site Groundwater Contamination.....	29
7.4	Off-Site Groundwater Contamination.....	30
8.0	CONCLUSIONS	32
9.0	CERTIFICATION.....	34
10.0	REFERENCES	35

TABLES

Table 1:	Groundwater Elevation Data Summary
Table 2:	Remedial Investigation Sample Summary

FIGURES

Figure 1:	Site Location Map
Figure 2:	Site Layout Map
Figure 3:	Part 375 Unrestricted Use Soil Exceedance Plan
Figure 4:	TOGS 1.1.1 AWQS Groundwater Exceedance Plan

APPENDICES

Appendix A:	Previous Environmental Reports
Appendix B:	Data Usability Summary Reports
Appendix C:	Completed FWRIA Form

1.0 INTRODUCTION

This Remedial Investigation (RI) Report was prepared on behalf of Bevin Associates LLC (the "Volunteer") for the property located at 1676 Third Avenue in New York, New York (the Site). A Site Location Map is provided as Figure 1. The Volunteer has entered into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) to investigate and, where necessary, remediate the Site in conjunction with new development under a NYSDEC Brownfield Cleanup Agreement (BCA) for Site No. C231079. NYSDEC Spill No. 1108991 is associated with the Site.

This RI Report presents a summary of environmental conditions and findings from previous environmental investigations including the April 2007 Phase I Environmental Site Assessment (ESA) Report and July 2007 Phase II Environmental Site Investigation (ESI) Report completed by Dvirka and Bartilucci Consulting Engineers (D&B) and the February 2012 Soil Sample Analysis Report (SAR) and April 2012 Soil & Groundwater SAR completed by Environmental Maintenance Contractors (EMC).

The analytical data generated in these reports was validated by Langan and utilized to assess the nature and extent of remaining contaminations, the exposure risks to human, fish and wildlife receptors, and describes required appropriate remedial measures.

The remainder of this RI Report is organized as follows:

- Section 2.0 describes the site setting and the physical characteristics of the Site.
- Section 3.0 describes the site background including results of previous investigations and identified areas of concerns.
- Section 4.0 presents the investigations field procedures.
- Section 5.0 describes the field observations and analytical results.
- Section 6.0 presents an assessment of the exposure risks of Site contaminants to human, fish, and wildlife receptors.
- Section 7.0 presents the nature and extent of contamination in soil and groundwater as determined through the field investigation and analysis of environmental samples.
- Section 8.0 summarizes the results of the previous investigations and presents conclusions based on field observations and analytical results.
- Section 9.0 presents the New York State registered professional engineer report certification.

2.0 SITE PHYSICAL CHARACTERISTICS

2.1 Site Description

The Site is located at 1676 Third Avenue in New York, New York and is identified as Block 1522, Lot 40 on the New York City Tax Map. The Site is approximately 930 square feet and is located on the city block bordered by 94th Street to the north, Third Avenue to the east, 93rd Street to the south, and Lexington Avenue to the west. A Site Location Map is provided as Figure 1 and a Site Layout Map is provided as Figure 2.

The Site was historically used as a gasoline station between the 1930s and 1980s. Gasoline underground storage tanks (UST) were removed in 1990 and the Volunteer purchased the Site in 2006. The superstructure for a new five-story plus penthouse townhouse building is constructed, but construction stopped before completing core and shell work. Excavation for the basement extends to approximately 10 to 12 feet below grade surface (ft bgs); there is presently no basement slab in place. NYSDEC Spill No. 11-08991 is associated with the Site. The spill was reported on October 17, 2011 when petroleum-contaminated soil was observed during excavation to redevelop the Site.

2.1.1 Surrounding Property Land Use

The Site is located in an urban setting that is characterized by residential and commercial buildings and parks. The surrounding property usage is summarized below:

<i>DIRECTION</i>	<i>ADJACENT PROPERTIES</i>	<i>SURROUNDING PROPERTIES</i>
Southwest	Five-story residential building with ground floor retail space.	Multi-story residential buildings with ground-level commercial space.
Northwest	Two-story residential building attached to a three-story residential building with ground floor retail space.	Multi-story residential buildings with ground-level commercial space.
Northeast	East 94th Street, on the other side of which is a four-story residential building with ground floor retail	Multi-story residential buildings with ground-level commercial space.
East	(across East 94th Street and Third Avenue), A five-story residential building with ground floor retail space	Multi-story residential buildings with ground-level commercial space.
Southeast	Third Avenue, on the other side of which is an approximately 30-story residential building with ground floor retail space.	Multi-story residential buildings with ground-level commercial space.

According to the New York City Planning Commission Zoning Map 6b, the Site is located in a C2-8 commercial district and the Site is not E-Designated. District C2-8 is defined as a

commercial district that is predominantly residential in character and is typical of areas mapped along major thoroughfares in medium- and higher-density areas of the city.

The nearest ecological receptor is the East River, which is located approximately 1,500 feet east of the Site. Sensitive receptors within a half mile of the Site include those listed below. The nearest sensitive receptor is approximately 300 feet southeast of the Site.

#	NAME	ADDRESS
1	Seton Day Care Center and Elizabeth Seton Pre-School	201 East 93 Street
2	92nd Street Y Nursery School	1395 Lexington Avenue
3	PS Lower Lab School / PS 198 Isador E Ida Straus	1700 Third Avenue
4	House of the Little People	122 East 91 Street
5	Town House International School	1209 Park Avenue
6	Life Sciences Secondary School	320 East 96 Street
7	Brick Church School	62 East 92 Street
8	Horace Mann School for Nursery Years	55 East 90 Street
9	Louis Green & Evelyn Green (Innovative Learning)	60 East 97 Street
10	Lexington Children's Center	115 East 98 Street
11	Lexington Children's Center 2	183 East 98 Street
12	Union Washington Children's Center	1893 Second Avenue
13	Holmes Towers-Eisman Day Nursery	1794 First Avenue
14	Abc Merricat's Castle	316 East 88 Street
15	Rhineland Children's Aide Society	350 East 88 Street
16	Park Avenue Methodist Church DD School	106 East 86 Street
17	The Spence School	22 East 91 Street
18	The Nightingale Bamford School	20 East 92 Street
19	La Seuola Ditalia G School	12 East 96 Street
20	Manhattan Country School	7 East 96 Street
21	St. Bernard School	4 East 95 Street
22	Children's Aid Society East Harlem Center HS	130 East 101 Street
23	Metro North Day Care Center	304 East 102 Street
24	Booker T. Washington Learning	325 East 101 Street
25	Addie Mae Collins Community Service HS	345 East 101 Street

2.1.2 Topography

The Site is generally level, with surface elevations ranging from $\pm 56^1$ feet (ft) to 58 ft. The topography of the Site and surrounding area slopes gently to the east towards the East River, which is located approximately 1,500 feet east of the Site.

2.1.3 Surface Water and Drainage

There are no stormwater drains on the Site. Infiltration of on-site precipitation to the water table is minimal due to the building at the Site. The majority of runoff drains to city sewers, then to one of the several wastewater treatment plants that serve the city. Rainwater that does infiltrate the ground is de minimis in quantity as the Site is predominantly covered with relatively impermeable cover.

2.2 Geologic Conditions

2.2.1 Regional Geology

Soil and bedrock stratigraphy throughout Manhattan typically consists of a layer of historic fill that overlies glacial till, decomposed unconsolidated bedrock, and bedrock. Based on a review of the Bedrock and Engineering Geologic Maps of New York County and Parts of Kings and Queens Counties, New York and Parts of Bergen and Hudson Counties New Jersey, by Charles A. Baskerville, dated 1994, the Site is underlain by bedrock of the Cambrian Manhattan Schist formation, which consists of interbedded mica schist, gneiss, quartz, and amphibolite.

2.2.2 Site Geology

Geological surface features (e.g., rock outcroppings) have not been observed at the Site. Based on the July 2007 Phase II ESI prepared by D&B, the generalized stratigraphy underlying the Site was previously composed of historic urban fill material predominately characterized as gray silt and clay with brick fragments in the approximate upper 10 feet, underlain by native fine sand with trace fine gravel from approximately 10 to 20 ft bgs, underlain by weathered schistose bedrock. Excavation for the site-wide basement of the new building extends to approximately 10 to 12 ft bgs. The basement subgrade is within native sand.

¹ Borough of Manhattan Datum, which is 2.75 feet above the Mean Sea Level at Sandy Hook, New Jersey, 1929 U.S. Geological Survey National Geodetic Vertical Datum (NGVD, 1929).

2.3 Hydrogeologic Conditions

2.3.1 Regional Hydrogeology

The “hydrologic cycle” describes the movement of water through the environment, including the air, ground and surface water bodies. Within the ground, water (“groundwater”) is contained within the unconsolidated geologic materials and fractured bedrock. The upper surface of the groundwater reservoir is marked by the water table surface, which fluctuates seasonally, in response to precipitation events and tides (along shorelines). The overburden deposits typical to the project area can have low to moderate hydraulic conductivities. The bedrock is relatively impermeable except where concentrations of fractures, faults or joints are present. Preferential flow occurs through the more permeable zones of the overburden, such as individual sand or gravel layers, and through bedrock fractures and joints. Groundwater in Manhattan is not used as a potable (drinking) water source. Residents of Manhattan receive their drinking water supply from surface reservoirs located in upstate New York.

Based on topography, the inferred regional groundwater flow direction for the area surrounding the Site is to the east towards the East River.

2.3.2 Site Hydrogeology

Groundwater underlying the Site ranged from approximately 11.09 to 12.45 ft bgs (el 44.71ft to el 46.16ft), based on the September 25, 2012 gauging of on- and off-site wells. Groundwater is estimated to be 1 to 2 feet below the current basement grade. Groundwater elevation data are summarized in Table 1. A groundwater elevation iso-contour map based on representative groundwater elevations recorded from the monitoring wells is provided as Figure 3. Groundwater at the Site flows from west to east towards the East River.

Wetlands on or near the Site were evaluated by reviewing the National Wetlands Inventory and NYDEC regulated wetlands. There are no wetlands on or adjacent to the Site. The nearest wetland to the Site is the East River, approximately 1,500 feet east of the Site.

3.0 SITE BACKGROUND

3.1 Site Developmental History

Available Sanborn Fire Insurance Maps from 1896 to 2005 indicate that the Site was developed as early as 1939 with a gasoline filling station. NYSDEC records indicate that seven USTs for leaded and unleaded gasoline were present on the Site up until early 1990, at which time the tanks were pumped out and removed. Based on a review of the NYSDEC database, the tanks were administratively closed in September 1996. Prior to the Volunteer taking ownership, the Site was used as a farmer's market from 1993 to 2006.

The Volunteer purchased the property in December 2006 and shortly thereafter engaged consultants to prepare geotechnical and environmental investigations in advance of site redevelopment activities. Among the investigations conducted were the Phase I ESA Report and Phase II ESI Report prepared by D&B in April and July 2007, respectively. The field investigations included a geophysical survey to verify that no anomalies that might indicate the presence of USTs were present at the Site. The geophysical survey did not identify USTs.

Excavation at the Site for development of the new five-story townhouse with penthouse and full basement began in October 2011. On October 17, 2011, petroleum-contaminated soil was encountered during excavation and NYSDEC Spill No. 11-08991 was reported. In January 2012, during site development excavation activities, an approximately 215-gallon tank was discovered in the northwestern corner of the Site. The tank contained no dispensing line. The tank did not leak its contents and the soils beneath and surrounding the tank were not impacted by petroleum constituents. This tank was not one of the seven 550-gallon gasoline USTs that was closed prior to Volunteer's purchase of the property. The superstructure for a new five-story townhouse is constructed, however construction stopped before completing core and shell work. Excavation for the basement extends to approximately 10 to 12 feet below grade surface (ft bgs); there is presently no basement slab in place. Construction activities at the Site are currently halted.

3.2 Previous Investigation Reports

Environmental reports prepared for the Site include the following. Copies of the previous reports are provided in Appendix A:

- Phase I ESA Report, dated April 2007, prepared by D&B;
- Phase II ESI Report, dated July 2, 2007, prepared by D&B;
- Soil SAR, dated February 20, 2012, prepared by EMC; and

- Soil & Groundwater SAR, dated April 24, 2012, prepared by EMC.

Below is a summary of each report:

3.2.1 Phase I Environmental Site Assessment, April 2011

The Phase I ESA provides an evaluation of potential environmental concerns relating to hazardous materials and wastes at the Site and surrounding properties. The Phase I ESA was conducted in general accordance with the ASTM Standard (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process). The Phase I ESA included a site inspection; interviews with the owner and building superintendent of the adjoining properties; a review of historical information sources (i.e., Sanborn fire insurance maps, aerial photographs, topographic maps); and a review of local, tribal, state and federal environmental databases. The Phase I ESA identified the following on- off-site recognized environmental conditions (RECs):

- The Site was historically used as a gasoline station between the 1930s and 1980s. NYSDEC records indicate that seven gasoline USTs were present on the Site and administratively closed in 1996.
- The adjoining properties to the northwest and southwest of the Site were previously used as, or were occupied by, dry cleaning facilities.

3.2.2 Phase II Environmental Site Investigation, July 2007

The Phase II ESI was completed to evaluate potential impacts from the RECs identified by the Phase I ESA. D&B implemented the Phase II Investigation on May 11, 2007 and included a geophysical survey, installation of three soil borings ranging from 16 to 37 ft bgs, and collection of 3 grab soil samples collected at depths ranging from 4 to 11 ft bgs. The soil samples were analyzed for volatile organic compounds (VOC), semivolatile organic compounds (SVOC) and metals by Spectrum Analytical, Inc. (Spectrum) (formerly Mitkem Corporation); a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory located in Warwick, Rhode Island. Results were compared to NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Recommended Soil Cleanup Objectives (RSCO), the applicable standard at the time. The Phase II findings included the following:

- The subsurface soil profile generally consisted of historic urban fill material predominately characterized as gray silt and clay with brick fragments in the approximate upper 10 feet, underlain by fine sand with trace fine gravel from approximately 10 to 20 ft bgs, underlain by weathered schistose bedrock. Groundwater was not encountered.

- The geophysical survey did not identify significant anomalies to indicate the presence of USTs at the Site. A few minor anomalies, low response intensities in areas less than one square foot, were detected in the northeast corner of the Site.
- Strong petroleum odors, as well as occasional black-stained zones, were encountered in the material above the weathered bedrock in the soil borings.
- RSCO exceedances of VOCs, including benzene, toluene, ethylbenzene and total xylenes (BTEX), were detected in the samples. One SVOC, naphthalene, exceeded the RSCO in the westernmost boring sample. Four metals (copper, iron, nickel, and zinc) exceeded the RSCOs.

3.2.3 Soil Sample Analysis Report, February 2012

The Soil SAR was completed to summarize the results of the endpoint soil samples collected at the base of the site-wide cellar excavation. Six endpoint soil samples were collected at depths ranging from approximately 10 to 12 ft bgs and analyzed for VOCs and SVOCs by Phoenix Environmental Laboratories, Inc. (Phoenix), a NYSDOH ELAP-certified laboratory located in Manchester, Connecticut. Soil analytical data was compared with NYSDEC TAGM RSCOs. Report findings were as follows:

- SVOCs were not detected in endpoint soil samples at concentrations exceeding the RSCOs.
- Elevated concentrations of VOCs, including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, n-propyl benzene, sec-butylbenzene, toluene, and total xylenes were detected at concentrations above the TAGM RSCOs in soil samples collected from five of the six endpoint soil samples.

3.2.4 Soil & Groundwater Sample Analysis Report, April 2012

The Soil & Groundwater SAR was completed to characterize soil and groundwater at the Site. The field investigation included the installation of one soil boring and one groundwater monitoring well within the basement of the Site and three soil borings and three groundwater monitoring wells along the Site sidewalks. A total of 11 grab soil samples and four groundwater samples were collected and analyzed for VOCs and SVOCs by Phoenix. Soil samples were collected from shallow fill material and from the groundwater interface. Soil analytical data was compared with New York Codes, Rules and Regulations (NYCRR) Title 6 Part 375 (6 NYCRR Part 375) Unrestricted Use Soil Cleanup Objectives (SCO) and groundwater analytical data was compared to NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA Ambient Water Quality Standards (AWQS). Report findings and conclusions were as follows:

- VOCs and SVOCs were not detected at concentrations exceeding the SCOs for the soil samples collected from the basement soil boring.
- Elevated concentrations of VOCs, including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, naphthalene, n-propyl benzene, toluene, and total xylenes were detected at concentrations above the SCOs in soil samples collected from the sidewalk soil borings (depths ranging from 8 to 15 ft bgs). One SVOC, naphthalene, was detected above its SCO in sidewalk soil boring SB-3 (depth of 8 to 10 ft bgs).
- Elevated concentrations of VOCs, including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, isopropylbenzene, naphthalene, n-butylbenzene, n-propylbenzene, p-isopropyltoluene, sec-butylbenzene, toluene, and total xylenes were detected at concentrations above the AWQS in the groundwater samples. One SVOC, naphthalene, was also detected above its AWQS in the groundwater samples.

3.3 Summary of Area of Concern (AOC)

Based on site observations, development history and the findings of the previous environmental reports, the following area of concern (AOC) has been identified on the Site:

- **Known Petroleum Release** – Site soil and groundwater have been impacted by a petroleum (gasoline) release related to former use as a gasoline filling station as evidenced by analytical data exceedances and observation of petroleum staining and odor.

4.0 FIELD INVESTIGATIONS

Field investigations to determine the nature and extent of contamination included investigations conducted by D&B, EMC, and Langan. This Section summarizes investigation activities and provides data validation methodology for all investigation analytical data.

4.1 Investigation Summary

Sampling methodology and rationale for the investigations completed by D&B and EMC (Phase II ESI, Soil SAR, and Soil & Groundwater SAR) are presented in the previous reports provided in Appendix A. In addition, Table 2 provides a summary of the methodology, rationale, and the respective laboratory analytical parameters for each soil and groundwater sample collected. Boring, endpoint sample, and monitoring well locations from the three investigations are shown on Figure 2. Groundwater elevation data obtained during Langan's site inspection and well gauging are summarized in Table 1. A groundwater elevation iso-contour map based on representative groundwater elevations recorded from the monitoring wells is provided as Figure 3.

A summary of the tasks performed as part of the field investigations are described herein.

The July 2007 Phase II ESI included the following activities:

- A geophysical investigation of the Site to identify potential UST locations;
- Advancement of three soil borings on the Site (B1 through B3) to depths ranging from 16 to 37 ft bgs;
- Visual and photoionization detector (PID) screening of soil and collection of soil samples from each boring for laboratory analysis; and
- Collection of three grab soil samples for laboratory analysis at depths ranging from 4 to 11 ft bgs.

The February 2012 Soil SAR included the following activities:

- Collection of six endpoint soil samples (BS-1 through BS-6) for laboratory analysis from the base of the cellar excavation (depths ranging from approximately 10 to 12 ft bgs).

The April 2012 Soil & Groundwater SAR included the following activities:

- Advancement of one soil boring (SB-B) and the installation of one groundwater monitoring well (MW-B) within the basement of the Site;

- Advancement of three soil borings (SB-1 through SB-3) and the installation of three groundwater monitoring wells (MW-1 through MW-3) along the sidewalk of the Site;
- Visual and PID screening of soil;
- Collection of two grab soil samples for laboratory analysis from the basement boring at depths ranging from 16 to 22 ft bgs;
- Collection of nine grab soil samples for laboratory analysis from the sidewalk borings at depths ranging from 0 to 14 ft bgs; and
- Collection of one groundwater sample for laboratory analysis from each well.

The September 2012 site inspection performed by Langan included the following activities:

- Survey and gauging of the on- and off-site groundwater monitoring wells.

4.2 Data Validation

The analytical data generated during previous investigations was validated by Langan. The following presents a discussion of validation activities. The results of the data validation review are summarized in Section 5.4.

April 2007 Phase II ESI

Upon receipt of final Analytical Services Protocol (ASP) Category B laboratory reports from Spectrum, copies of the reports were shipped to EnviroAnalytics, LLC (EnviroAnalytics), in Utica, New York, for data validation. Data validation was performed in accordance with the EPA validation guidelines for organic and inorganic data review. Data validation was completed for all laboratory reports designated by Spectrum as sample delivery group (SDG) F0609.

February 2012 Soil SAR

Upon receipt of final ASP Category B laboratory reports from Phoenix, copies of the reports were shipped to EnviroAnalytics for data validation. Data validation was performed in accordance with the EPA validation guidelines for organic and inorganic data review for Phoenix SDG GBB42286.

February 2012 Soil & Groundwater SAR

Upon receipt of final ASP Category B laboratory reports from Phoenix, copies of the reports were shipped to EnviroAnalytics for data validation. Data validation was performed in accordance with the EPA validation guidelines for organic and inorganic data review for Phoenix SDGs GBB57215, GBB59659, GBB71497, and GBB71379.

4.2.1 Data Usability Summary Report Preparation

EnviroAnalytics prepared a data usability summary report (DUSR) for each SDG; which was reviewed by the Quality Assurance Officer (QAO) before issuance. The DUSR presents the results of data validation, including a summary assessment of laboratory data packages, sample preservation and COC procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method. For each of the organic analytical methods, the following were assessed:

- Holding times;
- Instrument tuning;
- Instrument calibrations;
- Blank results;
- System monitoring compounds or surrogate recovery compounds (as applicable);
- Internal standard recovery results;
- MS and MSD results;
- Target compound identification;
- Chromatogram quality;
- Pesticide cleanup (if applicable);
- Compound quantization and reported detection limits;
- System performance; and
- Results verification.

For each of the inorganic compounds, the following were assessed:

- Holding times;
- Calibrations;
- Blank results;
- Interference check sample;
- Laboratory check samples;
- Duplicates;
- Matrix Spike;
- Furnace atomic absorption analysis QC;
- ICP serial dilutions; and

- Results verification and reported detection limits.

Based on the results of data validation, the validated analytical results reported by the laboratory are assigned one of the following usability flags:

- "U" - Not detected at given value;
- "UJ" - Estimated not detected at given value;
- "J" - Estimated value;
- "R" - Result not useable; and
- No Flag - Result accepted without qualification.

5.0 FIELD OBSERVATIONS AND ANALYTICAL RESULTS

This section summarizes the comprehensive field observations and laboratory analytical results for samples collected on and off the Site during the Phase II ESI, Soil SAR, and Soil & Groundwater SAR. Soil analytical results are compared to the Part 375 Track 1 Unrestricted Use SCOs and groundwater analytical results are compared to the NYSDEC AWQS for Class GA groundwater. The nature and extent of the on- and off-site contamination are discussed separately in Section 7.0.

On-Site investigations include the following:

- Phase II ESI – three soil borings
- Soil SAR – six endpoint grab soil sample locations
- Soil & Groundwater SAR – one soil boring and one monitoring well

Samples collected from these investigation locations include:

- Soil
 - Phase II ESI - three samples analyzed for VOCs, SVOCs, and metals
 - Soil SAR - six samples analyzed for VOCs and SVOCs
 - Soil & Groundwater SAR - two samples analyzed for VOCs and SVOCs
- Groundwater
 - Soil & Groundwater SAR - one sample analyzed for VOCs and SVOCs

No soil vapor samples were collected at the Site; however, samples cannot be collected due to the current depth to groundwater. The current cellar excavation is approximately 10 to 12 feet below sidewalk grades and groundwater is approximately 1 to 2 feet below the cellar grade. Impacted soil vapor will be assumed to be present and mitigation will be part of the remedy.

Off-Site investigation included the following:

- Soil & Groundwater SAR – three soil borings and three monitoring wells

Samples collected from these investigation locations include:

- Soil – nine samples analyzed for VOCs and SVOCs
- Groundwater - three samples analyzed for VOCs and SVOCs

A description of the soil and groundwater sample locations is provided in Table 2. Summary tables for soil and groundwater data collected during the Phase II ESI, Soil SAR, and Soil & Groundwater SAR are presented in the previous reports provided in Appendix A.

The following sections describe the field observations and analytical data associated with the Phase II ESI, Soil SAR, and Soil & Groundwater SAR.

5.1 Geology and Hydrology

Provided below is a description of the Site geology and hydrology. For the geologic description, the stratigraphic layers represent the Site subsurface prior to the basement excavation. Excavation for the site-wide basement of the new five-story plus penthouse townhouse building was completed in February 2012. The current basement grade is 10 to 12 feet below grade and within the native sand layer at the Site.

5.1.1 Geology

Based on the July 2007 Phase II ESI prepared by D&B, the generalized stratigraphy underlying the Site was composed of historic urban fill material predominately characterized as gray silt and clay with brick fragments in the approximate upper 10 feet, underlain by fine sand with trace fine gravel from approximately 10 to 20 ft bgs, underlain by weathered schistose bedrock.

5.1.2 Hydrology

Groundwater underlying the Site ranged from approximately 11.09 to 12.45 ft bgs (el 44.71ft to el 46.16ft) based on gauging of on- and off-site wells on September 25, 2012. Groundwater elevation data recorded are summarized in Table 1. A groundwater elevation iso-contour map based on representative groundwater elevations recorded from Site monitoring wells is provided as Figure 3. Groundwater at the Site flows from west to east towards the East River.

5.2 Soil Findings

5.2.1 Site Field Observations

Petroleum impacts, including odors, staining, and PID readings above background levels, were observed in all four soil borings advanced at the Site (B1, B2, B3, and SB-B). PID readings above background levels were recorded throughout boring SB-B at concentrations ranging from 19.5 to 445 parts per million (ppm), with the highest reading recorded at a depth of 16 to 18 ft bgs.

5.2.2 Off-Site Field Observations

The April 2012 Soil & Groundwater SAR did not contain soil boring logs or include a characterization of subsurface materials based on soil type, grain size, texture, moisture content, or the presence of petroleum-impacted material. However, the report details PID readings above background levels in all three off-site borings locations (SB-1, SB-2, and SB-3). PID readings ranged from 3.5 to 1,103 ppm, with the highest reading recorded in SB-2 at a depth of 10 to 12 ft bgs.

5.2.3 Site Analytical Results

Three soil samples were collected and analyzed for VOCs, SVOCs, and TAL metals during the Phase II ESI; six soil samples were collected and analyzed for VOCs and SVOCs during the Soil SAR; and two soil samples were collected and analyzed for VOCs and SVOCs during the Soil & Groundwater SAR. Summaries of laboratory detections for soil samples collected during the Phase II ESI, Soil SAR, and Soil & Groundwater SAR are provided in previous reports included in Appendix A. Soil SCO exceedances for samples collected during the three investigations are shown on Figure 4. Full laboratory reports for these investigations are also included in Appendix A. The following is a summary of SCO exceedances organized by analytical parameter and divided by investigation.

VOCs

April 2007 Phase II ESI

Four VOCs were reported at concentrations exceeding the SCOs in soil samples collected from borings B-1 through B-3. Compounds exceeding the SCOs included the following petroleum-related compounds: benzene, toluene, ethylbenzene, and total xylenes.

February 2012 Soil SAR

Seven VOCs were reported at concentrations exceeding the SCOs in soil samples collected from endpoint soil samples locations BS-1, BS-2, BS-4, BS-5, and BS-6. Compounds exceeding the SCOs included the following petroleum-related compounds: 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, n-propyl benzene, sec-butylbenzene, toluene, and total xylenes.

April 2012 Soil & Groundwater SAR

No VOC exceedances.

SVOCs

April 2007 Phase II ESI

One SVOC, naphthalene, exceeded the SCO in a soil sample collected from boring B1 at a depth of 4 to 6 ft bgs.

February 2012 Soil SAR

No SVOC exceedances.

April 2012 Soil & Groundwater SAR

No SVOC exceedances.

Metals

April 2007 Phase II ESI

No metal exceedances.

5.2.4 Off-Site Analytical Results

Nine soil samples were collected and analyzed for VOCs and SVOCs during the Soil & Groundwater SAR. Summaries of laboratory detections and full laboratory reports for soil samples collected during the investigation are provided in Appendix A. Soil SCO exceedances for samples collected during the investigation are shown on Figure 4. The following is a summary of SCO exceedances organized by analytical parameter.

VOCs

April 2012 Soil & Groundwater SAR

Seven VOCs were reported at concentrations exceeding the SCOs in soil samples collected from borings SB-1 and SB-3 at depths of 8 to 10 ft bgs. Compounds exceeding the SCOs included the following petroleum-related compounds: 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, naphthalene, n-propyl benzene, toluene, and total xylenes. Total xylenes was also detected above its SCO in soil samples collected from boring SB-2 (10 to 12 ft bgs) and SB-3 (10 to 12 ft bgs and 14 to 15 ft bgs). No other VOCs were detected in soil samples collected during this investigation.

SVOCs

April 2012 Soil & Groundwater SAR

One SVOC, naphthalene, was detected at a concentration equal to its SCO in sidewalk soil boring SB-3 at a depth of 8 to 10 ft bgs.

5.3 Groundwater Findings

5.3.1 Field Observations

Groundwater underlying the Site ranged from approximately 11.09 to 12.45 ft bgs (el 44.71ft to el 46.16ft), based on gauging of on- and off-site wells on September 25, 2012. Groundwater elevation data are summarized in Table 1. A groundwater elevation iso-contour map based on representative groundwater elevations recorded from the monitoring wells is provided as Figure 3. Groundwater at the Site flows from west to east towards the East River. No free product was observed.

5.3.2 Site Analytical Data

One groundwater sample was collected from the monitoring well MW-B and analyzed for VOCs and SVOCs during the Soil & Groundwater SAR. A summary of the Soil & Groundwater SAR groundwater sample laboratory detections is provided in Appendix A. The Groundwater sample location and exceedances are presented in Figure 5. The following is a summary of AWQS exceedances organized by analytical parameter.

VOCs

April 2012 Soil & Groundwater SAR

Nine VOCs were reported at concentrations exceeding TOGS GA AWQS in the groundwater sample collected from MW-B. Compounds exceeding the AWQS included the following petroleum-related compounds: 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, isopropylbenzene, naphthalene, n-butylbenzene, n-propyl benzene, toluene, and total xylenes. Total BTEX was 637 micrograms per liter (µg/l) for MW-B.

SVOCs

April 2012 Soil & Groundwater SAR

One SVOC, naphthalene, exceeded the AWQS at monitoring well MW-B.

5.3.3 Off-Site Analytical Data

Three groundwater samples were collected from the three sidewalk monitoring wells and analyzed for VOCs and SVOCs during the Soil & Groundwater SAR. A summary of the Soil & Groundwater SAR groundwater sample laboratory detections is provided in Appendix A. Off-site groundwater sample locations and exceedances are presented in Figure 5. The following is a summary of AWQS exceedances organized by analytical parameter.

VOCs

April 2012 Soil & Groundwater SAR

Twelve VOCs were reported at concentrations exceeding TOGS GA AWQS in the groundwater samples collected from the three off-Site monitoring wells. Compounds exceeding the AWQS included the following petroleum-related compounds: 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, ethylbenzene, isopropylbenzene, naphthalene, n-butylbenzene, n-propyl benzene, p-isopropyltoluene, sec-butylbenzene, toluene, and total xylenes. Total BTEX was 6,200 µg/l, 31,100 ug/l, and 23,530 ug/l for MW-1, MW-2, and MW-3, respectively.

SVOCs

April 2012 Soil & Groundwater SAR

One SVOC, naphthalene, exceeded the AWQS at all three off-Site wells.

5.4 Data Usability

Data validation was performed by EnviroAnalytics in accordance with the EPA validation guidelines for organic and inorganic review. Category B laboratory reports were provided by Spectrum for the Phase II ESI and Phoenix for the Soil SAR and Soil & Groundwater SAR. The reports were forwarded to EnviroAnalytics for all samples collected during the ESI, Soil SAR, and Soil & Groundwater SAR. The results of the data validation review are summarized below. Copies of the DUSRs are provided in Appendix L.

5.4.1 Data Validation Results

Inorganic (Metals) Analysis

The inorganics analyses data were determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several analytes were qualified based on deviations from laboratory duplicate and matrix spike recovery criteria.

Volatile Organics Analysis

The volatile organics analyses data were determined to be usable for qualitative and quantitative purposes with qualification. Sample results for several compounds were qualified based on deviations from method blank analysis, initial calibration, continuing calibration, laboratory control sample analysis, matrix spike sample analysis, surrogate recovery, and internal standard recovery criteria.

Semivolatile Organics Analysis

The semivolatile organics analyses data were determined to be usable for qualitative and quantitative purposes with the exception of 23.7 percent of the data which were rejected due

to calibration, laboratory control sample recovery, matrix spike recovery, internal standard recovery, and surrogate recovery deviations. Additional qualification of data was required for method blank analysis deviations. The results of the semivolatile organics data validation analysis does not change any of the conclusions drawn from the previous investigation data.

6.0 QUALITATIVE HUMAN AND FISH/WILDLIFE EXPOSURE ASSESSMENT

6.1 Human Health Exposure Assessment

Human health exposure risk was evaluated for both current and future on- and off-site conditions, in accordance with the May 2010 NYSDEC Final DER-10 Technical Guidance for Site Investigation and Remediation. The assessment includes an evaluation of potential sources and migration pathways of site contamination, potential receptors, exposure media, and receptor intake routes and exposure pathways.

Site Setting

Current Conditions

The superstructure for a new five-story plus penthouse townhouse building is complete, but the basement slab has not yet been poured. Excavation for the basement extends to approximately 10 to 12 ft bgs. The new building occupies the entire site footprint.

Proposed Conditions

The proposed development will include the completion of the townhouse residential building with a finished basement, with frontage on Third Avenue and East 94th Street. The basement slab will be installed on top of a waterproofing/vapor barrier membrane. The basement will be used for mechanical rooms, tenant storage, and residential accessory spaces. Each floor will be used for residential units and the penthouse will likely include a terrace.

Summary of Environmental Conditions

The analytical data obtained during the Phase II ESI, Soil SAR, and Soil & Groundwater SAR for soil and groundwater (the exposure media) was evaluated in Section 5.0. Soil contaminants of concern (COCs) at on- and off-site sampling locations include VOCs. One SVOC, naphthalene, exceeded the SCO in the one on-Site soil sample collected at a depth of 4 to 6 ft bgs. However, the material represented by this soil sample was removed as part of the excavation and construction activities associated with the redevelopment of the Site. Naphthalene was also detected at a concentration equal to its SCO in one off-Site soil boring at a depth of 8 to 10 ft bgs. Concentrations of soil VOCs were highest among the samples collected at or around 10 ft bgs. Groundwater COCs include several VOCs and one SVOC (naphthalene) at both the on- and off-site monitoring wells. Soil vapor petroleum VOC impacts are assumed.

Conceptual Site Model

A conceptual site model has been developed based on the findings of the Phase II ESI, Soil SAR, and Soil & Groundwater SAR. The purpose of the conceptual site model is to develop a simplified framework for understanding the distribution of impacted materials, potential migration pathways, and potentially complete exposure pathways, as discussed below.

Potential Sources of Contamination

Potential sources of contamination at the Site have been identified in Section 3.3 based on previously completed investigations. The source of contamination was identified as a petroleum (gasoline) release related to former use as a gasoline filling station as evidenced by analytical data exceedances and observation of petroleum staining and odor.

Exposure Media

The impacted media include soil, soil vapor and groundwater. A historic petroleum release has been observed (staining, odor) and analytical data shows petroleum-related VOC and SVOC concentrations. A review of soil and groundwater data is provided in Section 7.0 (Nature and Extent of Contamination). Because VOCs are present at elevated concentrations in soil and groundwater, there is potential for vapors to accumulate under the proposed building slab; because the foundation will be above the groundwater table.

Receptor Populations

The entire footprint to the Site is currently occupied by the superstructure for the new five-story plus penthouse townhouse residential building. During site development, human receptors are limited to construction and remediation workers, authorized guests visiting the Site and the public adjacent to the Site. Under future conditions, receptors will include the new building occupants, tenants, workers, and visitors to the residential properties including children.

Potential Exposure Pathways – On-Site

Current Conditions

Soil at the Site has primarily been contaminated with VOCs. Human exposure to contaminated soil is possible within the basement of the Site and the potential migration pathway is likely complete for dermal absorption, inhalation and ingestion. Activity is limited to authorized workers and guests.

Groundwater is contaminated with VOCs and SVOCs (naphthalene). The contamination in monitoring wells MW-B, MW-1, MW-2, and MW-3 is presumed to be related to a historic petroleum release at the Site. Based on groundwater elevations obtained during the remedial

investigation, groundwater appears to flow primarily east across the Site. Because groundwater in New York City is not used as a potable water source, there is no completion of the exposure pathway under current site conditions.

Construction/Remediation Condition

Construction and remediation activities at the Site may result in potential exposures to Site contaminants. Soil has primarily been contaminated with VOCs. Construction and remedial activities include installation of foundation components and the potential for removal of impacted soil during remediation activities. Therefore, the potential exists for exposure of soil COCs to construction and remediation workers via dermal absorption, ingestion, and inhalation of particulate matter. In addition, activities may result in exposure to the public adjacent to the Site through potential generation and off-site migration of dust containing Site COCs.

Site groundwater has been contaminated with VOCs and SVOCs. Groundwater may be encountered during excavation activities by workers, and there is potential for exposure to groundwater COCs for construction workers via dermal absorption, ingestion, or inhalation.

The potential exists for exposure to potentially contaminated soil vapor for construction and remediation workers via inhalation. Activities may also result in exposure to the public adjacent to the Site through volatilization of vapors into the air and potential off-site migration.

Proposed Future Conditions

The proposed development will include residential use. Upon completion of the new development, the entirety of the Site will be capped with the concrete building basement slab/foundation with a waterproofing/vapor barrier. This barrier will prevent direct human exposure to impacted soil and groundwater that may be left in place.

The presence of VOCs in the soil and groundwater creates potential for VOC vapors to volatilize and potentially accumulate in the proposed building and impact future users. Points of exposure include potential cracks in the foundation of the proposed development. Routes of exposure may include inhalation of vapors entering the building.

There is no risk of ingesting groundwater COCs, since the Site and surrounding areas obtain their drinking water supply from surface water reservoirs located upstate and not from groundwater; therefore, the groundwater will not be pumped from wells or intended for consumption. In addition, petroleum-impacted groundwater at the Site will be treated with a chemical oxidant during excavation and remediation, thus reducing COC concentrations.

Potential Exposure Pathways – Off-Site

Soil and Groundwater

VOC and SVOC impacts to the soil and groundwater have been identified in the sidewalk area adjacent to the Site. Impacts are attributed to the historic petroleum release identified at the Site or other potential off-site sources.

Impacted Site soils have a very low potential to be transported off-site by wind in the form of dust or on the tires of vehicles or equipment leaving the Site during development and remediation activities because all of the exposed soils are below grade and not accessible to vehicles. Off-site soils are capped by concrete and asphalt making exposure pathways incomplete. Off-site groundwater is not a source of drinking water making exposure pathways incomplete.

The potential off-site migration of site contaminants is not expected to result in a complete exposure pathway for current, construction and remediation, or future conditions for the following reasons:

- Air monitoring will be conducted for particulates (i.e., dust) and VOCs during all intrusive activities as part of a community air monitoring program. Dust and/or vapor suppression techniques will be employed to limit potential for off-site migration of site soils and vapors.
- Vehicle tires and undercarriages will be washed as necessary prior to leaving the Site to prevent tracking material off-site.
- The Site is located in a highly urbanized area with continuous impervious surface covering.
- Groundwater in New York City is not used as a potable water source.

Soil Vapor

There is a potential exposure pathway for off-site soil vapor via intrusion into occupied buildings adjacent to the Site. Sub-slab soil vapor and indoor air samples will likely be collected within the properties adjacent to the Site, as feasible, to further evaluate potential off-site exposure pathways. Measures to mitigate soil vapor intrusion would include a vapor barrier membrane and a sub-membrane depressurization (SMD) system.

Evaluation of Human Health Exposure

Based upon the conceptual site model and review of environmental data, potentially complete on-site and off-site exposure pathways appear to be present based on the current, construction and remediation, and future conditions. The complete exposure pathways indicate there is a risk of exposure to humans from site contaminants via exposure to soil, soil vapor, and groundwater.

Complete exposure pathways have the following five elements: 1) a contaminant source; 2) a contaminant release and transport mechanism; 3) a point of exposure; 4) a route of exposure; and 5) a receptor population. A discussion of the five elements comprising a complete pathway as they pertain to the Site is provided below.

On-Site Current Conditions

Contaminant sources include the on-site petroleum-impacted soil and groundwater. Contaminant release and transport mechanisms include contaminated soil transported as dust and volatilization of contaminants from the soil and groundwater matrices to the soil vapor phase, and existing soil vapor contaminants. Under current conditions, the likelihood of exposure to humans is limited, as the work in the basement has halted. Where basement entry is required for inspection, all five elements exist; therefore, potentially complete exposure pathways are present. However, the risk can be minimized by applying appropriate health and safety measures, such as monitoring the air for organic vapors and dust, using vapor and dust suppression measures, maintaining site security, and wearing the appropriate personal protective equipment.

Potential exposures would be of short duration limited only to intrusive activities. In accordance with a Health and Safety Plan and a Community Air Monitoring Plan, measures such as conducting an air-monitoring program, donning personal protective equipment, and applying vapor and dust suppression measures to prevent off-site migration of contaminants during construction will be implemented. Such measures would prevent completion of these potential migration pathways.

On-Site Construction/Remediation Activities

During development and remediation activities, points of exposure include disturbed and exposed contaminated soil during excavation, contaminated dust and organic vapors arising from the excavation activities, and contaminated groundwater that may be encountered during remedial operations. Routes of exposure include ingestion and dermal absorption of contaminated soil and groundwater, inhalation of organic vapors from contaminated soil and groundwater, and inhalation of dust from contaminated soil disturbance. The receptor

population includes the construction and remediation workers and, to a lesser extent, the public adjacent to the Site. All five elements exist; therefore, potentially complete exposure pathways are present. However, the risk can be minimized by applying appropriate health and safety measures, such as monitoring the air for organic vapors and dust, using vapor and dust suppression measures, maintaining site security, and wearing the appropriate personal protective equipment.

Potential exposures would be of short duration limited only to intrusive activities. In accordance with a Health and Safety Plan, a Soil Management Plan, and a Community Air Monitoring Plan, measures such as conducting an air-monitoring program, donning personal protective equipment, and applying vapor and dust suppression measures to prevent off-site migration of contaminants during construction will be implemented. Such measures would prevent completion of these potential migration pathways.

Proposed On-Site Future Conditions

Contaminant release and transport mechanisms include volatilization of contaminants from soil vapor or the groundwater matrix to the soil vapor phase. Points of exposure include potential cracks in the basement slab of the Site. Routes of exposure may include inhalation of vapors entering the building; these routes may not exist depending on the effectiveness of the remediation. The receptor population includes the building tenants, residential property employees, and visitors. The possible routes of exposure will be mitigated by proper installation of soil vapor mitigation measures.

Off-Site Conditions

Contaminant release and transport mechanisms include volatilization of contaminants from soil vapor or the groundwater matrix to the soil vapor phase. Points of exposure include potential cracks in the basement slab of buildings adjacent to the Site and the infrastructure (storm drains, sewers, and underground utility lines) that exists within the streets surrounding the Site. The Route of exposure may include inhalation of vapors entering the building. Additional off-site investigation would be required during the remedy to determine if off-site soil vapor intrusion is a potentially complete exposure pathway. The receptor population includes the building tenants, residential property employees, and visitors.

Human Health Exposure Assessment Conclusions

The following conclusions were developed from this human health exposure assessment:

1. There is a moderate risk of exposure during the current and construction and remediation activities. This risk can be minimized by following the appropriate health and safety, vapor and dust suppression, and site security measures.

2. The existence of a complete exposure pathway for Site contaminants to human receptors during proposed future conditions is unlikely, as a large quantity of contaminated soils has been excavated and disposal, petroleum-impacted groundwater at the Site will be treated with a chemical oxidant, and a continuous impervious site cap and SMD system will be installed below the building footprint. The potential pathway for soil vapor intrusion into the building would be addressed through the use of soil vapor intrusion mitigation measures.
3. Off-site exposure pathways may include inhalation of vapors entering the buildings adjacent to the Site. Additional off-site investigation would be required during the remedy to determine if off-site soil vapor intrusion is a potentially complete exposure pathway.

6.2 Fish and Wildlife Exposure Assessment

NYSDEC DER-10 requires an on- and off-site Fish and Wildlife Resources Impact Analysis (FWRIA) if certain criteria are met. Based on the requirements stipulated in Section 3.10 and Appendix 3C of DER-10, there was no need to prepare an FWRIA for the Site. A completed form of DER-10 Appendix 3C is enclosed in this addendum as Appendix C.

7.0 NATURE AND EXTENT OF CONTAMINATION

This Section evaluates the nature and extent of soil and groundwater and contamination on and off the Site. The nature and extent of the contamination is derived from a combination of field observations and analytical data that were discussed in Section 5.0.

7.1 On-Site Soil Contamination

VOC Contamination

VOC exceedances of Unrestricted Use SCOs were reported in Site soil samples collected from Phase II ESI borings B1, B2, and B3 (July 2007) and Soil SAR endpoint soil samples BS-1, BS-2, BS-4, BS-5, and BS-6 (February 2012). Sample locations and exceedances are shown on Figure 4. Compounds exceeding the SCOs included the following petroleum-related compounds:

- 1,2,4-trimethylbenzene (11 to 53 milligrams per kilogram [mg/kg] compared to SCO of 3.6 mg/kg)
- 1,3,5-trimethylbenzene (8.8 to 17 mg/kg compared to SCO of 8.4 mg/kg)
- benzene (0.14 mg/kg compared to SCO of .06 mg/kg)
- ethylbenzene (3.9 to 32 mg/kg compared to SCO of 1 mg/kg)
- n-propyl benzene (5.6 to 7.5 mg/kg compared to SCO of 3.9 mg/kg)
- sec-butylbenzene (29 mg/kg compared to SCO of 11 mg/kg)
- toluene (3.7 to 8.1 mg/kg compared to SCO of 0.7 mg/kg)
- total xylenes (11 to 78 mg/kg compared to SCO of .26 mg/kg)

Total BTEX was highest in the sample collected from soil boring B1 at a depth of 4 to 6 ft below sidewalk grade (118 mg/kg). However, the material represented by this soil sample was removed as part of the excavation and construction activities associated with the redevelopment of the Site. The highest total BTEX concentration representing soil remaining at the Site was 81.2 mg/kg (no benzene detected) and was from endpoint soil sample BS-5 (10 to 12 ft below sidewalk grade) located in the eastern portion of the Site.

Petroleum-related VOC exceedances in soil were previously observed between approximately 4 to 12 feet below sidewalk grade. No VOC exceedances were reported from the two soil samples collected during the Soil & Groundwater SAR (April 2012) from boring SB-B at depths below sidewalk grade of 16 to 18 ft and 20 to 22 ft. The highest residual soil PID reading was 445 ppm and was recorded in SB-B at a depth ranging from 16 to 18 ft bgs. Petroleum VOCs in the soil are assumed to be a source of soil vapor VOCs.

SVOC Contamination

One SVOC, naphthalene, was detected at a concentration of 18 mg/kg (exceeding its SCO of 12 mg/kg) in the soil sample collected from boring B1 at a depth of 4 to 6 ft below sidewalk grade. However, the material represented by this soil sample was removed as part of the excavation and construction activities associated with the redevelopment of the Site.

7.2 Off-Site Soil Contamination

VOC Contamination

VOC exceedances of Unrestricted Use SCOs were reported in off-site soil samples collected from Soil & Groundwater SAR soil borings SB-1, SB-2 and SB-3. Seven petroleum-related VOC compounds were reported at concentrations exceeding the SCOs in two soil samples collected from borings SB-1 and SB-3 at depths of 8 to 10 ft bgs. Sample locations and exceedances are shown on Figure 4. Compounds exceeding the SCOs included the following:

- 1,2,4-trimethylbenzene (38 to 56 mg/kg compared to SCO of 3.6 mg/kg)
- 1,3,5-trimethylbenzene (16 to 22 mg/kg compared to SCO of 8.4 mg/kg)
- ethylbenzene (9.2 to 13 mg/kg compared to SCO of 1 mg/kg)
- n-propyl benzene (9.8 to 11 mg/kg compared to SCO of 3.9 mg/kg)
- toluene (4.1 to 6.2 mg/kg compared to SCO of 0.7 mg/kg)
- total xylenes (42 to 74 mg/kg compared to SCO of 0.26 mg/kg)

Total xylenes was also detected above its SCO in soil samples collected from boring SB-2 (10 to 12 ft bgs) and SB-3 (10 to 12 ft bgs and 14 to 15 ft bgs) at concentrations of 1.28 mg/kg, 0.66 mg/kg, and 0.91 mg/kg, respectively. Petroleum VOCs in the soil are assumed to be a source of soil vapor VOCs.

7.3 On-Site Groundwater Contamination

VOC Contamination

The April 2012 Soil & Groundwater SAR sample collected from MW-B exhibited TOGS 1.1.1 AWQS exceedances of the following petroleum-related compounds:

- 1,2,4-trimethylbenzene (150 ug/l compared to AWQS of 5 ug/l)
- 1,3,5-trimethylbenzene (52 ug/l compared to AWQS of 5 ug/l)
- ethylbenzene (270 ug/l compared to AWQS of 5 ug/l)

- isopropylbenzene (40 ug/l compared to AWQS of 5 ug/l)
- naphthalene (48 ug/l compared to AWQS of 10 ug/l)
- n-butylbenzene (35 ug/l compared to AWQS of 5 ug/l)
- n-propyl benzene (120 ug/l compared to AWQS of 5 ug/l)
- toluene (47 ug/l compared to AWQS of 5 ug/l)
- total xylenes (320 ug/l compared to AWQS of 5 ug/l)

Total BTEX was 637 µg/l for MW-B. The sample location and exceedances are shown on Figure 5. Petroleum VOCs in the groundwater are assumed to be a source of soil vapor VOCs.

SVOC Contamination

One SVOC, naphthalene, was detected at a concentration of 49 ug/l (above its AWQS of 10 ug/l) in monitoring well MW-B.

7.4 Off-Site Groundwater Contamination

VOC Contamination

The April 2012 Soil & Groundwater SAR samples collected from MW-1, MW-2, and MW-3 exhibited TOGS 1.1.1 AWQS exceedances of the following petroleum-related compounds:

- 1,2,4-trimethylbenzene (1,100 to 4,200 ug/l compared to AWQS of 5 ug/l)
- 1,3,5-trimethylbenzene (500 to 1,200 ug/l compared to AWQS of 5 ug/l)
- benzene (430 to 1,500 ug/l compared to AWQS of 0.7 ug/l)
- ethylbenzene (720 to 4,000 ug/l compared to AWQS of 5 ug/l)
- isopropylbenzene (87 to 750 ug/l compared to AWQS of 5 ug/l)
- naphthalene (160 to 810 ug/l compared to AWQS of 10 ug/l)
- n-butylbenzene (74 to 480 ug/l compared to AWQS of 5 ug/l)
- n-propyl benzene (240 to 480 ug/l compared to AWQS of 5 ug/l)
- p-isopropyltoluene (150 ug/l compared to AWQS of 5 ug/l)
- sec-butylbenzene (280 ug/l compared to AWQS of 5 ug/l)
- toluene (900 to 6,500 ug/l compared to AWQS of 5 ug/l)
- total xylenes (3,080 to 19,100 ug/l compared to AWQS of 5 ug/l).

Total BTEX was highest in well MW-2 at 31,100 µg/l. Sample locations and exceedances are shown on Figure 5. Petroleum VOCs in the groundwater are assumed to be a source of soil vapor VOCs.

SVOC Contamination

One SVOC, naphthalene, was detected at concentrations ranging from of 160 to 1,900 ug/l (above its AWQS of 10 ug/l) in all three off-Site monitoring wells.

8.0 CONCLUSIONS

This RI Report presents a summary of environmental conditions and findings from previous environmental investigations including the July 2007 Phase II ESI, February 2012 Soil SAR, and April 2012 Soil & Groundwater SAR. The findings summarized herein are based on both qualitative data (field observations and instrumental readings), and laboratory analytical results of soil and groundwater samples collected during the Phase II ESI, Soil SAR, and Soil & Groundwater SAR. Findings and conclusions are as follows:

1. Stratigraphy: Excavation for the basement of a new five-story plus penthouse townhouse building which covers the entire footprint of the Site was completed in February 2012 and extended to approximately 10 to 12 ft bgs. The current basement subgrade extends into native sand. Based on the July 2007 Phase II ESI prepared by D&B, the generalized stratigraphy underlying the Site was previously composed of historic urban fill material predominately characterized as gray silt and clay with brick fragments in the approximate upper 10 feet, underlain by fine sand with trace fine gravel from approximately 10 to 20 ft bgs, underlain by weathered schistose bedrock.
2. Groundwater underlying the Site ranged from approximately 11.09 to 12.45 ft bgs (el 44.71ft to el 46.16ft) based on gauging of on- and off-site wells on September 25, 2012. Groundwater at the Site flows from west to east towards the East River. Groundwater is approximately 1 to 2 feet below the current basement sub-grade.
3. Petroleum-Impacted Soil: Site soil has been impacted by a petroleum release related to former use as a gasoline filling station as evidenced by analytical data exceedances and observation of petroleum staining and odor. The majority of petroleum-impacted material on the Site was removed during excavation for the development basement to a depth of 10 to 12 feet below sidewalk grade. Residual soil impacts on the Site are estimated to extend from basement grade to approximately 15 ft bgs. Off-site soil impacts extend down-gradient to the east.
4. Groundwater Impacts: Petroleum-related VOCs and SVOCs (naphthalene) were identified in groundwater at MW-B located within the basement of the Site. To a higher extent, petroleum-related VOCs and SVOCs (naphthalene) were also identified in the three down-gradient monitoring wells located along the sidewalk adjacent to the Site.
5. Soil Vapor Impacts: Petroleum-related VOCs are assumed to be present in the unsaturated subsurface as a result of the VOCs found in the soil and groundwater.
6. Sufficient analytical data has been gathered to establish site-specific soil cleanup levels and to develop a remedy for the Site. The remedy will be described and evaluated in a Remedial Action Work Plan (RAWP) prepared in accordance with NYS BCP guidelines.

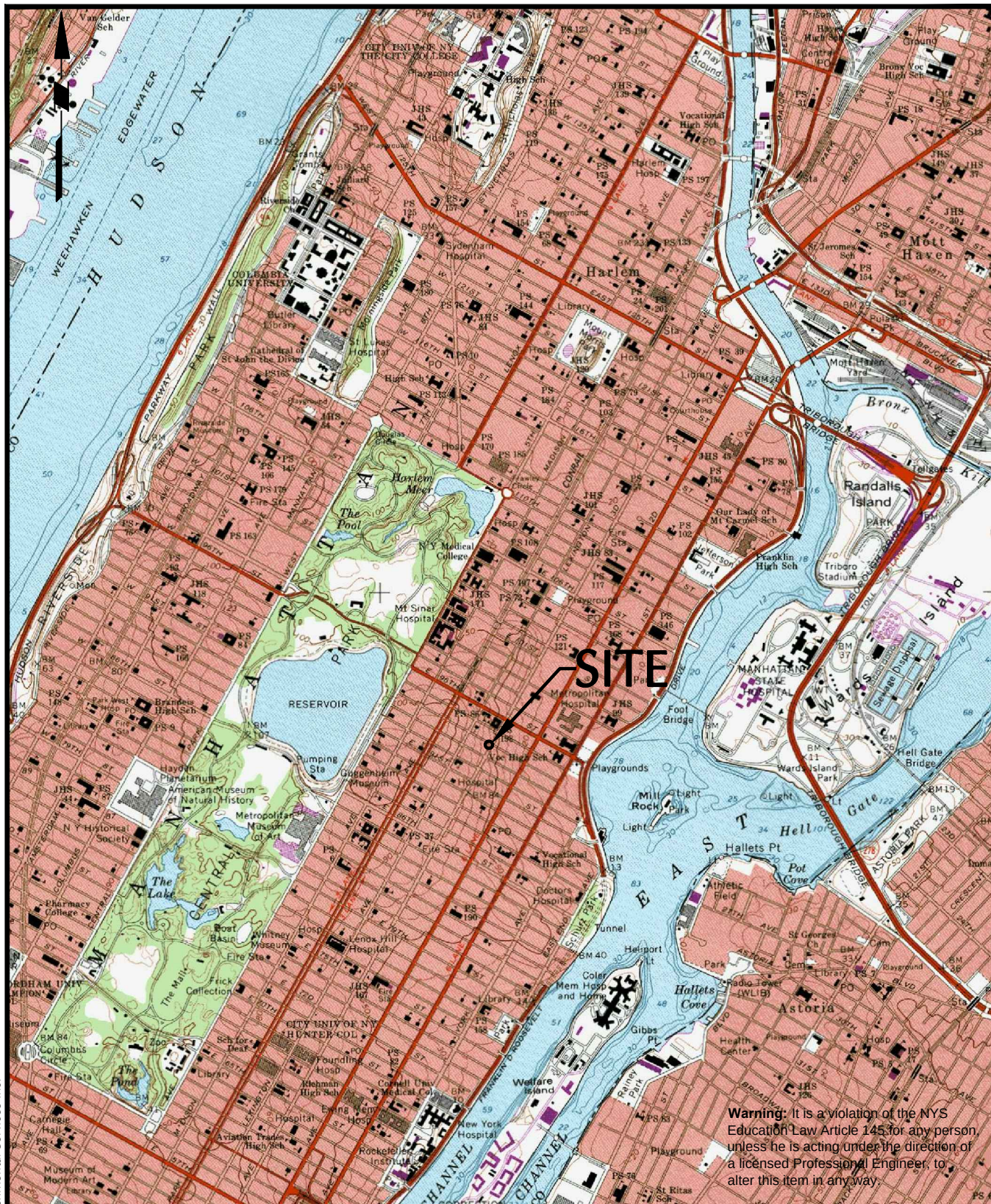
The remedy for the Site will need to address petroleum-impacted soil, the potential for soil vapor intrusion, and groundwater impacted with VOCs and SVOCs.

9.0 CERTIFICATION

I, Joel B. Landes, certify that I am currently a NYS registered professional engineer and that this Remedial Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

10.0 REFERENCES

1. Dvirka and Bartilucci Consulting Engineers, "Phase I Environmental Site Assessment Report", dated April 2007.
2. Dvirka and Bartilucci Consulting Engineers, "Phase II Environmental Site Investigation Report", dated July 2, 2007.
3. Environmental Maintenance Contractors, "Soil Sample Analysis Report", dated February 20, 2012.
4. Environmental Maintenance Contractors, "Soil & Groundwater Sample Analysis Report", dated April 24, 2012.
5. New York State Department of Health, Final Guidance for the Evaluation of Soil Vapor Intrusion in the State of New York, dated October 2006.
6. New York State Department of Environmental Conservation, Division of Environmental Remediation, Draft Brownfield Cleanup Program Guide, dated May 2004.
7. New York State Department of Environmental Conservation, Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated May 3, 2010.
8. New York State Division of Water Technical and Operational Guidance Series (TOGS) (1.1.1) dated June 1998.
9. New York State Department of Environmental Conservation, Part 375 of Title 6 of the New York Compilation of Codes, Rules, and Regulations, Effective December 14, 2006.



Warning: It is a violation of the NYS Education Law Article 145 for any person, unless he is acting under the direction of a licensed Professional Engineer, to alter this item in any way.

SOURCE: PORTION OF USGS CENTRAL PARK QUADRANGLE MAP, 1995



21 Penn Plaza, 8th Floor New York, NY 10001
P: 212.479.5400 F: 212.479.5444
www.langan.com

NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA
NEVADA VIRGINIA CALIFORNIA

NJ Certificate of Authorization No: 24GA27996400

1676 THIRD AVENUE SITE LOCATION MAP

NEW YORK

NEW YORK

Project No.	Date	Scale	Dwg. No.
170206301	11/28/12	1"=2000'	1

© 2010 Langan Engineering and Environmental Services Inc.

DRAFT

EAST 94TH STREET

#1676 THIRD AVENUE
BLOCK 1522 LOT 40

THIRD AVENUE

EAST 94TH STREET

LEGEND:



SOIL BORING LOCATION
[JULY 2007 PHASE II ENVIRONMENTAL SITE INVESTIGATION
REPORT, PREPARED BY DVIRKA & BARTILUCCI CONSULTING
ENGINEERS]



ENDPOINT SOIL SAMPLE LOCATION
[FEBRUARY 2012 SOIL SAMPLE ANALYTICAL REPORT,
PREPARED BY ENVIRONMENTAL MAINTENANCE
CONTRACTORS (EMC)]



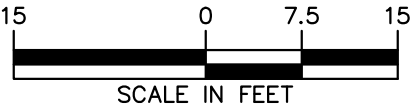
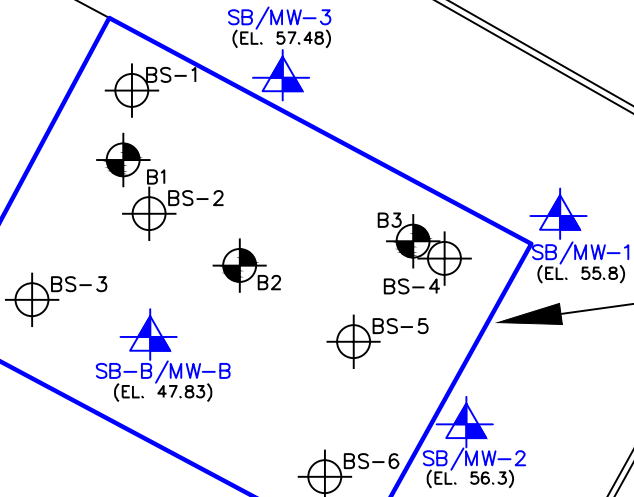
SOIL BORING/GROUNDWATER MONITORING WELL LOCATION
[APRIL 2012 SOIL AND GROUNDWATER SAMPLE ANALYTICAL
REPORT, PREPARED BY EMC]



SITE BOUNDARY

NOTES:

1. BASE MAP OBTAINED FROM THE NEW YORK STATE OFFICE OF ENVIRONMENTAL REMEDIATION SEARCHABLE PROPERTY ENVIRONMENTAL E-DATABASE.
2. ELEVATIONS SHOWN ARE REFERENCED TO THE MANHATTAN BOROUGH DATUM.
3. ALL METAL MONITORING WELL COVERS ARE FLUSH WITH THE GROUND SURFACE.
4. SOIL BORING AND MONITORING WELL LOCATIONS ARE APPROXIMATE.



21 Penn Plaza, 8th Floor New York, NY 10001
P: 212.479.5400 F: 212.479.5444
www.langan.com

NEW JERSEY PENNSYLVANIA **NEW YORK** CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA

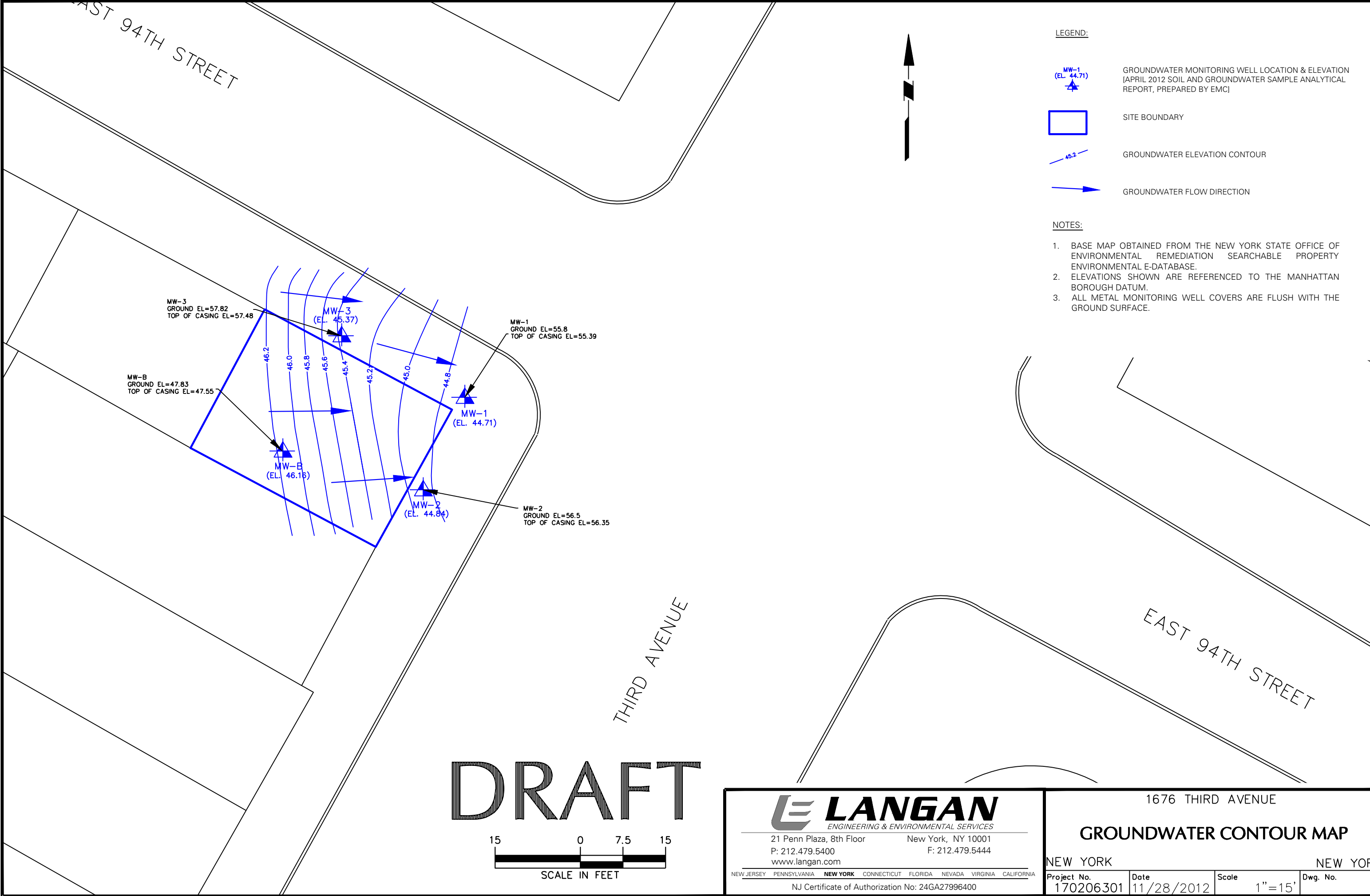
NJ Certificate of Authorization No: 24GA27996400

1676 THIRD AVENUE

SITE LAYOUT MAP

NEW YORK		NEW YORK	
Project No.	Date	Scale	Dwg. No.
170206301	11/28/2012	1"=15'	2

© 2010 Langan Engineering and Environmental Services Inc.





LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

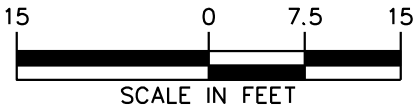
21 Penn Plaza, 8th Floor New York, NY 10001
P: 212.479.5400 F: 212.479.5444
www.langan.com

NEW JERSEY PENNSYLVANIA **NEW YORK** CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA

NJ Certificate of Authorization No: 24GA27996400

1676 THIRD AVENUE			
GROUNDWATER CONTOUR MAP			
NEW YORK		NEW YORK	
Project No.	Date	Scale	Dwg. No.
170206301	11/28/2012	1"=15'	3

DRAFT



THIRD AVENUE



ENGINEERING & ENVIRONMENTAL SERVICES

21 Penn Plaza, 8th Floor New York, NY 10001

P: 212.479.5400 F: 212.479.5444

www.langan.com

NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA

NJ Certificate of Authorization No: 24GA27996400

LEGEND:



SOIL BORING LOCATION
[JULY 2007 PHASE II ENVIRONMENTAL SITE INVESTIGATION
REPORT, PREPARED BY DVIRKA & BARTILUCCI CONSULTING
ENGINEERS]



ENDPOINT SOIL SAMPLE LOCATION
[FEBRUARY 2012 SOIL SAMPLE ANALYTICAL REPORT,
PREPARED BY ENVIRONMENTAL MAINTENANCE
CONTRACTORS (EMC)]



SOIL BORING/GROUNDWATER MONITORING WELL LOCATION
[APRIL 2012 SOIL AND GROUNDWATER SAMPLE ANALYTICAL
REPORT, PREPARED BY EMC]



SITE BOUNDARY

NOTES:

- BASE MAP OBTAINED FROM THE NEW YORK STATE OFFICE OF ENVIRONMENTAL REMEDIATION SEARCHABLE PROPERTY ENVIRONMENTAL E-DATABASE.
- SOIL BORING AND MONITORING WELL LOCATIONS ARE APPROXIMATE.
- SOIL SAMPLE ANALYTICAL RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYCDEC) TITLE 6 OF THE OFFICIAL COMPILATION OF NEW YORK CODES, RULES, AND REGULATIONS (NYCRR) PART 375 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCO).
- NYSDEC PART 375 UNRESTRICTED USE SCO EXCEEDANCES ARE IN BOLD.

VOC = VOLATILE ORGANIC COMPOUND
SVOC = SEMIVOLATILE ORGANIC COMPOUND
mg/kg = MILLIGRAMS PER KILOGRAM
ND = NOT DETECTED
NE = NO EXCEEDANCE

Analyte	NYSDEC Part 375 Unrestricted Use SCOs
VOCs (mg/kg)	
Benzene	0.06
Toluene	0.7
Ethylbenzene	1
Xylenes, Total	0.26
n-Propylbenzene	3.9
1,2,4-trimethylbenzene	3.6
1,3,5-trimethylbenzene	8.4
Naphthalene	12
sec-Butylbenzene	11
SVOCs (mg/kg)	
Naphthalene	12

B1	
Sample ID	B1
Lab Sample ID	F0609-01B
Sample Date	5/11/2007
Sample Depth (ft)	4 to 6
VOCs (mg/kg)	
Benzene	0.14
Toluene	8.1
Ethylbenzene	32
Xylenes, Total	78
SVOCs (mg/kg)	
Naphthalene	12

BS-2	
Sample ID	BS-2
Lab Sample ID	BB42287
Sample Date	2/8/2012
Sample Depth (ft)	≈12
VOCs (mg/kg)	
Ethylbenzene	6.9
Xylenes, Total	11.2
n-Propylbenzene	5.6
1,2,4-trimethylbenzene	11
SVOCs (mg/kg)	
Total SVOCs	NE

B2	
Sample ID	B2
Lab Sample ID	F0609-02B
Sample Date	5/11/2007
Sample Depth (ft)	9 to 11
VOCs (mg/kg)	
Ethylbenzene	4.4
Xylenes, Total	11
SVOCs (mg/kg)	
Total SVOCs	NE

BS-3	
Sample ID	BS-3
Lab Sample ID	BB42288
Sample Date	2/8/2012
Sample Depth (ft)	≈12
VOCs (mg/kg)	
Total VOCs	NE
SVOCs (mg/kg)	
Total SVOCs	ND

BS-1	
Sample ID	BS-1
Lab Sample ID	BB42286
Sample Date	2/8/2012
Sample Depth (ft)	≈12
VOCs (mg/kg)	
Ethylbenzene	7.4
Xylenes, Total	36.8
n-Propylbenzene	6
1,2,4-trimethylbenzene	41
1,3,5-trimethylbenzene	14
sec-Butylbenzene	29
SVOCs (mg/kg)	
Total SVOCs	NE

SB-3			
Sample ID	SBH-3	SBD-3	SBC-3
Lab Sample ID	BB59665	BB59666	BB59667
Sample Date	3/27/2012	3/27/2012	3/27/2012
Sample Depth (ft)	8 to 10	10 to 12	14 to 15
VOCs (mg/kg)			
Ethylbenzene	13	NE	NE
Toluene	6.2	NE	ND
Xylenes, Total	74	0.66	0.91
n-Propylbenzene	11	NE	NE
1,2,4-trimethylbenzene	56	NE	NE
1,3,5-trimethylbenzene	22	NE	NE
Naphthalene	15	NE	NE
SVOCs (mg/kg)			
Total SVOCs	NE	NE	ND

B3	
Sample ID	B3
Lab Sample ID	F0609-03B
Sample Date	5/11/2007
Sample Depth (ft)	9 to 11
VOCs (mg/kg)	
Toluene	3.7
Ethylbenzene	5.3
Xylenes, Total	25
SVOCs (mg/kg)	
Total SVOCs	NE

SB-1			
Sample ID	SBC-1	SBH-1	SBD-1
Lab Sample ID	BB59660	BB59659	BB59661
Sample Date	3/26/2012	3/26/2012	3/26/2012
Sample Depth (ft)	0 to 2	8 to 10	12 to 14
VOCs (mg/kg)			
Ethylbenzene	0.006	9.2	ND
Toluene	0.008	4.1	ND
Xylenes, Total	0.037	42	ND
n-Propylbenzene	ND	9.8	ND
1,2,4-trimethylbenzene	0.006	38	ND
1,3,5-trimethylbenzene	0.017	16	ND
SVOCs (mg/kg)			
Total SVOCs	ND	NE	ND

BS-4	
Sample ID	BS-4
Lab Sample ID	BB42289
Sample Date	2/8/2012
Sample Depth (ft)	≈12
VOCs (mg/kg)	
Ethylbenzene	3.9
Xylenes, Total	23.4
1,2,4-trimethylbenzene	32
1,3,5-trimethylbenzene	9
SVOCs (mg/kg)	
Total SVOCs	ND

SB-2			
Sample ID	SBC-2	SBH-2	SBD-2
Lab Sample ID	BB59663	BB59662	BB59664
Sample Date	3/26/2012	3/26/2012	3/26/2012
Sample Depth (ft)	0 to 2	10 to 12	14 to 15
VOCs (mg/kg)			
Xylenes, Total	25	1.28	ND
SVOCs (mg/kg)			
Total SVOCs	ND	NE	ND

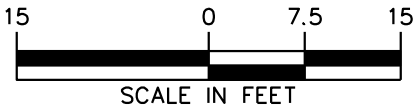
BS-5	
Sample ID	BS-5
Lab Sample ID	BB42290
Sample Date	2/8/2012
Sample Depth (ft)	≈12
VOCs (mg/kg)	
Ethylbenzene	11
Toluene	6.2
Xylenes, Total	64
n-Propylbenzene	7
1,2,4-trimethylbenzene	53
1,3,5-trimethylbenzene	17
SVOCs (mg/kg)	
Total SVOCs	ND

SB-B		
Sample ID	SBH-B	SBC-B
Lab Sample ID	BB57215	BB57216
Sample Date	3/21/2012	3/21/2012
Sample Depth (ft)	16 to 18	20 to 22
VOCs (mg/kg)		
Total VOCs	NE	NE
SVOCs (mg/kg)		
Total SVOCs	ND	ND

BS-6	
Sample ID	BS-6
Lab Sample ID	BB42291
Sample Date	2/8/2012
Sample Depth (ft)	≈12
VOCs (mg/kg)	
Ethylbenzene	8.8
Xylenes, Total	43
n-Propylbenzene	7.5
1,2,4-trimethylbenzene	45
1,3,5-trimethylbenzene	15
SVOCs (mg/kg)	
Total SVOCs	ND

© 2010 Langan Engineering and Environmental Services Inc.

DRAFT





LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

21 Penn Plaza, 8th Floor New York, NY 10001
P: 212.479.5400 F: 212.479.5444
www.langan.com

NEW JERSEY PENNSYLVANIA **NEW YORK** CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA

NJ Certificate of Authorization No: 24GA27996400

- LEGEND:
- **MW-1**

GROUNDWATER MONITORING WELL LOCATION
(APRIL 2012 SOIL AND GROUNDWATER SAMPLE ANALYTICAL
REPORT, PREPARED BY EMC)
- 

SITE BOUNDARY
- NOTES:
1.

BASE MAP OBTAINED FROM THE NEW YORK STATE OFFICE OF ENVIRONMENTAL REMEDIATION SEARCHABLE PROPERTY ENVIRONMENTAL E-DATABASE.
3.

GROUNDWATER SAMPLE ANALYTICAL RESULTS ARE COMPARED TO THE NEW STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1 AMBIENT WATER QUALITY STANDARDS (AWQS) FOR CLASS GA WATER.
4.

NYSDEC AWQS EXCEEDANCES ARE IN BOLD.

VOC = VOLATILE ORGANIC COMPOUND
SVOC = SEMIVOLATILE ORGANIC COMPOUND
ug/l = MICROGRAMS PER LITER

Analyte	NYSDEC TOGS 1.1.1 AWQS
VOCs (ug/l)	
Benzene	1
Ethylbenzene	5
Toluene	5
Xylenes, Total	5
Isopropylbenzene	5
n-Propylbenzene	5
n-Butylbenzene	5
p-Isopropyltoluene	5
sec-butylbenzene	5
1,2,4-trimethylbenzene	5
1,3,5-trimethylbenzene	5
Naphthalene	10
SVOCs (ug/l)	
Naphthalene	10

NEW YORK		NEW YORK	
Project No.	Date	Scale	Dwg. No.
170206301	11/28/2012	1"=15'	5

Table 1
Groundwater Elevation Summary
Remedial Investigation Report
1676 Third Avenue
New York, New York
Langan Project No. 170206301
Brownfield Cleanup Program Site No. C231079

Well ID	Top of Casing Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to LNAPL (ft)
MW-B	47.55	1.39	46.16	ND
MW-1	55.39	10.68	44.71	ND
MW-2	56.35	11.51	44.84	ND
MW-3	57.48	12.11	45.37	ND

Notes:

1. Groundwater elevation were obtained on September 25, 2012.
2. Groundwater elevations are referenced to the Manhattan borough datam
3. MW-B is located within the basement of the site.
4. MW-1, MW-2, and MW-3 are located along the sidewalk of the site.
5. LNAPL = Light, non-aqueous phase liquid.

Table 2
Comprehensive Sample and Analysis Summary
Remedial Investigation Report
1676 Third Avenue
New York, New York
Langan Project No.: 170206301
Brownfield Cleanup Program No.: C231079

Sample Location No.	Sample ID	Sample Date	Matrix	Sample Type	Sample Depth (feet bgs)	Analysis	Rationale
ON-SITE SOIL SAMPLES							
B1	B1	5/11/2007	Soil	Grab	4 to 6	VOCx, SVOCx, and Metals	Evaluate potential RECs identified by the Phase I ESA
B2	B2	5/11/2007	Soil	Grab	9 to 11	VOCx, SVOCx, and Metals	Evaluate potential RECs identified by the Phase I ESA
B3	B3	5/11/2007	Soil	Grab	9 to 11	VOCx, SVOCx, and Metals	Evaluate potential RECs identified by the Phase I ESA
BS-1	BS-1	2/8/2012	Soil	Grab	10 to 12	VOCs and SVOCs	Evaluate the nature and extent of soil impacts on-Site subsequent the basement excavation
BS-2	BS-2	2/8/2012	Soil	Grab	10 to 12	VOCs and SVOCs	Evaluate the nature and extent of soil impacts on-Site subsequent the basement excavation
BS-3	BS-3	2/8/2012	Soil	Grab	10 to 12	VOCs and SVOCs	Evaluate the nature and extent of soil impacts on-Site subsequent the basement excavation
BS-4	BS-4	2/8/2012	Soil	Grab	10 to 12	VOCs and SVOCs	Evaluate the nature and extent of soil impacts on-Site subsequent the basement excavation
BS-5	BS-5	2/8/2012	Soil	Grab	10 to 12	VOCs and SVOCs	Evaluate the nature and extent of soil impacts on-Site subsequent the basement excavation
BS-6	BS-6	2/8/2012	Soil	Grab	10 to 12	VOCs and SVOCs	Evaluate the nature and extent of soil impacts on-Site subsequent the basement excavation
SB-B	SBH-B	3/21/2012	Soil	Grab	16 to 18	VOCs and SVOCs	Determine the nature and extent of on- and off-Site impacts due to historical gasoline station.
	SBC-B	3/21/2012	Soil	Grab	20 to 22	VOCs and SVOCs	Determine the nature and extent of on- and off-Site impacts due to historical gasoline station.
OFF-SITE SOIL SAMPLES							
SB-1	SBC-1	3/26/2012	Soil	Grab	0 to 2	VOCs and SVOCs	Determine the nature and extent of on- and off-Site impacts due to historical gasoline station.
	SBH-1	3/26/2012	Soil	Grab	8 to 10	VOCs and SVOCs	Determine the nature and extent of on- and off-Site impacts due to historical gasoline station.
	SBD-1	3/26/2012	Soil	Grab	12 to 14	VOCs and SVOCs	Determine the nature and extent of on- and off-Site impacts due to historical gasoline station.
SB-2	SBC-2	3/26/2012	Soil	Grab	0 to 2	VOCs and SVOCs	Determine the nature and extent of on- and off-Site impacts due to historical gasoline station.
	SBH-2	3/26/2012	Soil	Grab	10 to 12	VOCs and SVOCs	Determine the nature and extent of on- and off-Site impacts due to historical gasoline station.
	SBD-2	3/26/2012	Soil	Grab	14 to 15	VOCs and SVOCs	Determine the nature and extent of on- and off-Site impacts due to historical gasoline station.
SB-3	SBH-3	3/27/2012	Soil	Grab	8 to 10	VOCs and SVOCs	Determine the nature and extent of on- and off-Site impacts due to historical gasoline station.
	SBD-3	3/27/2012	Soil	Grab	10 to 12	VOCs and SVOCs	Determine the nature and extent of on- and off-Site impacts due to historical gasoline station.
	SBC-3	3/27/2012	Soil	Grab	14 to 15	VOCs and SVOCs	Determine the nature and extent of on- and off-Site impacts due to historical gasoline station.
ON-SITE GROUNDWATER SAMPLE							
MW-B	MW-B	4/11/2012	Groundwater	Grab	NA	VOCs and SVOCs	Determine presence and extent of groundwater impacts on-Site
OFF-SITE GROUNDWATER SAMPLES							
MW-1	MW-1	4/11/2012	Groundwater	Grab	NA	VOCs and SVOCs	Determine presence and extent of groundwater impacts off-Site
MW-2	MW-2	4/11/2012	Groundwater	Grab	NA	VOCs and SVOCs	Determine presence and extent of groundwater impacts off-Site
MW-3	MW-3	4/11/2012	Groundwater	Grab	NA	VOCs and SVOCs	Determine presence and extent of groundwater impacts off-Site

Notes:

1. NA = Not Applicable
2. bgs = Below grade surface
3. VOCs = Volatile organic compounds
4. SVOCs = Semivolatile organic compounds

APPENDIX B

Site Sign Requirements

Site Signage Requirements

The NYSDEC Department has specific requirements for a 4 foot by 8 foot sign to be posted to inform the public about the RA. The detailed NYSDEC requirements for Site signage are provided below.

Signage Instructions

Signs are required at sites where remedial actions are being performed under one of the following remedial programs: State Superfund, VCP, BCP, and Environmental Restoration Program (ERP). They will not be required during the investigation and design phases. The cost of the sign will be borne by the parties performing the remedial action based on the legal document the activities are being performed under (i.e. volunteers/participants would pay 100% of the cost under the BCP; municipalities would pay 100% and then would be reimbursed for the cost under the ERP).

Sign Requirements

Size:	Horizontal format - 96" wide by 48" high
Construction Materials:	Aluminum or wood blank sign boards with vinyl sheeting.
Inserts:	"Site Name", "Site Number", "Name of Party Performing Remedial Activities" and "Municipal Executive". Indicate position, size and topography for specific inserts.
Color Scheme:	Copy surrounding DEC logo - "NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION" PMS 355
DEC logo:	PMS 301 Blue, PMS 355 Green
Text:	Program: PMS 301 Brownfield Cleanup Program Site Name, Site Number, Party Performing Remedial Activities PMS 355 Names of Governor, Commissioner, Municipal Executive PMS 301 Transform the Past.....Build for the Future PMS 355
Type Specifications:	All type is Caslon 540, with the exception of the logotype. Format is: center each line of copy with small caps and initial caps.
Production Notes:	96" wide x 48" high aluminum blanks will be covered with vinyl sheeting to achieve background color. Copy and logo will be silk screened on this surface.



Program Name

Site Name

Site Number

Name of Party Performing Remedial Activities

Governor

Commissioner

Municipal Executive

Transform the Past.... Build for the Future

APPENDIX C

Health and Safety Plan

HEALTH AND SAFETY PLAN

for

**1676 THIRD AVENUE
New York, New York**

Prepared For:

**Bevin Associates, LLC
c/o KLM Construction
155 East 56th Street, 6th Floor
New York, New York 10022**

Prepared By:

**Langan Engineering & Environmental Services, Inc. PC
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, New York 10001
NJ Certificate of Authorization No: 24GA27996400**

**Joel B. Landes
Professional Engineer License No. 076348-1**

**May 2013
170206301**



TABLE OF CONTENTS

	PAGE
SECTION 1 HEALTH AND SAFETY PLAN (HASP) SUMMARY	1
SECTION 2 INTRODUCTION	7
2.1 Purpose and Policy	7
2.2 Site Description	7
2.3 Scope of Work	7
2.4 LANGAN Project Team Organization	8
SECTION 3 RISK ANALYSIS	11
3.1 Chemical Hazards	11
3.2 Radiation Hazards	13
3.3 Biological Hazards	13
3.3.1 Animals	13
3.3.2 Insects	13
3.4 Physical Hazards	13
3.4.1 Explosion	13
3.4.2 Heat Stress	13
3.4.3 Cold-Related Illness	16
3.4.4 Noise	16
3.4.5 Hand and Power Tools	17
3.4.6 Slips, Trips and Fall Hazards	17
3.4.7 Utilities (Electrocution and Fire Hazards)	17
3.5 Task Hazard Analysis	17
3.5.1 Soil Disturbance	17
3.5.2 Well Installation and Sampling	17
SECTION 4 PERSONNEL PROTECTION AND MONITORING	21
4.1 OSHA Training	21
4.2 Site-Specific Training	21
4.3 Odor, Vapor and Dust Monitoring and Response	21
4.3.1 Work Zone Area Monitoring	21
4.4 Community Air Monitoring Plan (CAMP)	22
4.4.1 Vapor Emission Response Plan	24
4.4.2 Major Vapor Emission	24
4.4.3 Major Vapor Emission Response Plan	24

4.5 Summary of Action levels and Restrictions.....	26
4.5.1 Level D and Modified Level D	26
4.5.2 Level C.....	26
4.5.3 Level B (Retreat)	27
4.5.4 OSHA Requirements for Personal Protective Equipment	27
 SECTION 5 WORK ZONES AND DECONTAMINATION	 28
5.1 Site Work Zones	28
5.1.1 Hot Zone.....	28
5.1.2 Warm Zone.....	28
5.1.3 Cold Zone	28
5.2 Decontamination.....	28
5.2.1 Decontamination of Personnel.....	28
5.2.2 Decontamination of Field Equipment.....	29
5.3 Remedial Activity-Derived Waste.....	29
 SECTION 6 ACCIDENT PREVENTION AND CONTINGENCY PLAN	 30
6.1 Accident Prevention	30
6.1.1 Site-Specific Training	30
6.1.2 Vehicles and Heavy Equipment	30
6.2 Spill Control Plan.....	31
6.3 Contingency Plan	31
6.3.1 Emergency Procedures	31
6.3.2 Chemical Exposure	31
6.3.3 Personal Injury	31
6.3.4 Evacuation Procedures	32
6.3.5 Procedures Implemented in the Event of a Major Fire, Explosion, or Emergency	32

LIST OF TABLES

TABLE 1	EMERGENCY CONTACTS.....	5
TABLE 2	SUMMARY OF ACTION LEVELS AND RESTRICTIONS.....	6
TABLE 2.1	ON-SITE PERSONNEL AND RESPONSIBILITIES.....	10
TABLE 3.1	RELEVANT PROPERTIES OF VOLATILES (PETROLEUM [GASOLINE, DIESEL, ETC.]), METALS AND SEMIVOLATILES KNOWN OR SUSPECTED AT THE SITE.....	13
TABLE 3.2	SUGGESTED FREQUENCY OF PHYSIOLOGICAL MONITORING FOR FIT AND ACCLIMATED WORKERS.....	20
TABLE 3.3	HEAT INDEX.....	21

LIST OF FIGURES

FIGURE 1	MAP/ROUTE TO HOSPITAL.....	3

LIST OF APPENDICES

ATTACHMENT A	AIR MONITORING EQUIPMENT CALIBRATION AND MAINTENANCE
ATTACHMENT B	FORMS FOR HEALTH AND SAFETY RELATED ACTIVITIES
ATTACHMENT C	MATERIAL SAFETY DATA SHEETS
ATTACHMENT D	STANDARD SAFE WORK PRACTICES

SECTION 1 HEALTH AND SAFETY PLAN (HASP) SUMMARY

Emergency Contacts

Emergency contacts are listed on Table 1.

Emergency Procedures

Emergency procedures are described in Section 6.

Site Specific Hazards and Training

Site Specific Hazards are described in Section 2.

The Field Safety Officer (FSO) will be responsible for providing site-specific training to all personnel that work at the site. This training will cover the following topics:

- Names of personnel responsible for site safety and health.
- Hazards potentially present at the site.
- Proper use of personal protective equipment.
- Work practices by which the employee can minimize risk from hazards.
- Acute effects of compounds at the site.
- Decontamination procedures.

Personnel will be required to sign and date the Site-Specific Training Form provided in Attachment B prior to working on-site.

General Health and Safety Requirements

Personnel will be required to sign and date the Health and Safety Plan and Work Plan Acceptance Form provided in Attachment B prior to working on-site.

Personnel Protective Equipment

Level D protection will be worn for initial entry on-site and for all activities except as noted in Section 3. Level D protection will consist of:

- Standard work clothes
- Steel-toe safety boots
- Safety glasses or goggles
- Nitrile outer gloves and PVC or nitrile inner gloves must be worn during all sampling activities
- Hard hat (must be worn during all sampling activities)

Modified Level D protection may be required under conditions where potential contact of the skin or clothes with significant contamination occurs. Modified Level D is the same as Level D but includes Tyvek coveralls and disposable polyethylene overboots.

Level C protection, unless otherwise specified in Section 3, will consist of Level D equipment and the following additional equipment:

- Full-face or half-mask air-purifying respirator (APR)
- Combination dust/organic vapor cartridges
- Tyvek coveralls if particulate hazard present
- PE-Coated Tyvek coverall if liquid contamination present
- PVC or nitrile inner and nitrile outer gloves
- 5-minute escape SCBA

Level B protection, unless otherwise specified in Section 3, will consist of Level D equipment and the following additional equipment:

- Hard hat
- Positive Pressure SCBA or positive pressure air line and respirator with escape SCBA
- PE-Coated Tyvek coverall
- Nitrile outer and PVC or nitrile inner gloves
- Nitrile boot covers

Air Monitoring

A summary of the action levels and restrictions is presented on Table 2.

FIGURE 1-HOSPITAL ROUTE PLAN (Lenox Hill Hospital)

Site Location: 1676 Third Avenue,
New York, NY

Hospital Location: 130 East 77th Street, New York, NY 10065
Emergency Room (212) 434-3030



Route to Hospital

From 1676 Third Avenue New York, New York to Lenox Hill Hospital, located at 130 East 77th Street, New York, New York.

1: Head **northeast** on **Third Ave** toward **East 94th Street**.

2: Turn left onto **East 94th Street**.

3: Turn left onto **Lexington Avenue**.

4: Turn right onto **East 77th Street**.

5: Destination will be on left

Total Est. Time: 5 minutes **Total Est. Distance:** 1.1 miles

TABLE 1
EMERGENCY CONTACTS

In the event of any situation or unplanned occurrence requiring assistance, the appropriate contact(s) should be made from the list below. For emergency situations, contact should first be made with the Field Team Leader (or designee) and the Site Safety Officer, who will notify emergency personnel who will then contact the appropriate response teams. This emergency contacts list must be in an easily accessible location at the site.

Emergency Contacts

Phone Number

Fire Department:	911
Police:	911
New York City-Long Island One Call Center: (3 day notice required for utility markouts)	(800) 272-4480
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802

Medical Emergency

Ambulance Service:	911
Hospital Name:	Lennox Hill Hospital
Hospital Phone Number:	(212) 434-3030
Hospital Address:	130 East 77 th Street New York, New York 10075
Route to Hospital:	See Page 3 and 4
Travel Time From Site:	5 minutes

Langan Contacts

Principal/Associate:	Joel Landes, P.E.	(212) 479-5404
Project Manager:	Jason Hayes, P.E.	(212) 479-5427
Langan Health & Safety Officer:	Tony Moffa	(215) 756-2523
Field Safety Officer	Paul McMahon (cell)	(914) 433-1157
Field Team Leader	Ryan Wohlstrom	(212) 479-5483
Quality Assurance Officer	Michael Burke	(212) 479-5413

TABLE 2
SUMMARY OF ACTION LEVELS AND RESTRICTIONS²

Conditions for Level D:

All areas

- PID readings < 25 ppm and benzene < 1 ppm
- No visible fugitive dust emissions from site activities

Conditions for Level C:

All areas

- Where PID readings > 25 ppm (sustained for 15 minutes in the breathing zone) to 200 ppm and benzene < 5ppm, and/or
- Any visible fugitive dust emissions from site activities that disturb contaminated soil.

Conditions for Level B (or retreat):

All areas

- Where PID readings > 500 ppm or benzene > 25 ppm,
- Visible fugitive dust emissions from site activities cloud the surrounding air.

SECTION 2 INTRODUCTION

2.1 PURPOSE AND POLICY

The purpose of this Health and Safety Plan (HASP) is to establish personnel protection standards and mandatory safety practices and procedures for the implementation of a Remedial Action Work Plan (RAWP) at 1676 Third Avenue in New York, New York (the "Site"). The RAWP includes contaminated soil disturbance, air monitoring, in-situ treatment of site groundwater with sodium persulfate, and installation of a Cupolex® soil vapor intrusion system with active sub-slab depressurization (SSD). This plan assigns responsibilities, establishes standard operating procedures, and provides for contingencies that may arise while operations are being conducted during sampling and boring and well installation at the site.

The provisions of the plan are mandatory for all on-site personnel. Contractors shall prepare their own HASP that at a minimum adheres to the requirements of this plan. All personnel who engage in project activities must be familiar with this plan, comply with its requirements, and sign the Plan Acceptance Form (Attachment B), page number B-5, prior to working on the Site. The Plan Acceptance Form must be submitted to the Langan Field Safety Officer (FSO). In addition to this plan, all work shall be performed in accordance with all applicable federal, state and local regulations.

2.2 SITE DESCRIPTION

The Site is located at 1676 Third Avenue in New York, New York and is identified as Block 1522, Lot 40 on the New York City Tax Map. The Site is approximately 930 square feet and is located on the city block bordered by 94th Street to the north, Third Avenue to the east, 93rd Street to the south, and Lexington Avenue to the west. A Site Location Map is provided as Figure 1 and a Site Layout Map is provided as Figure 2.

The Site was historically used as a gasoline station between the 1930s and 1980s. Gasoline underground storage tanks (USTs) were removed in 1990 and the Volunteer purchased the Site in 1993. The superstructure for a new five-story plus penthouse townhouse building is complete, but the basement slab has not yet been poured. Excavation for the basement extended to approximately 10 to 12 feet below grade surface (ft bgs). NYSDEC Spill No. 11-08991 is associated with the Site. The spill was reported on October 17, 2011 when petroleum-contaminated soil was observed during excavation to redevelop the Site as a residential townhouse building.

2.3 SCOPE OF WORK

Remediation at the Site will consist of the following:

- Removal of soil exceeding Protection of Groundwater SCOs to the extent described in the RAWP;
- Backfilling of remedial excavation areas to development grade with clean fill (meeting the Unrestricted Use SCOs) or virgin, native imported crushed stone;
- In-situ treatment of VOC-impacted groundwater with the application of an oxidant (persulfate) into an estimated 5 direct push injection points;

- Installation of a composite cover system;
- Development and execution of a Health and Safety Plan and a Community Monitoring Plan for the protection of on-site workers, the general public, and the environment during remediation and construction activities; and
- Implement long-term Engineering and Institutional Controls in the form of a Site Management Plan and deed restriction.

A Langan engineer will supervise remedial activities, monitor air for particulates and organic vapors, collect soil and groundwater samples, oversee the persulfate treatment, and oversee the installation of the vapor intrusion system.

2.4 LANGAN PROJECT TEAM ORGANIZATION

Table 1.1 describes the responsibilities of Langan on-site personnel associated with this project. The names of principal personnel associated with this project are:

Principal/Associate:	Joel Landes, P.E.	(212) 479-5404
Program Manager Project Manager:	Jason Hayes, P.E.	(212) 479-5427
Langan Health & Safety Officer:	Tony Moffa	(215) 756-2523
Field Safety Officer	Paul McMahon	(cell) (914) 433-1157
Field Team Leader	Ryan Wohlstrom	(212) 479-5483
Quality Assurance Officer	Michael Burke	(212) 479-5413

All Langan personnel have been appropriately trained in first aid and hazardous waste safety procedures, including the operating and fitting of personal protective equipment, and are experienced with the field operations planned for the Site.

TABLE 2.1
ON-SITE PERSONNEL AND RESPONSIBILITIES

PROJECT MANAGER – Assumes control over site activities. Reports to upper-level management. Has authority to direct response operations.

Responsibilities:

- Prepares and organizes the background review of the situation, the Work Plan, the Site Health and Safety Plan, and the field team.
- Obtains permission for site access and coordinates activities with appropriate officials.
- Ensures that the Work Plan is executed and on schedule.
- Briefs the field team on their specific assignments.
- Coordinates with the site Health and Safety Officer (HSO) to ensure that health and safety requirements are met.
- Prepares the final report and support files on the response activities.
- Serves as the liaison with public officials.

FIELD SAFETY OFFICER (FSO) – Advises the HSO and Project Manager on aspects of health and safety on site. Stops work if operations threaten worker or public health or safety.

Responsibilities:

- Ensures that all necessary Health and Safety Equipment is available on-site. Ensures that all equipment is functional.
- Periodically inspects protective clothing and equipment.
- Ensures that protective clothing and equipment are properly stored and maintained.
- Controls entry and exit at the Access Control Points.
- Coordinates health and safety program activities with the Project HSO.
- Confirms each team member's suitability for work based on a physician's recommendation.
- Monitors the work parties for signs of stress, such as cold exposure, heat stress, and fatigue.
- Implements the Site Health and Safety Plan.
- Conducts periodic inspections to determine if the Site Health and Safety Plan is being followed.
- Enforces the "buddy" system.

TABLE 2.1 – CONTINUED
ON-SITE PERSONNEL AND RESPONSIBILITIES

Field Safety Officer Responsibilities (continued)

- Knows emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire department, and police department.
- Notifies, when necessary, local public emergency officials.
- Coordinates emergency medical care.
- Sets up decontamination lines and the decontamination solutions appropriate for the type of chemical contamination on the site.
- Controls the decontamination of all equipment, personnel, and samples from the contaminated areas.
- Assures proper disposal of contaminated clothing and materials.
- Ensures that all required equipment is available.
- Advises medical personnel of potential exposures and consequences.
- Notifies emergency response personnel by telephone or radio in the event of an emergency.

FIELD TEAM LEADER – Advises on all aspects of health and safety on site. Stops work if any operation threatens worker or public health or safety. Is directly responsible for the field team and the safety of site operations.

Responsibilities:

- Manages field operations.
- Executes the Work Plan and schedule.
- Enforces safety procedures.
- Coordinates with the Site Safety Officer in determining protection level.
- Enforces site control.
- Documents field activities and sample collection.
- Serves as a liaison with public officials.

WORK TEAM – Operators, laborers, samplers. The work party must consist of at least two people.

Responsibilities:

- Safely completes the on-site tasks required to fulfill the Work Plan.
- Complies with Site Safety Plan.
- Notifies Site Safety Officer or supervisor of suspected unsafe condition

SECTION 3 RISK ANALYSIS

3.1 CHEMICAL HAZARDS

The primary potential chemical hazard is exposure to volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), particularly naphthalene. Other compounds that may be encountered are site equipment fuels (gasoline, diesel, etc.) that also contain volatile components. Relevant properties of these compounds are outlined in Table 2.1.

Dust with chemical constituents will likely be generated during RAWP implementation; air will be monitored for particulates and organic vapors to prevent fugitive dust generation.

Material Safety Data Sheets for substances that will be used on site are included in Attachment C.

TABLE 3.1
RELEVANT PROPERTIES OF VOLATILES (PETROLEUM [GASOLINE, DIESEL, ETC.]), METALS AND
SEMIVOLATILES KNOWN OR SUSPECTED
AT THE SITE

(1) 29 CFR 1910, June 30, 1993 (8-hour Time weighted average unless otherwise specified.)

(2) ACGIH 1989 Highest reported value of acceptable odor threshold range.

Compound (Synonym)	OSHA PEL ⁽¹⁾ (ppm)	IDLH (ppm)	LEL (%)	Odor Threshold⁽²⁾ (ppm)	Odor Character	Vapor Pressure (mm Hg)	Physical State	Detectable w/ 10.6 eV lamp PID (I.P. eV)
Arsenic (As)	0.01	5	NA	NA	NA	0 (approx)	Noncombustible Solid(3)	NA
BTEX	200	NA	6	NA	Methanol	97	Noncombustible	Yes
Barium	5	50	NA	NA	NA	0 (approx)	Noncombustible	NA
Lead (Pb)	0.05	11	NA	NA	NA	0 (approx)	Noncombustible	NA
Copper	1	100	NA	NA	NA	1	Noncombustible	NA
Iron	5	NA	NA	NA	NA	NA	Noncombustible	NA
Magnesium (Mg)	5	500	NA	NA	NA	0 (approx)	Combustible Solid	NA
Mercury	0.1	10	NA	NA	NA	0 (approx)	Noncombustible	NA
Nickel (Ni)	1	10	NA	NA	NA	0 (approx)	Combustible	NA
Zinc (Zn)	5	50	NA	NA	NA	0 (approx)	Combustible	NA

(3) Slight explosive hazard if dust is exposed to flame

(4) Sponge catalyst may ignite spontaneously in the air.

(5) Powder may ignite spontaneously in the air, and can continue burning under water.

[IDLH] Immediately dangerous to life or health

[CA] Suspect carcinogen - Minimize all possible exposures

3.2 RADIATION HAZARDS

No radiation hazards are known or expected at the site.

3.3 BIOLOGICAL HAZARDS

3.3.1 Animals

During site operations, animals such as dogs, cats, pigeons, sea gulls, mice, and rats may be encountered. Workers will use discretion and avoid all contact with animals. Bites and scratches from dogs can be painful and if the animal is rabid, the potential for contracting rabies exists. Contact with rat and mice droppings may lead to contracting hantavirus. Inhalation of dried pigeon droppings may lead to psittacosis; cryptococcosis and histoplasmosis are also diseases associated with exposure to dried bird droppings but these are less likely to occur in this occupational setting.

3.3.2 Insects

Insects, including bees, wasps, hornets, mosquitoes, and spiders, may be present at this site. Some individuals may have a severe allergic reaction to an insect bite or sting that can result in a life threatening condition. In addition, mosquito bites may lead to St. Louis encephalitis or West Nile encephalitis. Personnel that have been bitten or stung by an insect at the Site should notify the HSO or FSO of such immediately. The following is a list of preventive measures:

- Apply insect repellent prior to fieldwork and or as often as needed throughout the shift.
- Wear proper protective clothing (work boots, socks and light colored pants).
- When walking in wooded areas, to the extent possible avoid contact with bushes, tall grass, or brush.
- Field personnel who may have insect allergies (e.g., bee sting) should provide this information to the HSO or FSO prior to commencing work, and will have allergy medication on Site.

The HSO or FSO will instruct the project personnel in the recognition and procedures for encountering potentially hazardous insects at the Site.

3.4 PHYSICAL HAZARDS

3.4.1 Explosion

No explosion hazards are expected for the scope of work at this site.

3.4.2 Heat Stress

The use of Level C protective equipment, or greater, may create heat stress. Monitoring of personnel wearing personal protective clothing should commence when the ambient temperature is 72°F or above. Table 2.2 presents the suggested frequency for such monitoring. Monitoring frequency should increase as ambient temperature

increases or as slow recovery rates are observed. Refer to the Table 2.3 below to assist in assessing when the risk for heat related illness is likely. To use this table, the ambient temperature and relative humidity must be obtained (a regional weather report should suffice). Heat stress monitoring should be performed by the FSO, who shall be able to recognize symptoms related to heat stress.

To monitor the workers, be familiar with the following heat-related disorders and their symptoms:

- **Prickly Heat** (Heat rash)
 - Painful, itchy red rash. Occurs during sweating, on skin covered by clothing.
- **Heat Cramps**
 - Painful spasm of arm, leg or abdominal muscles, during or after work.
- **Heat Exhaustion**
 - Headache, nausea, dizziness. Cool, clammy, moist skin. Heavy sweating. Weak, fast pulse. Shallow respiration, normal temperature.
- **Heat Fatigue**
 - Weariness, irritability, loss of skill for fine or precision work. Decreased ability to concentrate. No loss of temperature control.
- **Heat Syncope** (Heat Collapse)
 - Fainting while standing in a hot environment.
- **Heat Stroke**
 - Headache, nausea, weakness, hot dry skin, fever, rapid strong pulse, rapid deep respirations, loss of consciousness, convulsions, coma. **This is a life threatening condition.**

Do not permit a worker to wear a semi-permeable or impermeable garment when they are showing signs or symptoms of heat-related illness.

To monitor the worker, measure:

- Heart rate. Count the radial pulse during a 30-second period as early as possible in the rest period.
 - If the heart rate exceeds 100 beats per minute at the beginning of the rest period, shorten the next work cycle by one-third and keep the rest period the same.
 - If the heart rate still exceeds 100 beats per minute at the next rest period, shorten the following work cycle by one-third. A worker cannot return to work after a rest period until their heart rate is below 100 beats per minute.

- Oral temperature. Use a clinical thermometer (3 minutes under the tongue) or similar device to measure the oral temperature at the end of the work period (before drinking).
- If oral temperature exceeds 99.6°F (37.6°C), shorten the next work cycle by one-third without changing the rest period. A worker cannot return to work after a rest period until their oral temperature is below 99.6°F.
- If oral temperature still exceeds 99.6°F (37.6°C) at the beginning of the next rest period, shorten the following cycle by one-third.
- Do not permit a worker to wear a semi-permeable or impermeable garment when oral temperature exceeds 100.6°F (38.1°C).

Prevention of Heat Stress - Proper training and preventative measures will aid in averting loss of worker productivity and serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat related illness. To avoid heat stress the following steps should be taken:

- Adjust work schedules.
- Mandate work slowdowns as needed.
- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
- Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.
- Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat, i.e., eight fluid ounces (0.23 liters) of water must be ingested for approximately every eight ounces (0.23 kg) of weight lost. The normal thirst mechanism is not sensitive enough to ensure that enough water will be drunk to replace lost sweat. When heavy sweating occurs, encourage the worker to drink more. The following strategies may be useful:
 - Maintain water temperature 50° to 60°F (10° to 16.6°C).
 - Provide small disposal cups that hold about four ounces (0.1 liter).
 - Have workers drink 16 ounces (0.5 liters) of fluid (preferably water or dilute drinks) before beginning work.
 - Urge workers to drink a cup or two every 15 to 20 minutes, or at each monitoring break. A total of 1 to 1.6 gallons (4 to 6 liters) of fluid per day are recommended, but more may be necessary to maintain body weight.
 - Train workers to recognize the symptoms of heat related illness.

3.4.3 Cold-Related Illness

If work on this project begins in the winter months, thermal injury due to cold exposure can become a problem for field personnel. Systemic cold exposure is referred to as hypothermia. Local cold exposure is generally called frostbite.

Hypothermia - Hypothermia is defined as a decrease in the patient core temperature below 96°F. The body temperature is normally maintained by a combination of central (brain and spinal cord) and peripheral (skin and muscle) activity. Interference with any of these mechanisms can result in hypothermia, even in the absence of what normally is considered a "cold" ambient temperature. Symptoms of hypothermia include: shivering, apathy, listlessness, sleepiness, and unconsciousness.

Frostbite - Frostbite is both a general and medical term given to areas of local cold injury. Unlike systemic hypothermia, frostbite rarely occurs unless the ambient temperatures are less than freezing and usually less than 20°F. Symptoms of frostbite are: a sudden blanching or whitening of the skin; the skin has a waxy or white appearance and is firm to the touch; tissues are cold, pale, and solid.

Prevention of Cold-Related Illness - To prevent cold-related illness:

- Educate workers to recognize the symptoms of frostbite and hypothermia
- Identify and limit known risk factors:
- Assure the availability of enclosed, heated environment on or adjacent to the site.
- Assure the availability of dry changes of clothing.
- Assure the availability of warm drinks.
- Start (oral) temperature recording at the job site:
 - At the FSO or Field Team Leader's discretion when suspicion is based on changes in a worker's performance or mental status.
 - At a worker's request.
 - As a screening measure, two times per shift, under unusually hazardous conditions (e.g., wind-chill less than 20°F, or wind-chill less than 30°F with precipitation).
 - As a screening measure whenever any one worker on the site develops hypothermia.

Any person developing moderate hypothermia (a core temperature of 92°F) cannot return to work for 48 hours.

3.4.4 Noise

The operation of drilling equipment may result in momentary high noise levels during advancement of soil borings. Hearing protection (e.g., ear plugs, headphones) will be used as necessary.

3.4.5 Hand and Power Tools

In order to adjust drilling equipment, personnel will utilize hand and/or power tools. The use of hand and power tools can present a variety of hazards, including physical harm from being struck by flying objects, being cut or struck by the tool, fire, and electrocution. Ground Fault Circuit Interrupters (GFCIs) are required for power tools.

3.4.6 Slips, Trips and Fall Hazards

Care should be exercised when walking at the site, especially when carrying equipment. The presence of surface debris, uneven surfaces, pits, facility equipment, and soil piles contribute to tripping hazards and fall hazards. To the extent possible, all hazards should be identified and marked on the Site, with hazards communicated to all workers in the area.

3.4.7 Utilities (Electrocution and Fire Hazards)

The possibility of encountering underground utilities poses fire, explosion, and electrocution hazards. All intrusive work will be preceded by notification of the subsurface work to the N.Y. One Call Center. Potential adverse effects of electrical hazards include burns and electrocution, which could result in death.

3.5 TASK HAZARD ANALYSIS

3.5.1 Soil Disturbance

The disturbance of contaminated soil exposes site personnel to a number of hazards including trip and fall hazards and potential collision with drilling equipment.

Chemical exposure may occur as workers encounter soil and groundwater across the site, or are exposed to products used at the site including gasoline, diesel and motor oil. Soil and groundwater sampling presents similar potential exposure hazard. Activities will be conducted initially in Level D but may be upgraded to Modified Level D. Although not anticipated, there will be a Level C and B contingency should pockets of contaminants be brought to the surface and breathing zone air become contaminated.

If evidence of historic or unknown contamination, such as oily materials, high PID readings, etc., is encountered during intrusive work, the FSO will determine the appropriate level of personnel protection.

3.5.2 Well Installation and Sampling

Operation of drilling equipment and advancement is inherently dangerous. Mechanical and electrical field equipment should be properly inspected for defects, and the location of any underground utilities should be established and communicated to all on-site personnel prior to advancement of soil borings.

Chemical exposure may occur as workers encounter soil and groundwater across the site, or are exposed to products used at the site including gasoline, diesel and motor oil. Soil and groundwater sampling presents similar potential exposure hazard. Activities will be conducted initially in Level D but may be upgraded to Modified Level D.

Although not anticipated, there will be a Level C and B contingency should pockets of contaminants be brought to the surface and breathing zone air become contaminated.

If evidence of historic or unknown contamination, such as oily materials, high PID readings, etc., is encountered during intrusive work, the FSO will determine the appropriate level of personnel protection.

Table 3.2
Suggested Frequency of Physiological Monitoring
For Fit and Acclimated Workers^a

Adjusted Temperature^b	Normal Work Ensemble^c	Impermeable Ensemble
90°F or above (32.2°C) or above	After each 45 min. of work	After each 15 min. of work
87.5°F (30.8°-32.2°C)	After each 60 min. of work	After each 30 min. of work
82.5°-87.5°F (28.1°-30.8°C)	After each 90 min. of work	After each 60 min. of work
77.5°-82.5°F (25.3°-28.1°C)	After each 120 min. of work	After each 90 min. of work
72.5°-77.5°F (22.5°-25.3°C)	After each 150 min. of work	After each 120 min. of work

a For work levels of 250 kilocalories/hour.

b Calculate the adjusted air temperature (ta adj) by using this equation: $ta\ adj\ ^\circ F = ta\ ^\circ F + (13 \times \% \text{ sunshine})$. Measure air temperature (ta) with a standard mercury-in-glass thermometer, with the bulb shielded from radiant heat. Estimate percent sunshine by judging what percent time the sun is not covered by clouds that are thick enough to produce a shadow. (100 percent sunshine = no cloud cover and a sharp, distinct shadow; 0 percent sunshine = no shadows.)

c A normal work ensemble consists of cotton coveralls or other cotton clothing with long sleeves and pants.

Table 3.3 - HEAT INDEX

ENVIRONMENTAL TEMPERATURE (Fahrenheit)											
	70	75	80	85	90	95	100	105	110	115	120
RELATIVE HUMIDITY	APPARENT TEMPERATURE*										
0%	64	69	73	78	83	87	91	95	99	103	107
10%	65	70	75	80	85	90	95	100	105	111	116
20%	66	72	77	82	87	93	99	105	112	120	130
30%	67	73	78	84	90	96	104	113	123	135	148
40%	68	74	79	86	93	101	110	123	137	151	
50%	69	75	81	88	96	107	120	135	150		
60%	70	76	82	90	100	114	132	149			
70%	70	77	85	93	106	124	144				
80%	71	78	86	97	113	136					
90%	71	79	88	102	122						
100%	72	80	91	108							

*Combined Index of Heat and Humidity...what it "feels like" to the body

Source: National Oceanic and Atmospheric Administration

How to use Heat Index:

1. Across top locate Environmental Temperature
2. Down left side locate Relative Humidity
3. Follow across and down to find Apparent Temperature
4. Determine Heat Stress Risk on chart at right

Note: Exposure to full sunshine can increase Heat Index values by up to 15 degrees F.

Apparent Temperature	Heat Stress Risk with Physical Activity and/or Prolonged Exposure
90-105	Heat Cramps or Heat Exhaustion Possible
105-130	Heat Cramps or Heat Exhaustion Likely, Heat Stroke Possible
>130	Heatstroke Highly Likely

SECTION 4 PERSONNEL PROTECTION AND MONITORING

4.1 OSHA TRAINING

On-site personnel directly involved in handling, characterization of hazardous waste or petroleum-contaminated soil must have completed hazardous waste operations-related training, as required by OSHA Regulations 29 CFR 1910.120. Personnel who completed this training more than 12 months prior to the start of the project must have completed an 8-hour refresher course within the past 12 months. Documentation of OSHA training for project personnel must be provided to Langan prior to starting work.

4.2 SITE-SPECIFIC TRAINING

The Field Safety Officer will be responsible for developing a site-specific occupational hazard training program and providing training to all personnel that are to work at the site. This training will be conducted prior to starting field work and will consist of the following topics:

- Names of personnel responsible for site safety and health.
- Hazards potentially present at the site.
- Proper use of personal protective equipment.
- Requirements of this HASP.
- Work practices by which the employee can minimize risk from hazards. This may include a specific review of heavy equipment safety, safety during inclement weather, changes in common escape rendezvous point, site security measures, or other site-specific issues that need to be addressed before work begins.
- Safe use of engineering controls and equipment on the site.
- Acute effects of compounds present at the site.
- Decontamination procedures.

Upon completion of site-specific training, workers will sign the Site-Specific-Training Form provided in Attachment B. A copy of the completed Site-Specific Training Form will be included in the project files for future reference.

4.3 ODOR, VAPOR AND DUST MONITORING AND RESPONSE

4.3.1 Work Zone Area Monitoring

The contractor is responsible for completing their own health and safety plan. General contractor and sub-contractor site worker monitoring will be the responsibility of the respective contractor.

VOC

Continuous monitoring for VOCs will be conducted during all ground intrusive activities. The following actions will be taken based on organic vapor levels measured:

- If total organic vapor levels exceed 5 ppm above background for the 15-minute average at the perimeter, work activities will be temporarily halted and monitoring continued. If levels readily decrease (per instantaneous readings) below 5 ppm above background, work activities will resume with continued monitoring.
- If total organic vapor levels at the perimeter of the hot zone persist at levels in excess of 5 ppm above background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps work activities will resume provided that the total organic vapor outside the hot zone is below 5 ppm above background for the 15-minute average.
- If the total organic vapor level is above 25 ppm at the perimeter of the hot zone, activities will be shutdown.

Dust

Particulate or dust will be monitoring continuously with real-time field instrumentation during earthwork operations. NYSDEC issues a 1989 memorandum on controlling fugitive dust emissions during “ground intrusive activities”. The National Ambient Air Quality Standard for Respirable Particulates, which are defined as particles 10µg (PM10) in diameter or less, is 150 µg/m³. Based on this standard, dust exposure from remediation activities should not exceed 150 µg/m³ above background and monitoring should be within the work area if exceedances of this standard are anticipated.

The NYSDEC defines fugitive dust as particulate matter that is not from a specific source and could include discrete particles, droplets, and solids over a wide range of sizes. Most continuous dust monitors are designed to provide maximum response to PM10 particulate, since these particles are considered respirable.

Based on the air monitoring results, dust suppression may need to be implemented. This could include the following:

- Wetting equipment
- Spraying work area
- Utilizing alternate work methods
- Implementing site speed restrictions

Background dust monitoring shall be performed prior to the start of the workday. Sampling shall be performed outside of the work zone for a minimum of fifteen minutes. Sampling shall be performed continuously within the work zone. Monitoring results shall be kept in a logbook and used to initiate additional dust control measures as necessary.

4.4 COMMUNITY AIR MONITORING PLAN (CAMP)

This CAMP was developed in accordance with the NYSDOH Generic Community Air Monitoring Plan.

VOC Monitoring, response Levels, and Actions

VOCs must be monitored at perimeter of the work zone and at upwind and downwind locations at the site perimeter on a continuous basis during remediation and construction activities until the ground is completely capped with clean soil or impervious barrier. Upwind concentrations should be measured to establish background conditions. The monitoring work will be performed using equipment appropriate to the known contaminants on the Site. This equipment should be calibrated daily and should be capable of calculating 15-minute running averages. All 15-minute readings will be recorded and be available for State personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded. The measured 15-minute averages will be compared to the levels below:

1. If the ambient air concentration of total VOCs at the downwind perimeter of the work area exceeds 5 parts per million (ppm) above background for the 15 minute average, work activities must be halted until the levels readily decreases below 5 ppm (per instantaneous readings).
2. If the total VOCs at the downwind perimeter of the work area persist at levels in excess of 5 ppm over background but less than 25 ppm, work must be halted. The source of vapors must be identified and corrective actions must be taken to abate the emissions. Work activities can only resume provided that the concentration is less than 5 ppm over a 15 minute average period.
3. If the total VOC level is above 25 ppm at the perimeter of the work area, all activities must be shut down and work methods and controls will be re-evaluated.

Particulate Monitoring, Response Levels, and Actions

Dust or particulate concentrations should be monitored continuously at the upwind and downwind perimeters at the site perimeter. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes or less for comparison to the airborne particulate action level. In addition, fugitive dust migration should be visually assessed during all work activities. All readings will be recorded and be available for state personnel review. Corrective action is determined by the following levels:

1. If the downwind PM-10 at a site perimeter location is 100 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) greater than background for the 15 minute period of if airborne dust is observed at the site perimeter from remediation activity, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that the downwind PM-10 particulate level does not exceed 150 $\mu\text{g}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the remediation work area.
2. If, after implementing dust suppression techniques, downwind PM-10 particulate levels are greater than 150 $\mu\text{g}/\text{m}^3$ above the upwind level, work

must be stopped and re-evaluation of work activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 µg/m³ of the upwind level and in preventing visible dust migration.

4.4.1 Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the hot zone, work activities will be halted or odor controls will be employed, and monitoring continued. If the organic vapor level decreases below 5 ppm above background, work activities can resume, provided:

- The organic vapor level outside the hot zone is below 1 ppm over background, and
- More frequent intervals of monitoring, as directed by the Site Health and Safety Officer, are conducted.

If the organic vapor level is greater than 5 ppm above background at the perimeter of the hot zone, work activities must be shut down or odor controls must be employed. When work shut-down occurs, downwind air monitoring as directed by the Site Health and Safety Officer will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

4.4.2 Major Vapor Emission

If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the work site, or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted or odor controls must be implemented.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the hot zone, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If either of the following criteria is exceeded in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be implemented.

- Sustained organic vapor levels approaching 5 ppm above background for a period of more than 30 minutes, or
- Organic vapor levels greater than 5 ppm above background for any time period.

4.4.3 Major Vapor Emission Response Plan

Upon activation, the following activities will be undertaken:

- The local police authorities will immediately be contacted by the Site Health and Safety Officer and advised of the situation;
 - Frequent air monitoring will be conducted at 30-minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Site Health and Safety Officer; and
- All Emergency contacts will go into effect as appropriate.

4.5 SUMMARY OF ACTION LEVELS AND RESTRICTIONS

A PID such as the RaeSystems MiniRae 2000, equipped with a 10.6 eV lamp shall be used to screen for total VOCs. All readings pertain to sustained readings for 15 minutes in the worker breathing zone. The following conditions shall apply to each level of protection.

Conditions for Level D:

All areas where PID readings < 25 ppm and Benzene < 1 ppm

Conditions for Level C:

- All areas where PID readings > 25 ppm or Benzene > 1 ppm (sustained for 15 minutes in the breathing zone) to 200 ppm

Conditions for Level B (or retreat):

All areas where PID readings > 500 ppm or Benzene > 20 ppm

4.5.1 Level D and Modified Level D

Level D protection will be worn for initial entry on-site and initially for all activities. Level D protection will consist of:

- Standard work clothes
- Steel-toe safety boots
- Safety glasses (goggles must be worn when splash hazard is present)
- Nitrile gloves must be worn during all activities requiring contact with saturated soils.
- Hard hat (must be worn during all site activities)

Modified Level D is the same as Level D but includes Tyvek coveralls and disposable polyethylene overboots to contact with the skin or clothes if significant contamination is present in subsurface materials.

4.5.2 Level C

The level of personal protection will be upgraded to Level C if the concentration of volatile organic compounds which can be detected with a photoionization detector (PID) in the breathing zone equals or exceeds the specified action limits and the contaminants of concern have characteristic warning properties appropriate for air purifying respirators (e.g. taste, odor). Level C protection will consist of the following equipment:

- Full-face or half-mask air-purifying respirator (APR) or powered air purifier (PAPR), depending on presence and abundance of airborne toxic constituents of concern
- Combination HEPA filter/organic vapor cartridges
- Tyvek coveralls must be worn if particulate hazard present
- PE-coated Tyvek coveralls if liquid contamination present

- Steel-toe safety boots
- Nitrile outer gloves must be worn during all activities requiring contact with saturated soil.
- Hard hat (must be worn during all site activities)

Cartridges will be disposed at the end of each day's use.

4.5.3 Level B (Retreat)

If the concentration of volatile organics which can be detected with a PID equals or exceeds the specified action levels, all field personnel associated with the project will immediately retreat to a location up-wind of the source of contamination. At this point the Site Safety Officer must consult with the Langan HSO to discuss appropriate actions.

4.5.4 OSHA Requirements for Personal Protective Equipment

All personal protective equipment used during the course of this field investigation must meet the following OSHA standards:

Type of Protection	Regulation	Source
Eye and Face	29 CFR 1910.133 29 CFR 1926.102	ANSI Z87.1-1968
Respiratory	29 CFR 1910.134 29 CFR 1926.103	ANSI Z88.1-1980
Head	29 CFR 1910.135 29 CFR 1926.100	ANSI Z89.1-1969
Foot	29 CFR 1910.136 29 CFR 1926.96	ANSI Z41.1-1967

ANSI = American National Standards Institute

Both the respirator and cartridges specified for use in Level C protection must be fit-tested prior to use in accordance with OSHA regulations (29 CFR 1910.1025; 29 CFR 1910.134).

Based on performance criteria of air purifying respirators, they cannot be worn under the following conditions:

- Oxygen deficiency;
- Immediately Dangerous to Life or Health (IDLH) concentrations;
- High relative humidity; and
- If contaminant levels exceed designated use concentrations

SECTION 5 WORK ZONES AND DECONTAMINATION

5.1 SITE WORK ZONES

To reduce the spread of hazardous materials by workers from potentially contaminated areas to the clean areas, work zones will be delineated at the site. The flow of personnel between the zones should be controlled. The establishment of the work zones will help ensure that personnel are properly protected against the hazards present where they are working, and ensure that work activities and contamination are confined to the appropriate areas. The work zones described below may be modified in the field depending on field conditions.

5.1.1 Hot Zone

Hot zones will be established within the delineated petroleum-impacted area in the northwestern portion of the site and within the metal and SVOC-impacted soil in the southeastern and western portions of the Site. Unprotected onlookers should not be located within the hazardous area during intrusive activities. All personnel within the hot zone must don the appropriate levels of personal protection as set forth by the FSO. It is not anticipated that Level C or higher will be required for this site.

All personnel within the hot zone will be required to use the specified level of protection. No food, drink, or smoking will be allowed in the hot or warm zones.

5.1.2 Warm Zone

Should PID action levels be exceeded or obvious indications of contamination (by sight or odor) be encountered, a warm zone will be established and utilized during the field activities. This zone will be established between the hot zone and the cold zone (discussed below), and will include the personnel and equipment necessary for decontamination of equipment and personnel exiting the hot zone. Personnel and equipment in the hot zone must pass through this zone before entering the cold zone. This zone should always be located upwind of the hot zone.

5.1.3 Cold Zone

The cold zone will include the remaining areas of the job site. Break areas and support facilities (include equipment storage and maintenance areas) will be located in this zone. No equipment or personnel will be permitted to enter the cold zone from the hot zone without passing through the decontamination station in the warm zone (if necessitated). Eating and drinking will be allowed only in this area.

5.2 DECONTAMINATION

Generally, any water used in decontamination procedures will be placed in containers, temporarily stored on-site, and properly characterized and disposed.

5.2.1 Decontamination of Personnel

Decontamination of personnel will be necessary if Level C or Level B protection is used, which is not anticipated based on current knowledge of the Site history. Decontamination will not be necessary if only Level D protection is used. However,

disposable gloves used during sampling activities should be removed and bagged; personnel should be encouraged to remove clothing and shower as soon as is practicable at the end of the day. All clothing should be machine-washed. All personnel will wash hands and face prior to eating and before and after using the restroom.

5.2.2 Decontamination of Field Equipment

Decontamination of field equipment will be necessary for all equipment in contact with contaminated materials. Decontamination activities shall be performed in a designated area lined with polyethylene sheeting that is designed to collect the decontamination rinsate.

5.3 REMEDIAL ACTIVITY-DERIVED WASTE

All PPE-related remedial activity-derived waste materials (PPE, decontamination waste) will be placed in labeled containers and appropriately disposed.

SECTION 6 ACCIDENT PREVENTION AND CONTINGENCY PLAN

6.1 ACCIDENT PREVENTION

6.1.1 Site-Specific Training

All field personnel will receive health and safety training prior to the initiation of any site activities. The site-specific training form provided in Attachment B must be signed, dated, and returned to the Langan Field Safety Officer. On a day-to-day basis, individual personnel should be constantly alert for indicators of potentially hazardous situations and for signs and symptoms in themselves and others that warn of hazardous conditions and exposures. Rapid recognition of dangerous situations can avert an emergency. Before daily work assignments, a regular meeting should be held. Discussion should include:

- Tasks to be performed;
- Time constraints (e.g., rest breaks, cartridge changes);
- Hazards that may be encountered, including their effects, how to recognize symptoms or monitor them, concentration limits, or other danger signals; and
- Emergency procedures.

6.1.2 Vehicles and Heavy Equipment

Working with large motor vehicles and heavy equipment could be a major hazard at this site. Injuries can result from equipment hitting or running over personnel, impacts from flying objects, or overturning of vehicles. Vehicle and heavy equipment design and operation will be in accordance with 29 CFR, Subpart O, 1926.600 through 1926.602. In particular, the following precautions will be utilized to help prevent injuries/accidents.

- Brakes, hydraulic lines, light signals, fire extinguishers, fluid levels, steering, tires, horn, and other safety devices will be checked at the beginning of each shift.
- Large construction motor vehicles will not be backed up unless:
 - The vehicle has a reverse signal alarm audible above the surrounding noise level; or
 - The vehicle is backed up only when an observer signals that it is safe to do so.
- Heavy equipment or motor vehicle cable will be kept free of all nonessential items, and all loose items will be secured.
- Large construction motor vehicles and heavy equipment will be provided with necessary safety equipment (such as seat belts, roll-over protection, emergency shut-off in case of roll-over, backup warning lights and audible alarms).
- Blades and buckets will be lowered to the ground and parking brakes will be set before shutting off any heavy equipment or vehicles.

6.2 SPILL CONTROL PLAN

All personnel must take every precaution to minimize the potential for spills during site operations. Any spill shall be reported immediately to the FSO. Spill control apparatus (sorbent materials) will be located on-site. All materials used for the clean up of spills will be containerized and labeled separately from other wastes.

6.3 CONTINGENCY PLAN

6.3.1 Emergency Procedures

In the event that an emergency develops on site, the procedures delineated herein are to be immediately followed. Emergency conditions are considered to exist if:

- Any member of the field crew is involved in an accident or experiences any adverse effects or symptoms of exposure while on site.
- A condition is discovered that suggests the existence of a situation more hazardous than anticipated.

General emergency procedures, and specific procedures for personal injury, chemical exposure and radiation exposure, are described below.

6.3.2 Chemical Exposure

If a member of the field crew demonstrates symptoms of chemical exposure the procedures outlined below should be followed:

- Another team member (buddy) should remove the individual from the immediate area of contamination. The buddy should communicate to the Field Team Leader (via voice and hand signals) of the chemical exposure. The Field Team Leader should contact the appropriate emergency response agency.
- Precautions should be taken to avoid exposure of other individuals to the chemical.
- If the chemical is on the individual's clothing, the chemical should be neutralized or removed if it is safe to do so.
- If the chemical has contacted the skin, the skin should be washed with copious amounts of water.
- In case of eye contact, an emergency eye wash should be used. Eyes should be washed for at least 15 minutes.
- All chemical exposure incidents must be reported in writing to the Langan Health and Safety Officer. The Field Safety Officer or Field Team Leader is responsible for completing the accident report.

6.3.3 Personal Injury

In case of personal injury at the site, the following procedures should be followed:

- Another team member (buddy) should signal the Field Team Leader that an injury has occurred.
- A field team member trained in first aid can administer treatment to an injured worker.

- The victim should then be transported to the nearest hospital or medical center. If necessary, an ambulance should be called to transport the victim.
- For less severe cases, the individual can be taken to the site dispensary.
- The Field Team Leader or Field Safety Officer is responsible for making certain that an Accident Report Form is completed. This form is to be submitted to the Langan Health and Safety Officer. Follow-up action should be taken to correct the situation that caused the accident.
- Any incident (near miss, property damage, first aid, medical treatment, etc.) must be reported.

A first-aid kit and blood-borne pathogens kit will be kept on-site during the field activities.

6.3.4 Evacuation Procedures

- The Field Team Leader will initiate evacuation procedures by signaling to leave the site.
- All personnel in the work area should evacuate the area and meet in the common designated area.
- All personnel suspected to be in or near the contract work area should be accounted for and the whereabouts or missing persons determined immediately.
- The Field Team Leader will then give further instruction.

6.3.5 Procedures Implemented in the Event of a Major Fire, Explosion, or Emergency

- Notify the paramedics and/or fire department, as necessary;
- Signal the evacuation procedure previously outlined and implement the entire procedure;
- Isolate the area;
- Stay upwind of any fire;
- Keep the area surrounding the problem source clear after the incident occurs;

Complete accident report for and distribute to appropriate personnel.

ATTACHMENT A

Air Monitoring Equipment Calibration and Maintenance

All monitoring instruments must be calibrated and maintained periodically. Calibration and on-site maintenance records will be kept in the field log book. The operator must understand the limitations and possible sources of errors for each instrument. It is important that the operator checks that the instrument responds properly to the substances it was designed to monitor. Air quality monitoring equipment, including photoionization detectors (PIDs) and DusTraks or DataRAMs must be calibrated at least once each day. The specific instructions for calibration and maintenance provided for each instrument should be followed.

ATTACHMENT B

Forms for Health and Safety Related Activity

Note: The OSHA Job Safety and Health Protection Poster must be posted prominently during field activities. The following page is an example of the poster to be used in the field. The actual poster must be an 11 inch by 17 inch size version of this page. The OSHA 300 Log of injuries and illnesses is maintained in the home office of each Langan employee.

Job Safety and Health It's the law!

OSHA®
Occupational Safety
and Health Administration
U.S. Department of Labor

EMPLOYEES:

- You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.
- You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthful conditions in your workplace. You or your representative may participate in that inspection.
- You can file a complaint with OSHA within 30 days of retaliation or discrimination by your employer for making safety and health complaints or for exercising your rights under the *OSH Act*.
- You have the right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violations.
- Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.
- You have the right to copies of your medical records and records of your exposures to toxic and harmful substances or conditions.
- Your employer must post this notice in your workplace.
- You must comply with all occupational safety and health standards issued under the *OSH Act* that apply to your own actions and conduct on the job.

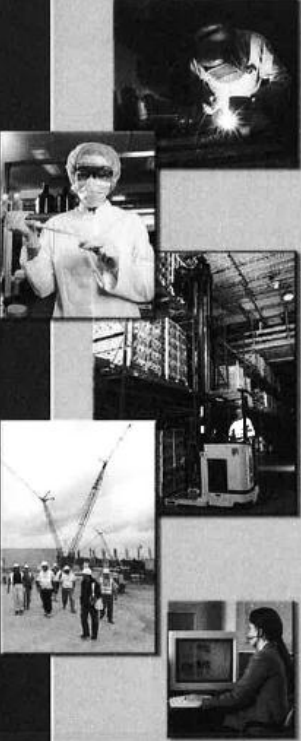
EMPLOYERS:

- You must furnish your employees a place of employment free from recognized hazards.
- You must comply with the occupational safety and health standards issued under the *OSH Act*.

This free poster available from OSHA –
The Best Resource for Safety and Health

Free assistance in identifying and correcting hazards or complying with standards is available to employers, without citation or penalty, through OSHA-supported consultation programs in each state.

1-800-321-OSHA (6742)
www.osha.gov
OSHA 3145-13-008



Project Name: _____

Injured or Ill Employee

1. Name _____ Social Security # _____
(First) (Middle) (Last)
2. Home Address _____
(No. and Street) (City or Town) (State and Zip)
3. Age _____ 4. Sex: Male () Female ()
5. Occupation _____
(Specific job title, not the specific activity employee was performing at time of injury)
6. Department _____
(Enter name of department in which injured person is employed, even though they may have been temporarily working in another department at the time of injury)

Employer

7. Name _____
8. Mailing Address _____
(No. and Street) (City or Town) (State and Zip)
9. Location (if different from mailing address): _____

The Accident or Exposure to Occupational Illness

10. Place of accident or exposure _____
(No. and Street) (City or Town) (State and Zip)
 11. Was place of accident or exposure on employer's premises? _____(Yes/No)
 12. What was the employee doing when injured? _____
(Be specific - was employee using tools or equipment or handling material?)
 13. How did the accident occur? _____
(Describe fully the events that resulted in the injury or occupational illness. Tell what happened and how. Name objects and substances involved.)
- Give details on all factors that led to accident. Use separate sheet if needed)

14. Time of accident: _____
 15. Date of injury or initial diagnosis of occupational illness _____

16. WITNESS TO ACCIDENT	_____	_____	_____
	(Name)	(Affiliation)	(Phone No.)
	_____	_____	_____
	(Name)	(Affiliation)	(Phone No.)
	_____	_____	_____
	(Name)	(Affiliation)	(Phone No.)

Occupational Injury or Occupational Illness

17. Describe the injury or illness in detail; indicate part of body affected.

18. Name the object or substance that directly injured the employee. (For example, object that struck employee; the vapor or poison inhaled or swallowed; the chemical or radiation that irritated the skin; or in cases of strains, hernias, etc., the object the employee was lifting, pulling, etc.)

19. Did the accident result in employee fatality? _____ (Yes or No)
 20. Number of lost workdays ____/restricted workdays ____ resulting from injury or illness?

Other

21. Did you see a physician for treatment? _____ (Yes or No) _____ (Date)

22. Name and address of physician _____

(No. and Street)	(City or Town)	(State and Zip)

23. If hospitalized, name and address of hospital _____

(No. and Street)	(City or Town)	(State and Zip)

Date of report _____ Prepared by _____

Official position _____

Project Health and Safety Plan and Work plan Acceptance Form

(For Langan employees only)

I have read and agree to abide by the contents of the Work Plan and Health and Safety Plan for the following project:

(Project Title)

(Project Number)

Furthermore, I have read and am familiar with the work plan or proposal that describes the field work to be conducted and the procedures to be utilized in the conduct of this work.

Name (print)

Signature

Date

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Place in project Health and Safety File as soon as possible

Site-Specific Health and Safety Training

(For all Langan and subcontract employees on site)

I hereby confirm that site-specific health and safety training has been conducted by the site health and safety officer that included:

- Names of personnel responsible for site safety and health
- Safety, health, and other hazards at the site
- Proper use of personal protective equipment
- Work practices by which the employee can minimize risk from hazards
- Safe use of engineering controls and equipment on the site
- Acute effects of compounds at the site
- Decontamination procedures

For the following project:

_____	_____	
(Project Title)	(Project Number)	
Name (print)	Signature	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Place in project Health and Safety File as soon as possible

ATTACHMENT C

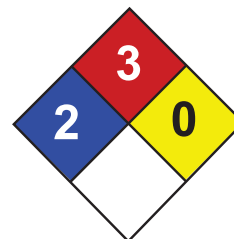
Material Safety Data Sheets

- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- Alconox
- Arsenic
- Barium
- Benzene
- Butylbenzene
- Cadmium
- Cobalt
- Compressed Oxygen in Air
- Chromium
- Diesel Fuel
- Ethylbenzene
- Mercury
- Isobutylene Gas in Air, 100 ppm
- Isopropylbenzene
- Lead
- Motor Oil, 10W-40
- Naphthalene
- Nickel
- N-propylbenzene
- PCBs
- Unleaded Gasoline
- Sodium Persulfate
- Sec-butylbenzene
- Toluene
- Xylenes

ATTACHMENT C

Material Safety Data Sheets

- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- Alconox
- Arsenic
- Barium
- Benzene
- Butylbenzene
- Cadmium
- Cobalt
- Compressed Oxygen in Air
- Chromium
- Diesel Fuel
- Ethylbenzene
- Mercury
- Isobutylene Gas in Air, 100 ppm
- Isopropylbenzene
- Lead
- Motor Oil, 10W-40
- Naphthalene
- Nickel
- N-propylbenzene
- PCBs
- Unleaded Gasoline
- Sodium Persulfate
- Sec-butylbenzene
- Toluene
- Xylenes



Health	2
Fire	3
Reactivity	0
Personal Protection	H

Material Safety Data Sheet

Xylenes MSDS

Section 1: Chemical Product and Company Identification

Product Name: Xylenes

Catalog Codes: SLX1075, SLX1129, SLX1042, SLX1096

CAS#: 1330-20-7

RTECS: ZE2100000

TSCA: TSCA 8(b) inventory: Xylenes

CI#: Not available.

Synonym: Xylenes; Dimethylbenzene; xylol; methyltoluene

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

Chemical Formula: C₆H₄(CH₃)₂

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

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

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

Section 2: Composition and Information on Ingredients

Composition:

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

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

Section 3: Hazards Identification

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

Potential Chronic Health Effects:

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

Section 4: First Aid Measures

Eye Contact:

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

Skin Contact:

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

Serious Skin Contact:

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

Inhalation:

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

Serious Inhalation:

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

Ingestion:

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

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

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

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

Flammable Limits: LOWER: 1% UPPER: 7%

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

Fire Hazards in Presence of Various Substances:

Highly flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

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

Fire Fighting Media and Instructions:

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

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

Special Remarks on Explosion Hazards:

Vapors may form explosive mixtures with air. Containers may explode when heated. May polymerize explosively when heated. An attempt to chlorinate xylene with 1,3-Dichloro-5,5-dimethyl-2,4-imidazolidindione (dichlorohydrantoin) caused a violent explosion

Section 6: Accidental Release Measures

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

Large Spill:

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

areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

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

Storage:

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

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

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

Personal Protection:

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

Personal Protection in Case of a Large Spill:

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

Exposure Limits:

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

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Sweetish.

Taste: Not available.

Molecular Weight: 106.17 g/mole

Color: Colorless. Clear

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

Boiling Point: 138.5°C (281.3°F)

Melting Point: -47.4°C (-53.3°F)

Critical Temperature: Not available.

Specific Gravity: 0.864 (Water = 1)

Vapor Pressure: 0.9 kPa (@ 20°C)

Vapor Density: 3.7 (Air = 1)

Volatility: Not available.

Odor Threshold: 1 ppm

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

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility:

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

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources, incompatibles

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

Corrosivity: Non-corrosive in presence of glass.

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

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

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

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 2119 mg/kg [Mouse]. Acute dermal toxicity (LD50): >1700 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 5000 4 hours [Rat].

Chronic Effects on Humans:

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

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

Special Remarks on Toxicity to Animals:

Lowest Lethal Dose: LDL [Human] - Route: Oral; Dose: 50 mg/kg LCL [Man] - Route: Oral; Dose: 10000 ppm/6H

Special Remarks on Chronic Effects on Humans:

Detected in maternal milk in human. Passes through the placental barrier in animal. Embryotoxic and/or foetotoxic in animal. May cause adverse reproductive effects (male and female fertility (spontaneous abortion and fetotoxicity)) and birth defects based animal data.

Special Remarks on other Toxic Effects on Humans:

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

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

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

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

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

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Xylenes UNNA: 1307 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

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

Other Regulations:

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

Other Classifications:

WHMIS (Canada):

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

DSCL (EEC):

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

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

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

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

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

Section 16: Other Information

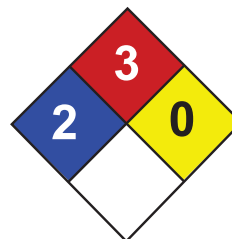
References: Not available.

Other Special Considerations: Not available.

Created: 10/11/2005 12:54 PM

Last Updated: 06/09/2012 12:00 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.



Health	2
Fire	3
Reactivity	0
Personal Protection	H

Material Safety Data Sheet

Toluene MSDS

Section 1: Chemical Product and Company Identification

Product Name: Toluene

Catalog Codes: SLT2857, SLT3277

CAS#: 108-88-3

RTECS: XS5250000

TSCA: TSCA 8(b) inventory: Toluene

CI#: Not available.

Synonym: Toluol, Tolu-Sol; Methylbenzene; Methacide; Phenylmethane; Methylbenzol

Chemical Name: Toluene

Chemical Formula: C₆H₅-CH₃ or C₇H₈

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

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

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

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

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Toluene	108-88-3	100

Toxicological Data on Ingredients: Toluene: ORAL (LD50): Acute: 636 mg/kg [Rat]. DERMAL (LD50): Acute: 14100 mg/kg [Rabbit]. VAPOR (LC50): Acute: 49000 mg/m 4 hours [Rat]. 440 ppm 24 hours [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, kidneys, the nervous system, liver, brain, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

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

Skin Contact:

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

Serious Skin Contact:

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

Inhalation:

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

Serious Inhalation:

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

Ingestion:

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

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 480°C (896°F)

Flash Points: CLOSED CUP: 4.4444°C (40°F). (Setaflash) OPEN CUP: 16°C (60.8°F).

Flammable Limits: LOWER: 1.1% UPPER: 7.1%

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

Fire Hazards in Presence of Various Substances:

Flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

Flammable liquid, insoluble in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray or fog.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards:

Toluene forms explosive reaction with 1,3-dichloro-5,5-dimethyl-2,4-imidazolididione; dinitrogen tetraoxide; concentrated nitric acid, sulfuric acid + nitric acid; N₂O₄; AgClO₄; BrF₃; Uranium hexafluoride; sulfur dichloride. Also forms an explosive mixture with tetranitromethane.

Section 6: Accidental Release Measures

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

Large Spill:

Toxic flammable liquid, insoluble or very slightly soluble in water. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage**Precautions:**

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

Storage:

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

Section 8: Exposure Controls/Personal Protection**Engineering Controls:**

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

Personal Protection:

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

Personal Protection in Case of a Large Spill:

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

Exposure Limits:

TWA: 200 STEL: 500 CEIL: 300 (ppm) from OSHA (PEL) [United States] TWA: 50 (ppm) from ACGIH (TLV) [United States] SKIN TWA: 100 STEL: 150 from NIOSH [United States] TWA: 375 STEL: 560 (mg/m³) from NIOSH [United States] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Sweet, pungent, Benzene-like.

Taste: Not available.

Molecular Weight: 92.14 g/mole

Color: Colorless.

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

Boiling Point: 110.6°C (231.1°F)

Melting Point: -95°C (-139°F)

Critical Temperature: 318.6°C (605.5°F)

Specific Gravity: 0.8636 (Water = 1)

Vapor Pressure: 3.8 kPa (@ 25°C)

Vapor Density: 3.1 (Air = 1)

Volatility: Not available.

Odor Threshold: 1.6 ppm

Water/Oil Dist. Coeff.: The product is more soluble in oil; log(oil/water) = 2.7

Ionicity (in Water): Not available.

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

Solubility:

Soluble in diethyl ether, acetone. Practically insoluble in cold water. Soluble in ethanol, benzene, chloroform, glacial acetic acid, carbon disulfide. Solubility in water: 0.561 g/l @ 25 deg. C.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

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

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Incompatible with strong oxidizers, silver perchlorate, sodium difluoride, Tetranitromethane, Uranium Hexafluoride. Frozen Bromine Trifluoride reacts violently with Toluene at -80 deg. C. Reacts chemically with nitrogen oxides, or halogens to form nitrotoluene, nitrobenzene, and nitrophenol and halogenated products, respectively.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

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

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 636 mg/kg [Rat]. Acute dermal toxicity (LD50): 14100 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 440 24 hours [Mouse].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC. May cause damage to the following organs: blood, kidneys, the nervous system, liver, brain, central nervous system (CNS).

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals:

Lowest Published Lethal Dose: LDL [Human] - Route: Oral; Dose: 50 mg/kg LCL [Rabbit] - Route: Inhalation; Dose: 55000 ppm/40min

Special Remarks on Chronic Effects on Humans:

Detected in maternal milk in human. Passes through the placental barrier in human. Embryotoxic and/or foetotoxic in animal. May cause adverse reproductive effects and birth defects (teratogenic). May affect genetic material (mutagenic)

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes mild to moderate skin irritation. It can be absorbed to some extent through the skin. Eyes: Causes mild to moderate eye irritation with a burning sensation. Splash contact with eyes also causes conjunctivitis, blepharospasm, corneal edema, corneal abrasions. This usually resolves in 2 days. Inhalation: Inhalation of vapor may cause respiratory tract irritation causing coughing and wheezing, and nasal discharge. Inhalation of high concentrations may affect behavior and cause central nervous system effects characterized by nausea, headache, dizziness, tremors, restlessness, lightheadedness, exhilaration, memory loss, insomnia, impaired reaction time, drowsiness, ataxia, hallucinations, somnolence, muscle contraction or spasticity, unconsciousness and coma. Inhalation of high concentration of vapor may also affect the cardiovascular system (rapid heart beat, heart palpitations, increased or decreased blood pressure, dysrhythmia,), respiration (acute pulmonary edema, respiratory depression, apnea, asphyxia), cause vision disturbances and dilated pupils, and cause loss of appetite. Ingestion: Aspiration hazard. Aspiration of Toluene into the lungs may cause chemical pneumonitis. May cause irritation of the digestive tract with nausea, vomiting, pain. May have effects similar to that of acute inhalation. Chronic Potential Health Effects: Inhalation and Ingestion: Prolonged or repeated exposure via inhalation may cause central nervous system and cardiovascular symptoms similar to that of acute inhalation and ingestion as well liver damage/failure, kidney damage/failure (with hematuria, proteinuria, oliguria, renal tubular acidosis), brain damage, weight loss, blood (pigmented or nucleated red blood cells, changes in white blood cell count), bone marrow changes, electrolyte imbalances (Hypokalemia, Hypophosphatemia), severe, muscle weakness and Rhabdomyolysis. Skin: Repeated or prolonged skin contact may cause defatting dermatitis.

Section 12: Ecological Information

Ecotoxicity:

Ecotoxicity in water (LC50): 313 mg/l 48 hours [Daphnia (daphnia)]. 17 mg/l 24 hours [Fish (Blue Gill)]. 13 mg/l 96 hours [Fish (Blue Gill)]. 56 mg/l 24 hours [Fish (Fathead minnow)]. 34 mg/l 96 hours [Fish (Fathead minnow)]. 56.8 ppm any hours [Fish (Goldfish)].

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

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

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

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

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Toluene UNNA: 1294 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Toluene California prop. 65 (no significant risk level): Toluene: 7 mg/day (value) California prop. 65 (acceptable daily intake level): Toluene: 7 mg/day (value) California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Toluene Connecticut hazardous material survey.: Toluene Illinois

toxic substances disclosure to employee act: Toluene Illinois chemical safety act: Toluene New York release reporting list: Toluene Rhode Island RTK hazardous substances: Toluene Pennsylvania RTK: Toluene Florida: Toluene Minnesota: Toluene Michigan critical material: Toluene Massachusetts RTK: Toluene Massachusetts spill list: Toluene New Jersey: Toluene New Jersey spill list: Toluene Louisiana spill reporting: Toluene California Director's List of Hazardous Substances.: Toluene TSCA 8(b) inventory: Toluene TSCA 8(d) H and S data reporting: Toluene: Effective date: 10/04/82; Sunset Date: 10/0/92 SARA 313 toxic chemical notification and release reporting: Toluene CERCLA: Hazardous substances.: Toluene: 1000 lbs. (453.6 kg)

Other Regulations:

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

Other Classifications:

WHMIS (Canada):

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

DSCL (EEC):

R11- Highly flammable. R20- Harmful by inhalation. S16- Keep away from sources of ignition - No smoking. S25- Avoid contact with eyes. S29- Do not empty into drains. S33- Take precautionary measures against static discharges.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

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

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

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

Section 16: Other Information

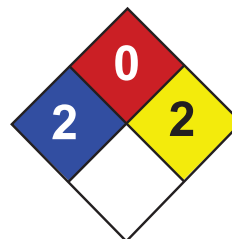
References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 08:30 PM

Last Updated: 06/09/2012 12:00 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.



Health	2
Fire	0
Reactivity	2
Personal Protection	E

Material Safety Data Sheet

Sodium persulfate MSDS

Section 1: Chemical Product and Company Identification

Product Name: Sodium persulfate

Catalog Codes: SLS1333

CAS#: 7775-27-1

RTECS: SE0525000

TSCA: TSCA 8(b) inventory: Sodium persulfate

CI#: Not applicable.

Synonym: Peroxydisulfuric acid, disodium salt

Chemical Name: Sodium peroxydisulfate

Chemical Formula: Na₂S₂O₈

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

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

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

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sodium persulfate	7775-27-1	100

Toxicological Data on Ingredients: Sodium persulfate LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant, sensitizer), of eye contact (irritant), of inhalation. Hazardous in case of ingestion. Slightly hazardous in case of skin contact (permeator). Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

Very hazardous in case of skin contact (corrosive, irritant, sensitizer), of eye contact (irritant), of inhalation. Hazardous in case of ingestion. Slightly hazardous in case of skin contact (permeator). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to blood, lungs. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Section 4: First Aid Measures

Eye Contact:

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

Skin Contact:

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

Serious Skin Contact:

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

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

Serious Inhalation:

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

Ingestion:

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

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Dangerous in contact with organic materials.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

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

Large Spill:

Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

Section 7: Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Keep away from combustible material Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes Keep away from incompatibles such as reducing agents, organic materials, metals, acids, moisture.

Storage: Oxidizing materials should be stored in a separate safety storage cabinet or room.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

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

Personal Protection:

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

Personal Protection in Case of a Large Spill:

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

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Solid crystalline powder.)

Odor: Odorless.

Taste: Bitter. (Strong.)

Molecular Weight: 238.1 g/mole

Color: White.

pH (1% soln/water): 7 [Neutral.]

Boiling Point: Not available.

Melting Point: Decomposes.

Critical Temperature: Not available.

Specific Gravity: 2.6 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility:

Soluble in cold water, hot water. Insoluble in methanol, diethyl ether, n-octanol.

Section 10: Stability and Reactivity Data

Stability: Unstable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances:

Highly reactive with reducing agents, organic materials, moisture. Reactive with metals, acids. Slightly reactive to reactive with alkalis.

Corrosivity:

Corrosive in presence of steel, of aluminum, of zinc, of copper. Non-corrosive in presence of glass.

Special Remarks on Reactivity: Incompatible with alcohols.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

LD50: Not available. LC50: Not available.

Chronic Effects on Humans: The substance is toxic to blood, lungs.

Other Toxic Effects on Humans:

Very hazardous in case of skin contact (irritant, sensitizer), of inhalation. Hazardous in case of ingestion. Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: May cause allergic skin reactions with repeated exposure.

Special Remarks on other Toxic Effects on Humans: CAUTION: Certain sensitive individuals may develop eczema and/or asthma on exposure to this material.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation: Possibly hazardous short/long term degradation products are to be expected.

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

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: CLASS 5.1: Oxidizing material.

Identification: : Sodium persulfate : UN1505 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Sodium persulfate

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

Other Classifications:

WHMIS (Canada):

CLASS C: Oxidizing material. CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):

R38- Irritating to skin. R41- Risk of serious damage to eyes. R43- May cause sensitization by skin contact.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 2

Personal Protection: E

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

Health: 2

Flammability: 0

Reactivity: 2

Specific hazard:

Protective Equipment:

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

Section 16: Other Information

References:

-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II.

Other Special Considerations: Not available.

Created: 10/11/2005 12:36 PM

Last Updated: 06/09/2012 12:00 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.

Distributed By:
Invensys
1-866-746-6477

MSDS 013
Foxboro Rev Date: November 2010
Part Number T0103RK
Page 1 of 6

SIGMA-ALDRICH

sigma-aldrich.com

Material Safety Data Sheet

Version 4.0
Revision Date 07/24/2010
Print Date 09/14/2010

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : sec-Butylbenzene

Product Number : B90408
Brand : Aldrich

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +18003255832
Fax : +18003255052
Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Combustible Liquid, Irritant

GHS Label elements, including precautionary statements

Pictogram



Signal word : Warning

Hazard statement(s)
H226 : Flammable liquid and vapour.
H315 + H320 : Causes skin and eye irritation.
H401 : Toxic to aquatic life.

Precautionary statement(s)
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard: 2
Flammability: 2
Physical hazards: 0

NFPA Rating

Health hazard: 2
Fire: 2
Reactivity Hazard: 0

Potential Health Effects

Inhalation : May be harmful if inhaled. Causes respiratory tract irritation.
Skin : May be harmful if absorbed through skin. Causes skin irritation.
Eyes : Causes eye irritation.
Ingestion : May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 2-Phenylbutane

MSDS 013
Part Number T0103RK
Page 2 of 6

Formula : C₁₀H₁₄
Molecular Weight : 134.22 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
sec-Butylbenzene			
135-98-8	205-227-0	-	-

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form liquid, clear

Colour colourless

Safety data

pH	no data available
Melting point	75.5 °C (167.9 °F) - lit.
Boiling point	173 - 174 °C (343 - 345 °F) - lit.
Flash point	52.0 °C (125.6 °F) - closed cup
Ignition temperature	418 °C (784 °F)
Lower explosion limit	0.8 %(V)
Density	0.863 g/mL at 25 °C (77 °F)
Water solubility	no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Dermal - rabbit - > 13,792 mg/kg

Skin corrosion/irritation

Skin - rabbit - irritating - 24 h

Serious eye damage/eye irritation

Eyes - rabbit - Mild eye irritation - 24 h

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: CY9100000

12. ECOLOGICAL INFORMATION**Toxicity**

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

MSDS 013
Part Number T0103RK
Page 5 of 6

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS**Product**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN-Number: 2709 Class: 3 Packing group: III
Proper shipping name: Butyl benzenes
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN-Number: 2709 Class: 3 Packing group: III EMS-No: F-E, S-D
Proper shipping name: BUTYLBENZENES
Marine pollutant: No

IATA

UN-Number: 2709 Class: 3 Packing group: III
Proper shipping name: Butylbenzenes

15. REGULATORY INFORMATION**OSHA Hazards**

Combustible Liquid, Irritant

DSL Status

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

sec-Butylbenzene	CAS-No. 135-98-8

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

sec-Butylbenzene	CAS-No. 135-98-8	Revision Date

New Jersey Right To Know Components

sec-Butylbenzene	CAS-No. 135-98-8	Revision Date

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Aldrich - B90408

Page 5 of 6

MSDS 013
Part Number T0103RK
Page 6 of 6

Further information

Copyright 2010 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Invensys Operations Management
5601 Granite Parkway Suite 1000
Plano, TX 75024
United States of America
<http://www.iom.invensys.com>

Global Customer Support
Inside U.S.: 1-866-746-6477
Outside U.S.: 1-508-549-2424 or contact
your local Invensys representative.
Email: support@invensys.com
Website: <http://support.ips.invensys.com>

Invensys and Foxboro are trademarks of
Invensys plc, its subsidiaries, and affiliates.
All other brand names may be trademarks of their
respective owners.

Copyright 1999-2010 Invensys Systems, Inc.
All rights reserved

AMERADA HESS CORP -- PREMIUM UNLEADED GASOLINE -- 9130-00N038435

===== Product Identification =====

Product ID:PREMIUM UNLEADED GASOLINE
MSDS Date:01/13/1989
FSC:9130
NIIN:00N038435
MSDS Number: BQXMS
=== Responsible Party ===
Company Name:AMERADA HESS CORP
Address:1 HESS PLAZA
City:WOODBIDGE
State:NJ
ZIP:07095
Country:US
Info Phone Num:201-750-6000
Emergency Phone Num:800-424-9300 (CHEMTREC)
CAGE:4N717

=== Contractor Identification ===

Company Name:AMERADA HESS CORP
Address:1 HESS PLAZA
Box:City:WOODBIDGE
State:NJ
ZIP:07095-1229
Country:US
Phone:908-750-6000, CHEMTREC 800-424-9300
CAGE:4N717

===== Composition/Information on Ingredients =====

Ingred Name:ING 17:OPEN SPILLS MAY EMIT FLAMM VAPS. APPROACH FROM
UPWIND IF POSS. AVOID BRTHG EMITTED VAPS. WEAR NIOSH/MSHA (ING 19)
RTECS #:9999999ZZ

Ingred Name:ING 18:APPRVD SELF CNTND POSITIVE PRESS BRTHG APPARATUS, IF
REQD, TO PVNT INHAL OF VAPS.
RTECS #:9999999ZZ

Ingred Name:WASTE DISP METH:OF VOLATILE, FLAMMABLE, VAPORS.
RTECS #:9999999ZZ

Ingred Name:OTHER PREC: IGNIT. USE ONLY AS A MOTOR FUEL. HNDLE,
TRANSPORT & STORE I/A/W APPLIC LAWS & REGS. ELEC EQUIP (ING 22)
RTECS #:9999999ZZ

Ingred Name:ING 21:SHOULD BE APPRVD FOR CLASSIFIED AREA. REMOVE SOILED
CLTHG & LAUNDER BEFORE-REUSE. DISCARD OIL SOAKED (ING 23)
RTECS #:9999999ZZ

Ingred Name:ING 22:SHOES. WEAR FULL LNGTH CLTHG, & LAUNDER ON A REGULAR
& FREQ BASIS. VENT MUST BE SUFFICIENT TO PVNT (ING 24)
RTECS #:9999999ZZ

Ingred Name:ING 23:ACCUMULATION OF TOX/FLAMM CONC OF VAPOR IN AIR.
RTECS #:9999999ZZ

Ingred Name:HYGIENE PRACT: UPWIND OF VAPOR OR MIST RELEASE, SPILL OR
LEAK.

RTECS #:9999999ZZ

Ingred Name:ETHER, TERT-BUTYL METHYL; (METHYL TERT-BUTYL ETHER &/OR
TERT-AMYL METHYL ETHER, CAS # 994-05-8)

CAS:1634-04-4

RTECS #:KN5250000

Fraction by Wt: <15%

EPA Rpt Qty:1 LB

DOT Rpt Qty:1 LB

Ingred Name:TOLUENE

CAS:108-88-3

RTECS #:XS5250000

Fraction by Wt: 15-<30%

OSHA PEL:200 PPM/150 STEL

ACGIH TLV:50 PPM; 9293

EPA Rpt Qty:1000 LBS

DOT Rpt Qty:1000 LBS

Ingred Name:XYLENE (MIXED ISOMERS)

CAS:1330-20-7

RTECS #:ZE2100000

Fraction by Wt: 10-<15%

OSHA PEL:100 PPM;150 PPM STEL

ACGIH TLV:100 PPM;150 PPM STEL

EPA Rpt Qty:1000 LBS

DOT Rpt Qty:1000 LBS

Ingred Name:BENZENE

CAS:71-43-2

RTECS #:CY1400000

Fraction by Wt: 0.1-<5%

OSHA PEL:10 PPM

ACGIH TLV:10 PPM

EPA Rpt Qty:10 LBS

DOT Rpt Qty:10 LBS

Ingred Name:BENZENE, ETHYL-; (ETHYL BENZENE)

CAS:100-41-4

RTECS #:DA0700000

Fraction by Wt: <3%

OSHA PEL:100 PPM;125 STEL

ACGIH TLV:100 PPM;125 STEL

EPA Rpt Qty:1000 LBS

DOT Rpt Qty:1000 LBS

Ingred Name:BENZENE, 1,2,4-TRIMETHYL-; (1,2,4-TRIMETHYLBENZENE)

CAS:95-63-6

RTECS #:DC3325000

Fraction by Wt: <6%

Ingred Name:SUPP DATA: IGNIT. VAPS CAN READILY FORM EXPLOS MIXT IN AIR.

HVR/AIR VAPS CAN FLOW ALONG SURF TO DIST SOURCES (ING 9)

RTECS #:9999999ZZ

Ingred Name:ING 8:IGNIT & FLASH BACK. FLOWING GASOLINE CAN BE IGNITED

BY SELF-GENERATED STATIC ELEC. RUNOFF TO SEWERS (ING 10)

RTECS #:9999999ZZ

Ingred Name:ING 9: MAY CREATE FIRE &/OR EXPLOSION HAZARD.

RTECS #:9999999ZZ

Ingred Name:EFTS OF OVEREXP:DISEASE, INCL LEUKEMIA, AFTER RPTD & PRLNGD EXPOS @ HIGH CONC.INHAL TO 100 PPM MAY CAUSE SLIGHT (ING 12)

RTECS #:9999999ZZ

Ingred Name:ING 11:DROW & HDCH. 100-200 PPM MAY CAUSE FATG, NAUS, ITCH & WILL FATG OLFACTORY SENSES.IMMED DANGER TO HLTH/ (ING 13)

RTECS #:9999999ZZ

Ingred Name:ING 12:LIFE IS REPRESENTED BY 2,000 PPM. INGEST & INHAL OF LIQ &/OR EXCESS VAPS CAN HAVE AN ANESTH EFT, CAUSE (ING 14)

RTECS #:9999999ZZ

Ingred Name:ING 13:VERTIGO, BLURRED VISION, VOMIT & CYANOSIS. OVEREXP MAY CAUSE CNS DEPRESS. NOTE: TOLUENE CAS# 108-88-3 (ING 15)

RTECS #:9999999ZZ

Ingred Name:ING 14:APPEARS ON NAVY LIST OF OCCUP REPROD HAZ. SEEK CONSULTATION FROM APPROP HLTH PROFESSIONALS CONCERNING (ING 16)

RTECS #:9999999ZZ

Ingred Name:ING 15:LATEST HAZ LIST INFO & SAFE HANDLING AND EXPOSURE RECOMMENDATION .

RTECS #:9999999ZZ

Ingred Name:SPILL PROC: ANIMAL/AQUATIC LIFE. CAUTION-EVAC ALL NON-ESSENTIAL PERS. SPILLED MATL MAY CAUSE SLIPPERY CNDTNS. (ING 18)

RTECS #:9999999ZZ

Ingred Name:GASOLINE CONTAINING INGS 2-7

CAS:8006-61-9

RTECS #:LX3300000

Fraction by Wt: 100%

OSHA PEL:300 PPM;500 STEL

ACGIH TLV:300 PPM;500 STEL

===== Hazards Identification =====

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES

Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:YES

Health Hazards Acute and Chronic:ACUTE/CHRONIC: HARMFUL/FATAL IF SWALLOWED/ASPIRATED. LONG TERM EXPOS TO VAPS HAS CAUSED CANCER IN SOME LAB ANIMALS. INGEST MAY CAUSE GI DISTURB. ASPIR INTO LUNGS MAY CAUSE PNEUM. PRLNGD CONT W/SKIN MA Y RSLT IN DEFAT/RED, ITCH, INFLAMM, CRACK & POSS SECONDARY INFECTION. HAS A LOW ORDER OF ACUTE ORAL TOX(EFTS OF OVEREXP)

Explanation of Carcinogenicity:BENZENE: OSHA REG 29 CFR 1910.1028, REV JUL 92; KNOWN CARCINOGEN (NTP) NTP 6TH ANN RPT, 1991; IARC 2B,VOL45,P159,1989.

Effects of Overexposure:HLTH HAZ:IF INGESTED, BUT MIN AMTS ASPIRATED DURING SUCH INGEST MAY CAUSE DEATH. HIGH PRESS SKIN INJECTIONS ARE SERIOUS MED EMER! RPTD/PRLNGD EXPOS TO VAPS CNTNG HIGH CONC OF BENZENE MAY CAUSE ANEMIA & OTHER BLOOD DISEASES, INCL LEUKEMIA. BENZENE IS RECOGNIZED AS HAVING POTNTL TO INDUCE ANEMIA & OTHER BLOOD (ING 11)

Medical Cond Aggravated by Exposure:OPEN WOUNDS, SKIN DISORDERS, CHRONIC RESPIRATORY DISEASE OR PRE-EXISTING CENTRAL NERVOUS SYSTEM

DISEASE.

===== First Aid Measures =====

First Aid:INHAL: REMOVE TO FRESH AIR, PROVIDE OXYGEN THERAPY &/OR RESUSCITATION AS INDICATED. SKIN: REMOVE CONTAMINATED CLOTHING & FLUSH WITH SOAP AND WATER. EYE: FLUSH WITH WATER FOR AT LEAST 15 MINUTES. INGES T: RINSE MOUTH W/WATER. KEEP CALM AND WARM. DO NOT INDUCE VOMIT! ASPIRATION OF MATERIAL INTO LUNGS MAY CAUSE CHEMICAL PNEUMONIA. CALL PHYSICIAN IMMEDIATELY.

===== Fire Fighting Measures =====

Flash Point Method:TCC
Flash Point:-40F,-40C
Lower Limits:1.4%
Upper Limits:7.4%
Extinguishing Media:ANY APPRVD EXTING AGENT FOR CLASS B FIRES, DRY CHEM, FOAM, CARBON DIOXIDE/HALON. WATER IS NOT ORD EFTIVE. (SUPP DATA)
Fire Fighting Procedures:NIOSH/MSHA APPRVD SCBA & FULL PROT EQUIP. AVOID INHAL OF VAPS. WATER SHOULD BE USED TO KEEP EXPOS CONTRS COOL. APPROACH FROM UPWIND IF POSSIBLE.
Unusual Fire/Explosion Hazard:CLASS 1A FLAMM LIQ. KEEP AWAY FROM HEAT, SOURCES OF IGNIT & OXIDIZERS. BURNING MAY CAUSE EMISSION OF TOX PROD OF COMBUST. EMPTY PROD CNTRS/VESSELS (SUPP DATA)

===== Accidental Release Measures =====

Spill Release Procedures:CNTN ALL SPILLS. ABSORB ALL FREE LIQ. REMOVE ALL IGNIT SOURCES & SAFELY STOP FLOW OF SPILL. PVNT FROM ENTERING ALL BODIES OF WATER. COMPLY W/ALL APPLIC LAWS & REGS. ABSORB MATL, PADS, SAND/EARTH MAY B E USED. CONTAM WATER/SOIL MAY BE HAZ TO(ING 17)
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

===== Handling and Storage =====

Handling and Storage Precautions:KEEP AWAY FROM HEAT, SPARKS & OPEN FLAME. AVOID BRTHG VAP/MIST. AVOID SKIN/EYE CONTACT. KEEP CONTAINERS CLOSED & PLAINLY LABELED.
Other Precautions:TRANSFER LINES MUST BE BONDED & GROUNDED TO PVNT POTNTL ACCUMULATION OF STATIC ELEC. NO SMOKING IN AREAS OF HNDLG/STOR. STOR SHOULD BE IN TIGHTLY CLSD CONTRS IN COOL, DRY, ISOLATED & WELL VENTD AREA A WAY FROM POTNTL SOURCE OF (ING 21)

===== Exposure Controls/Personal Protection =====

Respiratory Protection:NIOSH/MSHA APPRVD SELF CNTND, POSITIVE PRESSURE, BREATHING APPARATUS IN CONFINED SPACES/WHEN EXPOSED TO HEAVY MIST.
Ventilation:LOCAL EXHAUST: GENERALLY NOT REQD. MECH(GEN): EXPLOSION PROOF (APPROVED FOR CLASSIFIED AREA). SPECIAL: NONE REQUIRED.
Protective Gloves:IMPERVIOUS.
Eye Protection:CHEM WORK GOG OR FULL LNGTH FSHLD.
Other Protective Equipment:IMPERVIOUS CLOTHING AS REQUIRED TO PREVENT SKIN CONTACT. EYE WASH/BATH READILY AVAILABLE WHERE EYE CONTACT IS POSSIBLE.
Work Hygienic Practices:WASH SKIN THORO W/SOAP & WATER BEFORE EATING, DRINK/SMOKING. VENT MAY BE USED TO CTL/REDUCE AIRBORNE CONC. STAND(ING 25)

Supplemental Safety and Health

VP: 275-475@68F (VARIES SEASONALLY). APPEAR/ODOR: (CLEAR RED, BRONZE & YELLOW ARE TYPICAL). EXTING MEDIA: HOWEVER, WATER FOG MAY BE USED BY EXPER FIRE FIGHTERS FOR INTENSITY CTL, & TO COOL EXPOSED ARE AS. EXPLO HAZ: MAY CNTN EXPLOS VAPS. DONOT PRESSURIZE, CUT, HEAT, WELD/EXPOSE SUCH CONTRS/VESSELS TO SOURCE OF (ING 8)

===== Physical/Chemical Properties =====

Boiling Pt:B.P. Text:>85F,>29.4C
 Vapor Pres:SUPP DATA
 Vapor Density:3-4
 Spec Gravity:0.76(H*20=1)
 Evaporation Rate & Reference:10-11(BUTYL ACETATE=1)
 Solubility in Water:SLIGHT
 Appearance and Odor:CLEAR LIQ W/CHARACT AROMATIC ODOR.MAY BE DYED FOR IDENTIFICATION (SUPP DATA)
 Percent Volatiles by Volume:100

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES
 OXIDIZING AGENTS. COMBINATION OF NITRIC AND SULFURIC ACIDS.
 Stability Condition to Avoid:AVOID HANDLING OR STORING NEAR HEAT, SPARKS/OPEN FLAME.
 Hazardous Decomposition Products:CONTACT WITH NITRIC AND SULFURIC ACIDS WILL FORM NITROCRESOLS THAT CAN DECOMPOSE VIOLENTLY.

===== Disposal Considerations =====

Waste Disposal Methods:DISPOSE OF PROD & CONTAMD MATL AS EPA "IGNITABLE HAZ WASTE". USE ONLY APPRVD TRTMT TRANSPORTERS & DISP SITE IN COMPLIANCE W/ALL APPLIC FED, ST & LOC REGS . MAINTAIN SURVEILLANCE OF ABSORBED MATL UNTIL FINAL DISP TO OBSERVE FOR EMISSION (ING 20)

Disclaimer (provided with this information by the compiling agencies):
 This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever, expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.

**Material Safety
Data Sheets****Division of Facilities Services****DOD Hazardous Material Information (ANSI Format)
For Cornell University Convenience Only****POLYCHLORINATED BIPHENYLS**

Section 1 - Product and Company Identification	Section 9 - Physical & Chemical Properties
Section 2 - Composition/Information on Ingredients	Section 10 - Stability & Reactivity Data
Section 3 - Hazards Identification Including Emergency Overview	Section 11 - Toxicological Information
Section 4 - First Aid Measures	Section 12 - Ecological Information
Section 5 - Fire Fighting Measures	Section 13 - Disposal Considerations
Section 6 - Accidental Release Measures	Section 14 - MSDS Transport Information
Section 7 - Handling and Storage	Section 15 - Regulatory Information
Section 8 - Exposure Controls & Personal Protection	Section 16 - Other Information

The information in this document is compiled from information maintained by the United States Department of Defense (DOD). Anyone using this information is solely responsible for the accuracy and applicability of this information to a particular use or situation.

Cornell University does not in any way warrant or imply the applicability, viability or use of this information to any person or for use in any situation.

**Section 1 - Product and Company Identification
POLYCHLORINATED BIPHENYLS****Product Identification:** POLYCHLORINATED BIPHENYLS**Date of MSDS:** 10/01/1988 **Technical Review Date:** 03/11/1999**FSC:** 5910 **NIIN:** 00-903-2947**Submitter:** D DG**Status Code:** A**MFN:** 01**Article:** N**Kit Part:** N**Manufacturer's Information**

Manufacturer's Name: MONSANTO CO
Post Office Box: UNKNOWN
Manufacturer's Address1: 800 N LINDBERGH BLVD
Manufacturer's Address2: ST LOUIS, MO 63167
Manufacturer's Country: US
General Information Telephone: 314-694-1000
Emergency Telephone: 314-694-1000
Emergency Telephone: 314-694-1000
MSDS Preparer's Name: PAUL R MICHAEL, SAFETY
Proprietary: N
Reviewed: Y
Published: Y
CAGE: 3Y784
Special Project Code: N

Item Description

Item Name: CAPACITOR, FIXED, PAPER DIELECTRIC
Item Manager: S9E
Specification Number: NK
Type/Grade/Class: NK
Unit of Issue: EA
Unit of Issue Quantity: 1
Type of Container:

Contractor Information

Contractor's Name: GENERAL ELECTRIC CO CAPACITOR PRODUCTS DEPARTMENT
Contractor's Address1: JOHN ST
Contractor's Address2: HUDSON FALLS, NY 12839
Contractor's Telephone: 518-746-5750
Contractor's CAGE: 01002

Contractor Information

Contractor's Name: MONSANTO CO, FIBERS BUSINESS UNIT
Contractor's Address1: 800 N LINDBERGH BLVD
Contractor's Address2: SAINT LOUIS, MO 63167
Contractor's Telephone: 314-694-1000
Contractor's CAGE: 3Y784

Section 2 - Composition/Information on Ingredients POLYCHLORINATED BIPHENYLS

Ingredient Name: POLYCHLORINATED BIPHENYLS (PCBS) (SARA III)
Ingredient CAS Number: 1336-36-3 **Ingredient CAS Code:** M
RTECS Number: TQ1350000 **RTECS Code:** M
=WT: =WT Code:
=Volume: =Volume Code:
>WT: >WT Code:

>Volume: >Volume Code:
<WT: <WT Code:
<Volume: <Volume Code:
% Low WT: % Low WT Code:
% High WT: % High WT Code:
% Low Volume: % Low Volume Code:
% High Volume: % High Volume Code:
% Text: N/P
% Enviromental Weight:
Other REC Limits: N/P
OSHA PEL: NOT ESTABLISHED OSHA PEL Code: M
OSHA STEL: OSHA STEL Code:
ACGIH TLV: NOT ESTABLISHED ACGIH TLV Code: M
ACGIH STEL: N/P ACGIH STEL Code:
EPA Reporting Quantity: 1 LB
DOT Reporting Quantity: 1 LB
Ozone Depleting Chemical: N

Section 3 - Hazards Identification, Including Emergency Overview POLYCHLORINATED BIPHENYLS

Health Hazards Acute & Chronic: EYES: MODERATELY IRRITATING TO EYE TISSUES. SKIN: CAN BE ABSORBED THROUGH INTACT SKIN. MAY CAUSE DEFATTING. A POTENTIAL FOR CONTACTING CHLORACNE. INHALATION: POSSIBLE LIVER INJURY. INGESTION: SLIGH TLY TOXIC.

Signs & Symptoms of Overexposure:
CAN CAUSE DERMATOLOGICAL SYMPTOMS; HOWEVER, THESE ARE REVERSIBLE UPON REMOVAL OF EXPOSURE SOURCE.

Medical Conditions Aggravated by Exposure:
N/P

LD50 LC50 Mixture: N/P

Route of Entry Indicators:
Inhalation: YES
Skin: YES
Ingestion: N/P

Carcenogenicity Indicators
NTP: YES
IARC: YES
OSHA: NO

Carcinogenicity Explanation: IARC: PROBABLE CARCINOGENIC. NTP: REASONABLY ANTICIPATED TO BE CARCINOGENIC.

Section 4 - First Aid Measures POLYCHLORINATED BIPHENYLS

First Aid:

EYES: IRRIGATE IMMEDIATELY WITH COPIOUS QUANTITIES OF RUNNING WATER FOR AT LEAST 15 MIN IF LIQUID OR SOLID PCBS GET INTO THEM. SKIN: CONTAMINATED CLOTHING SHOULD BE REMOVED AND THE SKIN WASHED THOROUGHLY WITH SOAP AND WATER. HOT PCBS MAY CAUSE THERMAL BURNS. INHALATION: REMOVE TO FRESH AIR. IF SKIN RASH OR RESPIRATORY IRRITATION PERSISTS, CONSULT A PHYSICIAN. (IF ELECTRICAL EQUIPMENT ARCS OVER, PCBS MAY DECOMPOSE TO PRODUCE HYDROCHLORIC ACID). INGESTION: CONSULT A PHYSICIAN. DO NOT INDUCE VOMITING OR GIVE ANY OILY LAXATIVES. (IF LARGE AMOUNTS ARE INGESTED, GASTRIC LAVAGE IS SUGGESTED).

Section 5 - Fire Fighting Measures
POLYCHLORINATED BIPHENYLS

Fire Fighting Procedures:

STANDARD FIRE FIGHTING WEARING APPAREL AND SELF-CONTAINED BREATHING APPARATUS SHOULD BE WORN WHEN FIGHTING FIRES THAT INVOLVE POSSIBLE EXPOSURE TO CHEMICAL COMBUSTION PRODUCTS. FIRE FIGHTING EQUIPMENT SHOULD BE THOROUGHLY CLEANED AND DECONTAMINATED AFTER USE.

Unusual Fire or Explosion Hazard:

IF A PCB TRANSFORMER IS INVOLVED IN A FIRE-RELATED INCIDENT, THE OWNER OF THE TRANSFORMER MAY BE REQUIRED TO REPORT THE INCIDENT. CONSULT AND FOLLOW APPROPRIATE FEDERAL, STATE, AND LOCAL REGULATIONS.

Extinguishing Media:

PCBS ARE FIRE-RESISTANT COMPOUNDS.

Flash Point: >141.C, 285.8F **Flash Point Text:** N/A

Autoignition Temperature:

Autoignition Temperature Text: N/A

Lower Limit(s):

Upper Limit(s):

Section 6 - Accidental Release Measures
POLYCHLORINATED BIPHENYLS

Spill Release Procedures:

CLEANUP & DISPOSAL OF LIQUID PCBS ARE STRICTLY REGULATED BY THE FEDERAL GOVERNMENT. VENTILATE AREA. CONTAIN SPILL/LEAK. REMOVE SPILL BY MEANS OF ABSORPTIVE MATERIAL. SPILL CLEANUP PERSONNEL SHOULD USE PROPER PROTECTIVE CLOTHING. ALL WASTES AND RESIDUES CONTAINING PCBS SHOULD BE COLLECTED, CONTAINERIZED, MARKED AND DISPOSED OF IN THE MANNER PRESCRIBED BY EPA, & APPLICABLE STATE AND LOCAL LAWS.

Section 7 - Handling and Storage
POLYCHLORINATED BIPHENYLS

Handling and Storage Precautions:**Other Precautions:**

Section 8 - Exposure Controls & Personal Protection

POLYCHLORINATED BIPHENYLS

Respiratory Protection:

USE NIOSH/MSHA APPROVED EQUIPMENT WHEN AIRBORNE EXPOSURE LIMITS ARE EXCEEDED. FULL FACEPIECE EQUIPMENT IS RECOMMENDED AND, IF USED, REPLACES NEED FOR FACE SHIELD AND/OR CHEMICAL SPLASH GOGGLES. THE RESPIRATOR USE LIMITATIONS SPECIFIED BY NIOSH/MSHA OR THE MANUFACTURER MUST BE OBSERVED.

Ventilation:

PROVIDE NATURAL OR MECHANICAL VENTILATION TO CONTROL EXPOSURE LEVELS BELOW AIRBORNE EXPOSURE LEVELS.

Protective Gloves:

WEAR APPROPRIATE CHEMICAL RESISTANT GLOVES TO PREVENT SKIN CONTACT.

Eye Protection: WEAR CHEMICAL SPLASH GOGGLES AND HAVE EYE BATHS AVAILABLE.

Other Protective Equipment: WEAR APPROPRIATE PROTECTIVE CLOTHING. PROVIDE A SAFETY SHOWER AT ANY LOCATION WHERE SKIN CONTACT CAN OCCUR.

Work Hygienic Practices: WASH THOROUGHLY AFTER HANDLING.

Supplemental Health & Safety Information: NONE

Section 9 - Physical & Chemical Properties
POLYCHLORINATED BIPHENYLS

HCC: Z3

NRC/State License Number:

Net Property Weight for Ammo:

Boiling Point: Boiling Point Text: N/A

Melting/Freezing Point: Melting/Freezing Text: N/A

Decomposition Point: Decomposition Text: N/A

Vapor Pressure: (MM HG @100F).005-.00006 **Vapor Density:** N/P

Percent Volatile Organic Content:

Specific Gravity: N/K

Volatile Organic Content Pounds per Gallon:

pH: N/P

Volatile Organic Content Grams per Liter:

Viscosity: (CENTISTOKES)3.6-540

Evaporation Weight and Reference: N/P

Solubility in Water: N/P

Appearance and Odor: N/P

Percent Volatiles by Volume: N/P

Corrosion Rate: N/P

Section 10 - Stability & Reactivity Data
POLYCHLORINATED BIPHENYLS

Stability Indicator: YES

Materials to Avoid:

N/P

Stability Condition to Avoid:

PCBS ARE VERY STABLE, FIRE-RESISTANT COMPOUNDS.

Hazardous Decomposition Products:

CARBON MONOXIDE, CARBON DIOXIDE, HYDROGEN CHLORIDE, PHENOLICS, ALDEHYDES AND OTHER TOXIC COMBUSTION PRODUCTS.

Hazardous Polymerization Indicator: N/P

Conditions to Avoid Polymerization:

N/P

Section 11 - Toxicological Information
POLYCHLORINATED BIPHENYLS

Toxicological Information:

N/P

Section 12 - Ecological Information
POLYCHLORINATED BIPHENYLS

Ecological Information:

N/P

Section 13 - Disposal Considerations
POLYCHLORINATED BIPHENYLS

Waste Disposal Methods:

CONSULT THE APPLICABLE STATE AND LOCAL REGULATIONS PRIOR TO ANY DISPOSAL OF PCBs OR PCB-CONTAMINATED ITEMS. CONSULT WITH 40 CFR PART 761 FOR FEDERAL REQUIREMENTS.

Section 14 - MSDS Transport Information
POLYCHLORINATED BIPHENYLS

Transport Information:

N/P

Section 15 - Regulatory Information
POLYCHLORINATED BIPHENYLS

SARA Title III Information:

N/P

Federal Regulatory Information:

N/P

State Regulatory Information:

N/P

Section 16 - Other Information
POLYCHLORINATED BIPHENYLS

Other Information:

N/P

HMIS Transportation Information**Product Identification:** POLYCHLORINATED BIPHENYLS**Transportation ID Number:** 139624**Responsible Party CAGE:** 3Y784**Date MSDS Prepared:** 10/01/1988**Date MSDS Reviewed:** 03/11/1999**MFN:** 03/11/1999**Submitter:** D DG

Status Code: A

Container Information

Unit of Issue: EA

Container Quantity: 1

Type of Container:

Net Unit Weight: U/K

Article without MSDS: N

Technical Entry NOS Shipping Number:

Radioactivity:

Form:

Net Explosive Weight:

Coast Guard Ammunition Code:

Magnetism:

AF MMAC Code:

DOD Exemption Number: N/A

Limited Quantity Indicator: N

Multiple Kit Number: 0

Kit Indicator: N

Kit Part Indicator: N

Review Indicator: N

Additional Data:

P/N (GENERAL ELECTRIC CO): 23F1071G202

Department of Transportation Information

DOT Proper Shipping Name: POLYCHLORINATED BIPHENYLS

DOT PSN Code: LWI

Symbols: AW

DOT PSN Modifier:

Hazard Class: 9

UN ID Number: UN2315

DOT Packaging Group: II

Label: CLASS 9

Special Provision(s): 9,81

Packaging Exception:

Non Bulk Packaging: 202

Bulk Packaging: 241

Maximum Quantity in Passenger Area: 100 L

Maximum Quantity in Cargo Area: 220 L

Stow in Vessel Requirements: A

Requirements Water/Sp/Other: 34

IMO Detail Information

IMO Proper Shipping Name: POLYCHLORINATED BIPHENYLS

IMO PSN Code: LZM

IMO PSN Modifier: PP

IMDG Page Number: 9034

UN Number: 2315

UN Hazard Class: 9

IMO Packaging Group: II

Subsidiary Risk Label: -

EMS Number: 6.1-02

Medical First Aid Guide Number: NON

IATA Detail Information

IATA Proper Shipping Name: POLYCHLORINATED BIPHENYLS, LIQUID

IATA PSN Code: UKT

IATA PSN Modifier:

IATA UN Id Number: 2315

IATA UN Class: 9

Subsidiary Risk Class:

UN Packaging Group: II

IATA Label: MISCELLANEOUS

Packaging Note for Passengers: 907

Maximum Quantity for Passengers: 100 L

Packaging Note for Cargo: 907

Maximum Quantity for Cargo: 220 L

Exceptions:

AFI Detail Information

AFI Proper Shipping Name: POLYCHLORINATED BIPHENYLS

AFI Symbols:

AFI PSN Code: UKT

AFI PSN Modifier:

AFI UN Id Number: UN2315

AFI Hazard Class: 9

AFI Packing Group: II

AFI Label:

Special Provisions: P5, 9

Back Pack Reference: A13.3

HAZCOM Label Information

Product Identification: POLYCHLORINATED BIPHENYLS

CAGE: 3Y784

Assigned Individual: N

Company Name: MONSANTO CO, FIBERS BUSINESS UNIT

Company PO Box:

Company Street Address1: 800 N LINDBERGH BLVD

Company Street Address2: SAINT LOUIS, MO 63167 US

Health Emergency Telephone: 314-694-1000

Label Required Indicator: Y

Date Label Reviewed: 03/11/1999

Status Code: A

Manufacturer's Label Number:

Date of Label:

Year Procured: N/K

Organization Code: F

Chronic Hazard Indicator: Y

Eye Protection Indicator: YES

Skin Protection Indicator: YES

Respiratory Protection Indicator: YES

Signal Word: DANGER

Health Hazard: Severe

Contact Hazard: Moderate

Fire Hazard: None

Reactivity Hazard: None

8/8/2002 12:59:10 AM

Material Safety Data Sheet



Flammable Liquid Mixture: Benzene / Cumene / M-Diisopropylbenzene /
P-Diisopropylbenzene / N-Propylbenzene

Section 1. Chemical product and company identification

Product Name : Flammable Liquid Mixture: Benzene / Cumene / M-Diisopropylbenzene /
P-Diisopropylbenzene / N-Propylbenzene

Supplier : AIRGAS INC., on behalf of its subsidiaries
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

MSDS# : 007347

Date of Preparation/Revision : 6/27/2007.

In case of emergency : 1-866-734-3438

Section 2. Hazards identification

Physical state : Liquid.

Emergency overview : Warning!
CANCER HAZARD
CONTAINS MATERIAL WHICH CAN CAUSE CANCER
CAUSES RESPIRATORY TRACT AND EYE IRRITATION.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:
RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM.
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
MAY BE HARMFUL IF SWALLOWED.
MAY CAUSE SKIN IRRITATION.
CONTENTS UNDER PRESSURE.

Do not ingest. Avoid contact with skin and clothing. Avoid breathing vapor or mist.
Keep away from heat, sparks and flame. Keep container closed. Use only with
adequate ventilation. Wash thoroughly after handling. Risk of cancer depends on
duration and level of exposure.

Potential acute health effects

Eyes : Irritating to eyes.

Skin : Moderately irritating to the skin.

Inhalation : Irritating to respiratory system.

Ingestion : Harmful if swallowed.

Potential chronic health effects : **CARCINOGENIC EFFECTS** Classified A1 (Confirmed for human.) by ACGIH, 1
(Proven for human.) by IARC, 1 (Known To Be Human Carcinogens.) by NTP, +
(Proven.) by OSHA, + (Proven.) by NIOSH, 1 (Proven for human.) by European Union
[Benzene].
MUTAGENIC EFFECTS Not available.
TERATOGENIC EFFECTS Not available.

Medical conditions aggravated by overexposure : Repeated exposure to a highly toxic material may produce general deterioration of health
by an accumulation in one or many human organs.

See toxicological Information (section 11)

Section 3. Composition, Information on Ingredients

United States

Exposure limits

Flammable Liquid Mixture: Benzene / Cumene / M-Diisopropylbenzene / P-Diisopropylbenzene / N-Propylbenzene

cumene	98-82-8	96 - 99	ACGIH TLV (United States, 1/2005). Notes: 1999 Adoption. TWA: 50 ppm 8 hour(s). Form: All forms NIOSH REL (United States, 12/2001). Skin TWA: 245 mg/m ³ 10 hour(s). Form: All forms TWA: 50 ppm 10 hour(s). Form: All forms OSHA PEL (United States, 8/1997). Skin TWA: 245 mg/m ³ 8 hour(s). Form: All forms TWA: 50 ppm 8 hour(s). Form: All forms
propylbenzene	103-65-1	0.00005 - 0.9	ACGIH TLV (United States, 5/2004). Skin STEL: 8 mg/m ³ 15 minute(s). Form: All forms STEL: 2.5 ppm 15 minute(s). Form: All forms TWA: 1.6 mg/m ³ 8 hour(s). Form: All forms TWA: 0.5 ppm 8 hour(s). Form: All forms NIOSH REL (United States, 6/2001). Notes: See Appendix A - NIOSH Potential Occupational Carcinogen STEL: 1 ppm 15 minute(s). Form: All forms TWA: 0.1 ppm 10 hour(s). Form: All forms OSHA PEL (United States, 6/1993). STEL: 5 ppm 15 minute(s). Form: All forms TWA: 1 ppm 8 hour(s). Form: All forms OSHA PEL Z2 (United States, 6/2002). AMP: 50 ppm 10 minute(s). Form: All forms CEIL: 25 ppm Form: All forms TWA: 10 ppm 8 hour(s). Form: All forms
benzene, 1,4-bis(1-methylethyl)-	100-18-5	0.00005 - 0.9	
m-Diisopropylbenzene	99-62-7	0.00005 - 0.9	
Benzene	71-43-2	0.00005 - 0.9	

Section 4. First aid measures

Eye contact	: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin contact	: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Section 5. Fire fighting measures

Flammability of the product	: Flammable.
Auto-ignition temperature	: The lowest known value is 425°C (797°F) (cumene).
Flash point	: The lowest known value is Closed cup: 35.85°C (96.5°F) (cumene)
Flammable limits	: The greatest known range is Lower: 0.9% Upper: 6.5% (cumene)
Products of combustion	: These products are carbon oxides (CO, CO ₂).
Fire fighting media and instructions	: In case of fire, use water spray (fog), foam, dry chemicals, or CO ₂ .

Flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Special protective equipment for fire-fighters	: Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece operated in positive pressure mode.

Section 6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Do not touch or walk through spilled material.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

Section 7. Handling and storage

- Handling** : Do not ingest. Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling. Extremely hazardous liquid and vapor under pressure.
- Storage** : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8. Exposure Controls, Personal Protection

- Engineering controls** : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
- Personal protection**
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Personal protection in case of a large spill** : Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product name

United States

cumene

Exposure limits

ACGIH TLV (United States, 1/2005). Notes: 1999 Adoption.

TWA: 50 ppm 8 hour(s). Form: All forms

NIOSH REL (United States, 12/2001). Skin

TWA: 245 mg/m³ 10 hour(s). Form: All forms

TWA: 50 ppm 10 hour(s). Form: All forms

OSHA PEL (United States, 8/1997). Skin

TWA: 245 mg/m³ 8 hour(s). Form: All forms

TWA: 50 ppm 8 hour(s). Form: All forms

propylbenzene
benzene, 1,4-bis(1-methylethyl)-
m-Diisopropylbenzene

Flammable Liquid Mixture: Benzene / Cumene / M-Diisopropylbenzene / P-Diisopropylbenzene / N-Propylbenzene

Benzene

ACGIH TLV (United States, 5/2004). SkinSTEL: 8 mg/m³ 15 minute(s). Form: All forms

STEL: 2.5 ppm 15 minute(s). Form: All forms

TWA: 1.6 mg/m³ 8 hour(s). Form: All forms

TWA: 0.5 ppm 8 hour(s). Form: All forms

NIOSH REL (United States, 6/2001). Notes: See Appendix A - NIOSH**Potential Occupational Carcinogen**

STEL: 1 ppm 15 minute(s). Form: All forms

TWA: 0.1 ppm 10 hour(s). Form: All forms

OSHA PEL (United States, 6/1993).

STEL: 5 ppm 15 minute(s). Form: All forms

TWA: 1 ppm 8 hour(s). Form: All forms

OSHA PEL Z2 (United States, 6/2002).

AMP: 50 ppm 10 minute(s). Form: All forms

CEIL: 25 ppm Form: All forms

TWA: 10 ppm 8 hour(s). Form: All forms

Section 9. Physical and chemical properties

Physical state	: Liquid.
Boiling/condensation point	: The lowest known value is 152.25°C (306.1°F) (cumene).
Melting/freezing point	: May start to solidify at -96.16°C (-141.1°F) based on data for: cumene.
Critical temperature	: The lowest known value is 358°C (676.4°F) (cumene).
Specific gravity	: The only known value is 0.866 (Water = 1) (cumene).
Vapor density	: The highest known value is 4.13 (Air = 1) (cumene).
Evaporation rate	: 0.43 (cumene) compared to Butyl acetate.

Section 10. Stability and reactivity

Stability and reactivity	: The product is stable.
Conditions of instability	: The material is stable at 70 F, 760 mm pressure. (cumene)
Incompatibility with various substances	: Highly reactive with oxidizing agents.

Section 11. Toxicological information

<u>Ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
cumene	LD50	1400 mg/kg	Oral	Rat
	LD50	12750 mg/kg	Oral	Mouse
	LD50	>10000 mg/kg	Dermal	Rabbit
	LC50	16000 ppm (1 hour(s))	Inhalation	Rat
propylbenzene	LD50	6040 mg/kg	Oral	Rat
	LC50	91910 ppm (1 hour(s))	Inhalation	Rat
benzene, 1,4-bis(1-methylethyl)-m-Diisopropylbenzene	LD50	3400 mg/kg	Oral	Mouse
	LD50	7400 mg/kg	Oral	Rat
	LD50	3100 mg/kg	Oral	Mouse
Benzene	LD50	930 mg/kg	Oral	Rat
	LD50	4700 mg/kg	Oral	Mouse
	LD50	5700 mg/kg	Oral	Mammal
	LD50	48 mg/kg	Dermal	Mouse
	LDLo	50 mg/kg	Oral	man
	LC50	10000 ppm (7 hour(s))	Inhalation	Rat

Chronic effects on humans	: CARCINOGENIC EFFECTS Classified A1 (Confirmed for human.) by ACGIH, 1 (Proven for human.) by IARC, 1 (Known To Be Human Carcinogens.) by NTP, + (Proven.) by OSHA, + (Proven.) by NIOSH, 1 (Proven for human.) by European Union [Benzene]. Contains material which causes damage to the following organs: upper respiratory tract, skin, central nervous system (CNS).

Flammable Liquid Mixture: Benzene / Cumene / M-Diisopropylbenzene / P-Diisopropylbenzene / N-Propylbenzene

Other toxic effects on humans : Hazardous in case of inhalation (lung irritant).

Specific effects

Carcinogenic effects : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenic effects : No known significant effects or critical hazards.

Reproduction toxicity : No known significant effects or critical hazards.

Section 12. Ecological information

<u>Ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
cumene	Daphnia magna (EC50)	48 hour(s)	10.6 mg/l
	Daphnia magna (EC50)	48 hour(s)	11.2 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	2.7 mg/l
	Poecilia reticulata (LC50)	96 hour(s)	5.1 mg/l
	Pimephales promelas (LC50)	96 hour(s)	6.32 mg/l
propylbenzene	Oncorhynchus mykiss (LC50)	96 hour(s)	1.55 mg/l
Benzene	Daphnia magna (EC50)	48 hour(s)	9.23 mg/l
	Daphnia magna (EC50)	48 hour(s)	10 mg/l
	Daphnia magna (EC50)	48 hour(s)	11.73 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	5.3 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	5.9 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	9.2 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	9.2 mg/l

Products of degradation : These products are carbon oxides (CO, CO₂) and water.

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

Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Consult your local or regional authorities.

Section 14. Transport information

<u>Regulatory information</u>	<u>UN number</u>	<u>Proper shipping name</u>	<u>Class</u>	<u>Packing group</u>	<u>Label</u>	<u>Additional information</u>
DOT Classification	UN3161	Liquefied gas, flammable, n.o.s.	2.1	-		-
TDG Classification	UN3161	Liquefied gas, flammable, n.o.s.	2.1	-		<u>Explosive Limit and Limited Quantity Index</u> 0.125 <u>ERAP Index</u> 3000 <u>Passenger Carrying Ship Index</u> Forbidden <u>Passenger Carrying Road or Rail</u>

Flammable Liquid Mixture: Benzene / Cumene / M-Diisopropylbenzene / P-Diisopropylbenzene / N-Propylbenzene

						Index Forbidden
Mexico Classification	UN3161	Liquefied gas, flammable, n.o.s.	2.1	-		-

Section 15. Regulatory information**United States**

HCS Classification : Flammable liquid
Irritating material
Carcinogen
Target organ effects

U.S. Federal regulations : TSCA 8(b) inventory: cumene; propylbenzene; benzene, 1,4-bis(1-methylethyl)-; m-Diisopropylbenzene; Benzene
TSCA 12(b) one time export: propylbenzene
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: cumene
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: cumene: Fire hazard, Immediate (Acute) Health Hazard
Clean Water Act (CWA) 307: Benzene
Clean Water Act (CWA) 311: Benzene
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Form R - Reporting requirements	: cumene	98-82-8	96 - 99
	Benzene	71-43-2	0.00005 - 0.9
Supplier notification	: cumene	98-82-8	96 - 99
	Benzene	71-43-2	0.00005 - 0.9

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations : Pennsylvania RTK: cumene: (environmental hazard, generic environmental hazard); propylbenzene: (generic environmental hazard); Benzene: (special hazard, environmental hazard, generic environmental hazard)
Massachusetts RTK: cumene; propylbenzene; Benzene
New Jersey: cumene; propylbenzene; Benzene
WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
Benzene	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	Yes.

Canada

WHMIS (Canada) : Class B-1: Flammable gas.
Class D-2A: Material causing other toxic effects (VERY TOXIC).
CEPA DSL: cumene; propylbenzene; benzene, 1,4-bis(1-methylethyl)-; m-Diisopropylbenzene; Benzene

Section 16. Other information

Label Requirements

: CANCER HAZARD
CONTAINS MATERIAL WHICH CAN CAUSE CANCER
CAUSES RESPIRATORY TRACT AND EYE IRRITATION.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:
RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM.
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
MAY BE HARMFUL IF SWALLOWED.
MAY CAUSE SKIN IRRITATION.
CONTENTS UNDER PRESSURE.

Hazardous Material Information System (U.S.A.)

Health	*	2
Fire hazard		3
Reactivity		0
Personal protection		C

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



Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**Material Safety
Data Sheets****Division of Facilities Services****DOD Hazardous Material Information (ANSI Format)
For Cornell University Convenience Only****NICKEL POWDER, NI02-10**

Section 1 - Product and Company Identification	Section 9 - Physical & Chemical Properties
Section 2 - Composition/Information on Ingredients	Section 10 - Stability & Reactivity Data
Section 3 - Hazards Identification Including Emergency Overview	Section 11 - Toxicological Information
Section 4 - First Aid Measures	Section 12 - Ecological Information
Section 5 - Fire Fighting Measures	Section 13 - Disposal Considerations
Section 6 - Accidental Release Measures	Section 14 - MSDS Transport Information
Section 7 - Handling and Storage	Section 15 - Regulatory Information
Section 8 - Exposure Controls & Personal Protection	Section 16 - Other Information

The information in this document is compiled from information maintained by the United States Department of Defense (DOD). Anyone using this information is solely responsible for the accuracy and applicability of this information to a particular use or situation.

Cornell University does not in any way warrant or imply the applicability, viability or use of this information to any person or for use in any situation.

**Section 1 - Product and Company Identification
NICKEL POWDER, NI02-10**

Product Identification: NICKEL POWDER, NI02-10

Date of MSDS: 07/11/1989 **Technical Review Date:** 10/18/1995

FSC: 9630 **NIIN:** LIIN: 00N044226

Submitter: N EN

Status Code: C

MFN: 01

Article: N

Kit Part: N

Manufacturer's Information

Manufacturer's Name: SPEX IND INC
Manufacturer's Address1: 3880 PARK AVE
Manufacturer's Address2: EDISON, NJ 08820
Manufacturer's Country: US
General Information Telephone: 201-549-7144
Emergency Telephone: 201-549-7144
Emergency Telephone: 201-549-7144
MSDS Preparer's Name: N/P
Proprietary: N
Reviewed: N
Published: Y
CAGE: IO044
Special Project Code: N

Contractor Information

Contractor's Name: SPEX CERTIPREP INC
Contractor's Address1: 203 NORCROSS AVE
Contractor's Address2: METUCHEN, NJ 08840
Contractor's Telephone: 732-549-7144
Contractor's CAGE: 07977

Contractor Information

Contractor's Name: SPEX IND INC
Contractor's Address1: 3880 PARK AVE
Contractor's Address2: EDISON, NJ 08820
Contractor's Telephone: 908-549-7144
Contractor's CAGE: IO044

Section 2 - Compositon/Information on Ingredients NICKEL POWDER, NI02-10

Ingredient Name: NICKEL (SARA III)
Ingredient CAS Number: 7440-02-0 **Ingredient CAS Code:** M
RTECS Number: QR5950000 **RTECS Code:** M
=WT: =WT Code:
=Volume: =Volume Code:
>WT: >WT Code:
>Volume: >Volume Code:
<WT: <WT Code:
<Volume: <Volume Code:
% Low WT: % Low WT Code:
% High WT: % High WT Code:
% Low Volume: % Low Volume Code:
% High Volume: % High Volume Code:
% Text: 100
% Enviromental Weight:
Other REC Limits: N/K
OSHA PEL: 1 MG/M3 **OSHA PEL Code:** M
OSHA STEL: **OSHA STEL Code:**

ACGIH TLV: 1 MG/M3 **ACGIH TLV Code:** M

ACGIH STEL: N/P **ACGIH STEL Code:**

EPA Reporting Quantity:

DOT Reporting Quantity:

Ozone Depleting Chemical:

Section 3 - Hazards Identification, Including Emergency Overview NICKEL POWDER, NI02-10

Health Hazards Acute & Chronic: ACUTE:SKIN CONTACT WITH NICKEL MAY CAUSE "NICKEL ITCH." THIS IS A DERMATITIS RESULTING FROM SENSITIZATION TO NICKEL CHARACTERIZED BY SKIN ERUPTION & MAY BE FOLLOWED BY SUPERFICIAL ULCERS WHICH DISCHARGE & BECOME CRUSTED. ECZEMA MAY ALSO OCCUR FORMING PIGMENTED/ DEPIGMENTED PLAQUES. RECOVERY OF (EFTS OF OVEREXP)

Signs & Symptoms of Overexposure:

HLTH HAZ:DERMATITIS MAY TAKE FROM SEVEN DAYS TO SEVERAL WEEKS. INHALATION MAY RESULT IN PNEUMONITIS. CHRONIC: CANCER OF THE PARANASAL SINUSES & LUNGS CAN OCCUR FROM CHRONIC EXPOSURE TO NICKEL.

Medical Conditions Aggravated by Exposure:

NONE SPECIFIED BY MANUFACTURER.

LD50 LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.

Route of Entry Indicators:

Inhalation: YES

Skin: YES

Ingestion: YES

Carcinogenicity Indicators

NTP: YES

IARC: YES

OSHA: NO

Carcinogenicity Explanation: NICKEL:IARC MONOGRAPHS ON THE EVALUATION OF CARCINOGENIC RISK OF CHEMICALS TO MAN, VOL 49, PG 257, 1990: (SUPDAT)

Section 4 - First Aid Measures NICKEL POWDER, NI02-10

First Aid:

INGESTION: CALL MD IMMEDIATELY (FP N). INHALATION: MOVE TO FRESH AIR. EYES: FLUSH WITH WATER FOR AT LEAST 15 MINUTES OCCASIONALLY LIFTING UPPER AND LOWER EYELIDS. SKIN: REMOVE CONTAMINATED CLOTHING, THEN FLUSH WITH WATER FOR AT LEAST 15 MINUTES. WASH CLOTHING THOROUGHLY BEFORE REUSE. IF IRRITATION CONTINUES, GET MEDICAL ATTENTION IMMEDIATELY.

Section 5 - Fire Fighting Measures NICKEL POWDER, NI02-10

Fire Fighting Procedures:

USE NIOSH/MSHA APPROVED SCBA AND FULL PROTECTIVE EQUIPMENT (FP N).

Unusual Fire or Explosion Hazard:

FLAMMABLE. USE NON-SPARKING TOOLS WHEN HANDLING.

Extinguishing Media:

DRY CHEMICAL POWDER.

Flash Point: Flash Point Text: N/A

Autoignition Temperature:

Autoignition Temperature Text: N/A

Lower Limit(s): N/K

Upper Limit(s): N/K

Section 6 - Accidental Release Measures**NICKEL POWDER, NI02-10**

Spill Release Procedures:

EVACUATE AND VENTILATE AREA. SWEEP UP AND PLACE IN BAG. HOLD FOR PROPER DISPOSAL. WEAR PROTECTIVE CLOTHING.

Section 7 - Handling and Storage**NICKEL POWDER, NI02-10**

Handling and Storage Precautions:**Other Precautions:**

Section 8 - Exposure Controls & Personal Protection**NICKEL POWDER, NI02-10**

Respiratory Protection:

NIOSH/MSHA APPROVED RESPIRATOR.

Ventilation:

CHEMICAL FUME HOOD.

Protective Gloves:

IMPERVIOUS GLOVES (FP N).

Eye Protection: CHEMICAL SAFETY GOGGLES (FP N).

Other Protective Equipment: LAB COAT.

Work Hygienic Practices: NONE SPECIFIED BY MANUFACTURER.

Supplemental Health & Safety Information: MATLS TO AVOID:PERCHLORATE & TITANIUM.

EXPLAN OF CARCIN:GROUP 2B. NTP 6TH ANNUAL REPORT ON CARCINOGENS, 1991:

ANTICIPATED TO BE CARCINOGEN.

Section 9 - Physical & Chemical Properties**NICKEL POWDER, NI02-10**

HCC: N1

NRC/State License Number:

Net Property Weight for Ammo:

Boiling Point: Boiling Point Text: 4946F,2730C

Melting/Freezing Point: Melting/Freezing Text: 2651F,1455C

Decomposition Point: Decomposition Text: N/K

Vapor Pressure: N/A **Vapor Density:** N/A

Percent Volatile Organic Content:

Specific Gravity: 8.9

Volatile Organic Content Pounds per Gallon:

pH: N/K

Volatile Organic Content Grams per Liter:

Viscosity: N/P

Evaporation Weight and Reference: N/A

Solubility in Water: INSOLUBLE

Appearance and Odor: SILVER METAL

Percent Volatiles by Volume: N/A

Corrosion Rate: N/K

Section 10 - Stability & Reactivity Data NICKEL POWDER, NI02-10

Stability Indicator: YES

Materials to Avoid:

ACIDS, OXIDIZING AGENTS, & SULFUR. VIOLENT RXN WILL OCCUR W/CNTCT W/AMMONIUM NITRATE, HYDRAZOIC ACID, POTASSIUM (SUPDAT)

Stability Condition to Avoid:

NONE SPECIFIED BY MANUFACTURER.

Hazardous Decomposition Products:

TOXIC FUMES.

Hazardous Polymerization Indicator: NO

Conditions to Avoid Polymerization:

NOT RELEVANT

Section 11 - Toxicological Information NICKEL POWDER, NI02-10

Toxicological Information:

N/P

Section 12 - Ecological Information NICKEL POWDER, NI02-10

Ecological Information:

N/P

Section 13 - Disposal Considerations NICKEL POWDER, NI02-10

Waste Disposal Methods:

DISPOSAL MUST BE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS (FP N). CONTACT LOCAL HAZARDOUS OR CHEMICAL WASTE DISPOSAL AGENCY FOR REGULATIONS.

Section 14 - MSDS Transport Information NICKEL POWDER, NI02-10

Transport Information:

N/P

Section 15 - Regulatory Information**NICKEL POWDER, NI02-10**

SARA Title III Information:

N/P

Federal Regulatory Information:

N/P

State Regulatory Information:

N/P

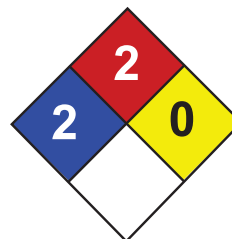
Section 16 - Other Information**NICKEL POWDER, NI02-10**

Other Information:

N/P

HAZCOM Label Information**Product Identification:** NICKEL POWDER, NI02-10**CAGE:** IO044**Assigned Individual:** Y**Company Name:** SPEX IND INC**Company PO Box:****Company Street Address1:** 3880 PARK AVE**Company Street Address2:** EDISON, NJ 08820 US**Health Emergency Telephone:** 201-549-7144**Label Required Indicator:** Y**Date Label Reviewed:** 10/05/1993**Status Code:** C**Manufacturer's Label Number:****Date of Label:** 10/05/1993**Year Procured:** N/K**Organization Code:** G**Chronic Hazard Indicator:** Y**Eye Protection Indicator:** YES**Skin Protection Indicator:** YES**Respiratory Protection Indicator:** YES**Signal Word:** CAUTION**Health Hazard:** Slight**Contact Hazard:** Slight**Fire Hazard:** Slight**Reactivity Hazard:** None

8/9/2002 8:15:58 AM



Health	2
Fire	2
Reactivity	0
Personal Protection	E

Material Safety Data Sheet

Naphthalene MSDS

Section 1: Chemical Product and Company Identification

Product Name: Naphthalene

Catalog Codes: SLN1789, SLN2401

CAS#: 91-20-3

RTECS: QJ0525000

TSCA: TSCA 8(b) inventory: Naphthalene

CI#: Not available.

Synonym:

Chemical Name: Not available.

Chemical Formula: C₁₀H₈

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

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

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

Section 2: Composition and Information on Ingredients

Composition:

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

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

Section 3: Hazards Identification

Potential Acute Health Effects:

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

Potential Chronic Health Effects:

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

Section 4: First Aid Measures

Eye Contact:

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

Skin Contact:

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

Serious Skin Contact: Not available.

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

Serious Inhalation:

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

Ingestion:

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

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

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

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

Flammable Limits: LOWER: 0.9% UPPER: 5.9%

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

Fire Hazards in Presence of Various Substances: Not available.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

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

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

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

Large Spill:

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

Section 7: Handling and Storage

Precautions:

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

Storage:

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

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

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

Personal Protection:

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

Personal Protection in Case of a Large Spill:

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

Exposure Limits:

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

Section 9: Physical and Chemical Properties

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

Odor: Aromatic.

Taste: Not available.

Molecular Weight: 128.19 g/mole

Color: White.

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

Boiling Point: 218°C (424.4°F)

Melting Point: 80.2°C (176.4°F)

Critical Temperature: Not available.

Specific Gravity: 1.162 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: 4.4 (Air = 1)

Volatility: Not available.

Odor Threshold: 0.038 ppm

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties:

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

Solubility:

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

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Highly reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

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

Polymerization: No.

Section 11: Toxicological Information

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

Toxicity to Animals:

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

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH. DEVELOPMENTAL TOXICITY: Classified Development toxin [POSSIBLE]. The substance is toxic to blood, kidneys, the nervous system, the reproductive system, liver, mucous membranes, gastrointestinal tract, upper respiratory tract, central nervous system (CNS).

Other Toxic Effects on Humans:

Very hazardous in case of ingestion. Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant, permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

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

Section 12: Ecological Information

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

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

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

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: CLASS 4.1: Flammable solid.

Identification: : Naphthalene, refined : UN1334 PG: III

Special Provisions for Transport: Marine Pollutant

Section 15: Other Regulatory Information

Federal and State Regulations:

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

Other Regulations:

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

Other Classifications:

WHMIS (Canada):

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

DSCL (EEC):

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

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 2

Reactivity: 0

Personal Protection: E

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

Health: 2

Flammability: 2

Reactivity: 0

Specific hazard:

Protective Equipment:

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

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/11/2005 01:30 PM

Last Updated: 06/09/2012 12:00 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.

CONOCO,INC. -- CONOCO TRACON MOTOR OIL 10W-40 -- 9150-00B030018

===== Product Identification =====

Product ID:CONOCO TRACON MOTOR OIL 10W-40

MSDS Date:10/21/1985

FSC:9150

NIIN:00B030018

MSDS Number: BBBHW

=== Responsible Party ===

Company Name:CONOCO, INC.

Box:1267

City:PONCA CITY

State:OK

ZIP:74603

Country:US

Info Phone Num:405 767-6000

Emergency Phone Num:800 424-9300

CAGE:DO836

=== Contractor Identification ===

Company Name:CONOCO, INC.

Box:1267

City:PONCA CITY

State:OK

ZIP:74603

Country:US

Phone:405 767-6000

CAGE:DO836

===== Composition/Information on Ingredients =====

Ingred Name:NO HAZARDOUS MATERIALS

===== Hazards Identification =====

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Effects of Overexposure:THIS PRODUCT MAY CAUSE IRRITATION TO
EYES,LUNGS,OR SKIN AFTER PROLONGED EXPOSURE.

===== First Aid Measures =====

First Aid:EYES:QUICKLY WASH WITH FRESH WATER FOR 15 MIN AND GET MEDICAL
ATTENTION.SKIN:WASH WITH SOAP AND WATER AND REMOVE CONTAMINATED
CLOTHING.INHALATION: IF OVEREXPOSED,REMOVE INDIVIDUAL TO FRESH AIR.
IF BRE ATHING STOPS,ADMINISTER ARTIFICIAL RESPIRATION.INGESTION:IF
SWALLOWED,DONOT INDUCE VOMITING.IF VOMITING BEGINS,LOW VICTIMS HEAD
IN AN EFFECT TO PREVENT VOMITUS FROM ENTERING LUNGS.CALL PHYSICIAN.

===== Fire Fighting Measures =====

Flash Point Method:PMCC

Flash Point:340

Extinguishing Media:USE WATER SPRAY,DRY CHEMICAL,FOAM,OR CARBON DIOXIDE

Fire Fighting Procedures:WATER OR FOAM MAY CAUSE FROTHING. USE WATER TO
KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE USED TO FLUSH
SPILLS AWAY FROM EXPOSURES.

Unusual Fire/Explosion Hazard:PRODUCTS OF COMBUSTION MAY CONTAIN CARBON
MONOXIDE,CARBON DIOXIDE,AND OTHER TOXIC MATERIALS. DONOT ENTER

ENCLOSED SPACE WITHOUT PROTECTIVE EQUIPMENT.

===== Accidental Release Measures =====

Spill Release Procedures:CONTAIN SPILL IMMEDIATELY IN SMALLEST AREA POSSIBLE.RECOVER AS MUCH OF THE PRODUCT ITSELF AS POSSIBLE BY VACUUMING,FOLLOWED BY SOAKING UP RESIDUAL FLUIDS BY USE OF ABSORBENT MATERIALS.

===== Handling and Storage =====

Handling and Storage Precautions:PRODUCT IS CLASS IIIB COMBUSTIBLE LIQUID STORE AND HANDLE ACCORDINGLY.
Other Precautions:PROLONGED OR REPEATED SKIN CONTACT WITH USED MOTOR OIL MAY BE HARMFUL. WASH THOROUGHLY WITH SOAP AND WATER AFTER CONTACT.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:NONE REQUIRED EXCEPT UNDER UNUSUAL CIRCUMSTANCES.
Ventilation:NORMAL SHOP VENTILATION.
Protective Gloves:NONE REQUIRED
Eye Protection:NONE REQUIRED
Other Protective Equipment:NONE REQUIRED
Supplemental Safety and Health

===== Physical/Chemical Properties =====

Boiling Pt:B.P. Text:650-1200 F
Spec Gravity:0.88
Solubility in Water:INSOLUBLE
Appearance and Odor:BROWN LIQUID;MILD PETROLEUM HYDROCARBON ODOR

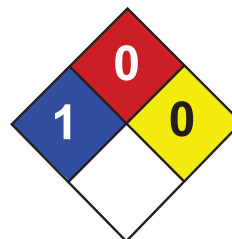
===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES
Stability Condition to Avoid:STRONG OXIDIZING MATERIALS,HEAT,FLAME
Hazardous Decomposition Products:NORMAL COMBUSTION FORMS,CARBON DIOXIDE.INCOMPLETE COMBUSTION MAY PRODUCE CARBON MONOXIDE.

===== Disposal Considerations =====

Waste Disposal Methods:RECYCLE AS MUCH OF THE RECOVERABLE PRODUCT AS POSSIBLE.DISPOSE OF NONRECYCLABLE MATERIAL BY SUCH METHODS AS CONTROLLED INCINERATION,COMPLYING WITH FEDERAL,STATE AND LOCAL REGULATIONS.

Disclaimer (provided with this information by the compiling agencies):
This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever, expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.



Health	1
Fire	0
Reactivity	0
Personal Protection	E

Material Safety Data Sheet

Lead MSDS

Section 1: Chemical Product and Company Identification

Product Name: Lead

Catalog Codes: SLL1291, SLL1669, SLL1081, SLL1459, SLL1834

CAS#: 7439-92-1

RTECS: OF7525000

TSCA: TSCA 8(b) inventory: Lead

CI#: Not available.

Synonym: Lead Metal, granular; Lead Metal, foil; Lead Metal, sheet; Lead Metal, shot

Chemical Name: Lead

Chemical Formula: Pb

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

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

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

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Lead	7439-92-1	100

Toxicological Data on Ingredients: Lead LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

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

Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (permeator). CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, kidneys, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

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

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

Serious Skin Contact: Not available.

Inhalation:

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

Serious Inhalation: Not available.

Ingestion:

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

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Some metallic oxides.

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

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: When heated to decomposition it emits highly toxic fumes of lead.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep locked up.. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable

protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

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

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

Personal Protection in Case of a Large Spill:

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

Exposure Limits:

TWA: 0.05 (mg/m³) from ACGIH (TLV) [United States] TWA: 0.05 (mg/m³) from OSHA (PEL) [United States] TWA: 0.03 (mg/m³) from NIOSH [United States] TWA: 0.05 (mg/m³) [Canada] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

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

Odor: Not available.

Taste: Not available.

Molecular Weight: 207.21 g/mole

Color: Bluish-white. Silvery. Gray

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

Boiling Point: 1740°C (3164°F)

Melting Point: 327.43°C (621.4°F)

Critical Temperature: Not available.

Specific Gravity: 11.3 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Insoluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, excess heat

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Can react vigorously with oxidizing materials. Incompatible with sodium carbide, chlorine trifluoride, trioxane + hydrogen peroxide, ammonium nitrate, sodium azide, disodium acetylide, sodium acetylide, hot concentrated nitric acid, hot concentrated hydrochloric acid, hot concentrated sulfuric acid, zirconium.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Inhalation. Ingestion.

Toxicity to Animals:

LD50: Not available. LC50: Not available.

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC. May cause damage to the following organs: blood, kidneys, central nervous system (CNS).

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

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

Acute Potential: Skin: Lead metal granules or dust: May cause skin irritation by mechanical action. Lead metal foil, shot or sheets: Not likely to cause skin irritation Eyes: Lead metal granules or dust: Can irritate eyes by mechanical action. Lead metal foil, shot or sheets: No hazard. Will not cause eye irritation. Inhalation: In an industrial setting, exposure to lead mainly occurs from inhalation of dust or fumes. Lead dust or fumes: Can irritate the upper respiratory tract (nose, throat) as well as the bronchi and lungs by mechanical action. Lead dust can be absorbed through the respiratory system. However, inhaled lead does not accumulate in the lungs. All of an inhaled dose is eventually absorbed or transferred to the gastrointestinal tract. Inhalation effects of exposure to fumes or dust of inorganic lead may not develop quickly. Symptoms may include metallic taste, chest pain, decreased physical fitness, fatigue, sleep disturbance, headache, irritability, reduces memory, mood and personality changes, aching bones and muscles, constipation, abdominal pains, decreasing appetite. Inhalation of large amounts may lead to ataxia, delirium, convulsions/seizures, coma, and death. Lead metal foil, shot, or sheets: Not an inhalation hazard unless metal is heated. If metal is heated, fumes will be released. Inhalation of these fumes may cause "fume metal fever", which is characterized by flu-like symptoms. Symptoms may include metallic taste, fever, nausea, vomiting, chills, cough, weakness, chest pain, generalized muscle pain/aches, and increased white blood cell count. Ingestion: Lead metal granules or dust: The symptoms of lead poisoning include abdominal pain or cramps (lead colic), spasms, nausea, vomiting, headache, muscle weakness, hallucinations, distorted perceptions, "lead line" on the gums, metallic taste, loss of appetite, insomnia, dizziness and other symptoms similar to that of inhalation. Acute poisoning may result in high lead levels in the blood and urine, shock, coma and death in extreme cases. Lead metal foil, shot or sheets: Not an ingestion hazard for usual industrial handling.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

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

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations**Waste Disposal:**

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

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information**Federal and State Regulations:**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Lead California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (female) which would require a warning under the statute: Lead California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (male) which would require a warning under the statute: Lead California prop. 65 (no significant risk level): Lead: 0.0005 mg/day (value) California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Lead California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Lead Connecticut hazardous material survey.: Lead Illinois toxic substances disclosure to employee act: Lead Illinois chemical safety act: Lead New York release reporting list: Lead Rhode Island RTK hazardous substances: Lead Pennsylvania RTK: Lead

Other Regulations:

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

Other Classifications:

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):

R20/22- Harmful by inhalation and if swallowed. R33- Danger of cumulative effects. R61- May cause harm to the unborn child. R62- Possible risk of impaired fertility. S36/37- Wear suitable protective clothing and gloves. S44- If you feel unwell, seek medical advice (show the label when possible). S53- Avoid exposure - obtain special instructions before use.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

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

Health: 1

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 08:21 PM

Last Updated: 06/09/2012 12:00 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.



Material Safety Data Sheets

MSDS No: 98-82-8**Date: 03/09/2001**

SUPPLIER ADDRESS: 6141 Easton Road, Bldg. 1
PO Box 310
Plumsteadville, PA 18949-0310

EMERGENCY PHONE NUMBER: (215) 766-8861

1. CHEMICAL PRODUCT

PRODUCT NAME: ISOPROPYL BENZENE **SYNONYMS:** Cumene, Cumol, 2-phenyl propane

2. COMPOSITION, INFORMATION ON INGREDIENTS

<u>Ingredient Name</u>	<u>Formula</u>	<u>CAS #</u>	<u>Concentration</u>	<u>ACGIH TLV</u>	<u>Exposure Limits (PPM)</u>		
					<u>OSHA PEL</u>	<u>MAC</u>	<u>Other STEL</u>
ISOPROPYL BENZENE	C9H12	98-82-8	99+%	50	50	50	NE

Note: NE = NONE ESTABLISHED

S/A = SIMPLE ASPHYXIAN

3. HAZARD IDENTIFICATION***** EMERGENCY OVERVIEW *****

Flammable liquid and vapor.

Can cause irritation to eyes, skin, and respiratory tract.

Can form explosive mixtures with air.

POTENTIAL HEALTH EFFECTS**ROUTES OF ENTRY:** Inhalation , Skin , Ingestion

ACUTE EFFECTS: Irritation to the eyes, mucous membranes, and upper respiratory tract. Can be absorbed through the skin. Possible central nervous system depression. It is an aspiration hazard. This material is narcotic in high concentrations. Symptoms include irritation, dizziness, nausea, lack of coordination and narcosis. Skin contact can cause defatting and dermatitis. Ingestion of the liquid causes gastrointestinal irritation.

CHRONIC EFFECTS: Possible dermatitis from skin contact. Kidney and liver damage.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None known

OTHER EFFECTS OF OVEREXPOSURE: None

CARCINOGENICITY (US ONLY):

NTP - No

IARC MONOGRAPHS - No

OSHA REGULATED - No

4. FIRST AID MEASURES

INHALATION: Immediately remove victim to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration.

EYE CONTACT: Do not allow victim to rub or keep eyes tightly shut. Immediately flush eyes, including under the eyelids, gently but thoroughly with plenty of running water for at least 15 minutes. Consult an ophthalmologist immediately if pain or irritation persist.

SKIN CONTACT: Immediately remove contaminated clothing. Rinse the affected area with flooding amounts of water and then wash it with soap and water. For reddened or blistered skin, consult a physician.

INGESTION: Never give anything by mouth to an unconscious person. Contact a poison control center. Unless the poison control center advises otherwise, have the conscious and alert person drink 1 to 2 glasses of water to dilute.

IN EVENT OF EXPOSURE, CONSULT A PHYSICIAN

NOTE TO PHYSICIAN: None

5. FIRE FIGHTING MEASURES

FLASH POINT: 44 deg. C

AUTOIGNITION TEMPERATURE: 424 deg. C

FLAMMABLE LIMITS: Vol.% in air

LOWER: .90
UPPER: 6.50

EXTINGUISHING MEDIA: Carbon dioxide, foam, or dry chemical. For large fires, use water spray, fog, or regular foam.

SPECIAL FIRE FIGHTING INSTRUCTION AND EQUIPMENT: Wear self-contained breathing apparatus and full protective clothing. Move cylinders away from fire if this can be done safely. Keep fire exposed cylinders cool with water spray. Withdraw immediately if you hear a rising sound from venting safety device or notice any tank discoloration due to fire.

HAZARDOUS COMBUSTION PRODUCTS: Toxic carbon monoxide may be given off during combustion.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors may travel a considerable distance to the source of ignition and flash back. May form explosive mixture in air. Poses an explosion hazard indoors, outdoors, and in sewers. Liquid can float on water and may travel to distant locations and/or spread fire.

6. ACCIDENTAL RELEASE MEASURES

CLEAN UP PROCEDURES: Evacuate and ventilate area. Shut off source if possible and remove source of heat. Absorb with sand or vermiculite and place in closed containers for disposal.

SPECIALIZED EQUIPMENT: None

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in well ventilated areas. Keep valve protection cap on cylinders when not in use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide adequate general and local exhaust ventilation to maintain concentrations below exposure and flammable limits.

EYE / FACE PROTECTION: Goggles. A safety shower and eyewash station should be readily available.

SKIN PROTECTION: Impervious gloves, coveralls, boots, and/or other resistant protective clothing.

RESPIRATORY PROTECTION: Use a self-contained breathing apparatus in case of emergency or non-routine use.

OTHER PROTECTIVE EQUIPMENT: Safety shoes when handling cylinders.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless

ODOR: Gasoline-like

PHYSICAL PRESSURE: Liquid

VAPOR PRESSURE: @20 deg. C: 30 mm Hg

VAPOR DENSITY (AIR=1): 4.1

BOILING POINT (C): 152

SOLUBILITY IN WATER: Insoluble

SPECIFIC GRAVITY (H₂O=1): @20 deg. C: 0.864

EVAPORATION RATE: N/A

ODOR THRESHOLD: 0.008-0.132 ppm

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal storage conditions.

CONDITIONS TO AVOID: Storage in poorly ventilated areas. Storage near a heat source.

MATERIALS TO AVOID: Strong oxidizing agents.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: Toxic carbon monoxide.

11. TOXICOLOGICAL INFORMATION

LETHAL CONCENTRATION (LC50): 16,000 ppm, Rat 1 hour.

LETHAL DOSE 50 (LD50): N/Ap

TERATOGENICITY: N/Ap

REPRODUCTIVE EFFECTS: N/Ap

MUTAGENICITY: N/Ap

12. ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are the refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps in place.

14. TRANSPORT INFORMATION

CONCENTRATION: 99+%

DOT DESCRIPTION (US ONLY):

PROPER SHIPPING NAME: Isopropylbenzene
HAZARD CLASS: 3 (flammable), Packing group III
IDENTIFICATION NUMBER: UN1918
REPORTABLE QUANTITIES: 5,000 lbs
LABELING: FLAMMABLE LIQUID

ADR / RID (EU Only): 3, 31 (c)

SPECIAL PRECAUTIONS: Cylinders should be transported in a secure upright position in a well ventilated truck.

15. REGULATORY INFORMATION

OSHA: Process Safety Management: Material is not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemical.

TSCA: Material is listed in TSCA inventory.

SARA: The threshold planning quantity for material is 10,000 lbs.

EU NUMBER: 202-704-5

NUMBER IN ANNEX 1 OF DIR 67/548: Not listed in annex 1.

EU CLASSIFICATION: N/Av

R: 10-37

S: N/Av

16. OTHER INFORMATION

OTHER PRECAUTIONS: Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).

ABBREVIATIONS: N/Ap - Not Applicable N/Av - Not Available SA - Simple Asphyxiant NE - None Established

DISCLAIMER: Information included in this document is given to the best of our knowledge, however, no warranty is made that the information is accurate or complete. We do not accept any responsibility for damages by the use of the document.

SCOTT SPECIALTY GASES -- ISOBUTYLENE IN AIR -- 6665-01-214-8247

===== Product Identification =====

Product ID:ISOBUTYLENE IN AIR
MSDS Date:04/23/1992
FSC:6665
NIIN:01-214-8247
MSDS Number: BVRGC
=== Responsible Party ===
Company Name:SCOTT SPECIALTY GASES
Address:ROUTE 611 NORTH
City:PLUMSTEADVILL
State:PA
ZIP:18949
Country:US
Info Phone Num:215-766-8861
Emergency Phone Num:215-766-8861; 908-754-7700
CAGE:51847

===== Contractor Identification =====

Company Name:SCOTT SPECIALTY GASES
Address:6141 EASTON RD (6141 ROUTE 611)
Box:310
City:PLUMSTEADVILL
State:PA
ZIP:18934
Country:US
Phone:215-766-8861/ FAX: 215-766-0416
CAGE:51847

===== Composition/Information on Ingredients =====

Ingred Name:PROPENE, 2-METHYL-; (ISOBUTYLENE)
CAS:115-11-7
RTECS #:UD0890000
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:AIR, REFRIGERATED LIQUID; AIR COMPRESSED (UN1002, DOT); AIR
REFRIGERATED LIQUID (CRYOGENIC LIQUID) (UN1003) (DOT)
RTECS #:AX5271000
OSHA PEL:N/K
ACGIH TLV:N/K

===== Hazards Identification =====

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.
Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:ACUTE:CONCENTRATION OF ISOBUTYLENE IS
THIS MIXTURE SHOULD NOT PRESENT ANY SYMPTOMS OF TOXICITY.
CHRONIC:NONE.
Explanation of Carcinogenicity:NOT RELEVANT
Effects of Overexposure:NONE SPECIFIED BY MANUFACTURER.
Medical Cond Aggravated by Exposure:NONE.

===== First Aid Measures =====

First Aid:INGEST:CALL MD IMMEDIATELY . EYES:IMMEDIATELY FLUSH W/POTABLE

WATER FOR A MINIMUM OF 15 MINUTES, SEEK ASSISTANCE FROM MD .
 SKIN:FLUSH W/COPIOUS AMOUNTS OF WATER. CALL MD . INHAL:IMME DIATELY
 REMOVE VICTIM TO FRESH AIR. IF BREATHING HAS STOPPED, GIVE
 ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

===== Fire Fighting Measures =====

Flash Point:NONFLAMMABLE
 Extinguishing Media:USE WHAT IS APPROPRIATE FOR SURROUNDING FIRE.
 Fire Fighting Procedures:USE NIOSH/MSHA APPROVED SCBA & FULL PROTECTIVE
 EQUIPMENT . USE WATER SPRAY TO KEEP FIRE EXPOSED CYLINDERS COOL.
 Unusual Fire/Explosion Hazard:COMPRESSED AIR AT HIGH PRESSURES WILL
 ACCELERATE THE BURNING OF FLAMMABLE MATERIALS.

===== Accidental Release Measures =====

Spill Release Procedures:EVACUATE & VENTILATE AREA. REMOVE LEAKING
 CYLINDER TO EXHAUST HOOD OR SAFE OUTDOORS AREA IF THIS CAN BE DONE
 SAFELY.
 Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

===== Handling and Storage =====

Handling and Storage Precautions:STORE IN WELL VENTILATED AREAS ONLY.
 KEEP VALVE PROT CAP ON CYLS WHEN NOT IN USE & SECURE CYL WHEN USING
 TO PROT FROM FALLING.
 Other Precautions:USE SUITABLE HAND TRUCK TO MOVE CYLS. PROT CYLS FROM
 PHYSICAL DMG. DO NOT DEFACE CYLS/LBLS. MOVE CYL W/ADEQ HAND TRUCK.
 CYL SHOULD BE REFILLED BY QUALIFIED PRODUCERS OF COMPRESSED GAS.
 SHIPMENT OF COM PRESSED GAS CYL WHICH HAS NOT (SUPDAT)

===== Exposure Controls/Personal Protection =====

Respiratory Protection:USE NIOSH/MSHA APPROVED SCBA IN CASE OF
 EMERGENCY OR NON-ROUTINE USE.
 Ventilation:PROVIDE ADEQUATE GENERAL & LOCAL EXHAUST VENTILATION.
 Protective Gloves:RUBBER GLOVES.
 Eye Protection:ANSI APPROVED CHEM WORKERS GOGGS .
 Other Protective Equipment:WEAR SAFETY SHOES. A SAFETY SHOWER & EYEWASH
 STATION SHOULD BE READILY AVAILABLE.
 Work Hygienic Practices:NONE SPECIFIED BY MANUFACTURER.
 Supplemental Safety and Health
 OTHER PREC:BEEN FILLED BY OWNER OR WITH HIS WRITTEN CONSENT IS A
 VIOLATION OF FEDERAL LAW (49 CFR) .

===== Physical/Chemical Properties =====

HCC:G3
 Boiling Pt:B.P. Text:-318F,-194C
 Vapor Density:1.2
 Spec Gravity:0.88 (H*20=1)
 Solubility in Water:INSOLUBLE
 Appearance and Odor:COLORLESS GAS W/POSSIBLE SLIGHT OLEFINIC ODOR.
 Percent Volatiles by Volume:100

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES
 NONE.
 Stability Condition to Avoid:NONE SPECIFIED BY MANUFACTURER.

Hazardous Decomposition Products:NONE.

===== Disposal Considerations =====

Waste Disposal Methods:DISPOSAL MUST BE I/A/W FEDERAL, STATE & LOCAL REGULATIONS . RETURN CYLS TO SUPPLIER FOR PROPER DISP W/ANY VALVE OUTLET PLUGS/CAPS SECURED & VALVE PROT CAP IN PLACE. ALLOW GAS TO DISCHARGE AT SLO W RATE TO ATM IN UNCONFINED AREA/EXHST HOOD.

Disclaimer (provided with this information by the compiling agencies): This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever, expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.

BELMONT METALS INC -- MERCURY -- 9650-00-537-7929

===== Product Identification =====

Product ID:MERCURY
MSDS Date:08/03/1989
FSC:9650
NIIN:00-537-7929
MSDS Number: BWXRF
=== Responsible Party ===
Company Name:BELMONT METALS INC
Address:330 BELMONT AVE
City:BROOKLYN
State:NY
ZIP:11207-4010
Country:US
Info Phone Num:718-342-4900
Emergency Phone Num:718-342-4900
Preparer's Name:BRUCE N REED
CAGE:70774
=== Contractor Identification ===
Company Name:BELMONT METALS INC
Address:330 BELMONT AVE
Box:City:BROOKLYN
State:NY
ZIP:11207
Phone:718-342-4900
CAGE:70774

===== Composition/Information on Ingredients =====

Ingred Name:MERCURY, QUICKSILVER (IARC CANCER REVIEW GROUP 3) *94-4*
CAS:7439-97-6
RTECS #:OV4550000
Fraction by Wt: 99.99%
Other REC Limits:INORGANIC 0.1 MG/CUM
OSHA PEL:0.1 MG/CUM
ACGIH TLV:0.01 MG/CUM (SKIN)
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

===== Hazards Identification =====

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:CHRONIC MERCURY POISONING RESULTS IN
NERVOUS IRRITABILITY, WEAKNESS, TREMOR, GINGIVITIS, ERETHISM,
GREYING OF LENS OF EYE.
Explanation of Carcinogenicity:NONE
Effects of Overexposure:CHRONIC MERCURY POISONING RESULTS IN NERVOUS
IRRITABILITY, WEAKNESS, TREMOR, GINGIVITIS, ERETHISM, GREYING OF
LENS OF EYE.

===== First Aid Measures =====

First Aid:INHALATION: REMOVE TO FRESH AIR. INGESTION: INDUCE VOMITING.
EYES/SKIN: FLUSH W/WATER. OBTAIN MEDICAL ATTENTION IN ALL CASES.

===== Fire Fighting Measures =====

Fire Fighting Procedures:WEAR DUST MASK W/CARTRIDGE FOR MERCURY VAPOR.
 Unusual Fire/Explosion Hazard:HIGH TEMPS INCREASE VAPORIZATION OF
 MERCURY.

===== Accidental Release Measures =====

Spill Release Procedures:SWEEP AREA TO REMOVE AS MUCH AS POSSIBLE.
 VACUUM AREA USING SPECIAL MERCURY VACUUM CLEANER.

===== Handling and Storage =====

Handling and Storage Precautions:STORE IN CLOSED CONTAINERS IN WELL
 VENTILATED COOL PLACES AWAY FROM AREAS OF HIGH TEMPS/ACUTE FIRE
 HAZARDS.

Other Precautions:AVOID INHALATION OF VAPORS/INGESTION. DON'T SMOKE/EAT
 IN IMMEDIATE AREA OF USE/STORAGE.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:WEAR A DUST MASK W/CARTRIDGE FOR MERCURY VAPOR.

Ventilation:LOCAL EXHAUST INCLUDING FLOOR LEVEL.

Protective Gloves:RUBBER/OTHER IMPERVIOUS

Eye Protection:SAFETY GLASSES

Other Protective Equipment:SHOWERS, PROTECTIVE CLOTHING

Work Hygienic Practices:REMOVE/LAUNDER CONTAMINATED CLOTHING BEFORE
 REUSE. WASH THOROUGHLY AFTER HANDLING.

Supplemental Safety and Health

===== Physical/Chemical Properties =====

Boiling Pt:B.P. Text:676F

Melt/Freeze Pt:M.P/F.P Text:-39F

Vapor Pres:0.0012

Vapor Density:>1

Spec Gravity:13.55

Evaporation Rate & Reference:SLOWER THAN ETHER

Appearance and Odor:SILVERY LIQUID AT 70F.

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

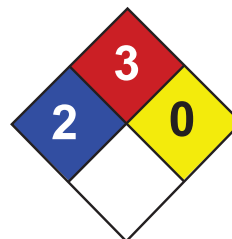
HALOGENS, NITRIC ACID

Stability Condition to Avoid:HIGH TEMPS

===== Disposal Considerations =====

Waste Disposal Methods:RETURN TO SUPPLIER IAW/FEDERAL, STATE & LOCAL
 REGULATIONS.

Disclaimer (provided with this information by the compiling agencies):
 This information is formulated for use by elements of the Department
 of Defense. The United States of America in no manner whatsoever,
 expressly or implied, warrants this information to be accurate and
 disclaims all liability for its use. Any person utilizing this
 document should seek competent professional advice to verify and
 assume responsibility for the suitability of this information to their
 particular situation.



Health	2
Fire	3
Reactivity	0
Personal Protection	H

Material Safety Data Sheet

Ethylbenzene MSDS

Section 1: Chemical Product and Company Identification

Product Name: Ethylbenzene

Catalog Codes: SLE2044

CAS#: 100-41-4

RTECS: DA0700000

TSCA: TSCA 8(b) inventory: Ethylbenzene

CI#: Not available.

Synonym: Ethyl Benzene; Ethylbenzol; Phenylethane

Chemical Name: Ethylbenzene

Chemical Formula: C₈H₁₀

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

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

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

Section 2: Composition and Information on Ingredients

Composition:

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

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

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, permeator).

Potential Chronic Health Effects:

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

Section 4: First Aid Measures

Eye Contact:

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

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

Serious Skin Contact: Not available.

Inhalation:

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

Serious Inhalation:

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

Ingestion:

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

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

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

Flash Points:

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

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

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

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

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat.

Fire Fighting Media and Instructions:

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

Special Remarks on Fire Hazards:

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

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

Section 6: Accidental Release Measures

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

Large Spill:

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

Section 7: Handling and Storage

Precautions:

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

Storage:

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

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

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

Personal Protection:

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

Personal Protection in Case of a Large Spill:

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

Exposure Limits:

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

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Sweetish. Gasoline-like. Aromatic.

Taste: Not available.

Molecular Weight: 106.16 g/mole

Color: Colorless.

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

Boiling Point: 136°C (276.8°F)

Melting Point: -94.9 (-138.8°F)

Critical Temperature: 617.15°C (1142.9°F)

Specific Gravity: 0.867 (Water = 1)

Vapor Pressure: 0.9 kPa (@ 20°C)

Vapor Density: 3.66 (Air = 1)

Volatility: 100% (v/v).

Odor Threshold: 140 ppm

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

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether.

Solubility:

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

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

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

Incompatibility with various substances: Reactive with oxidizing agents.

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

Special Remarks on Reactivity:

Can react vigorously with oxidizing materials. Sensitive to light.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Inhalation.

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

Chronic Effects on Humans:

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

Other Toxic Effects on Humans:

Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, permeator).

Special Remarks on Toxicity to Animals:

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

Special Remarks on Chronic Effects on Humans:

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

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Can cause mild skin irritation. It can be absorbed through intact skin. Eyes: Contact with vapor or liquid can cause severe eye irritation depending on concentration. It may also cause conjunctivitis. At a vapor exposure level of 85 - 200 ppm, it is mildly and transiently irritating to the eyes; 1000 ppm causes further irritation and tearing; 2000 ppm results in immediate and severe irritation and tearing; 5,000 ppm is intolerable (ACGIH, 1991; Clayton and Clayton, 1994). Standard draize test for eye irritation using 500 mg resulted in severe irritation (RTECS) Inhalation: Exposure to high concentrations can cause nasal, mucous membrane and respiratory tract irritation and can also result in chest constriction and, trouble breathing, respiratory failure, and even death. It can also affect behavior/Central Nervous System. The effective dose for CNS depression in experimental animals was 10,000 ppm (ACGIH, 1991). Symptoms of CNS depression include

headache, nausea, weakness, dizziness, vertigo, irritability, fatigue, lightheadedness, sleepiness, tremor, loss of coordination, judgement and consciousness, coma, and death. It can also cause pulmonary edema. Inhalation of 85 ppm can produce fatigue, insomnia, headache, and mild irritation of the respiratory tract (Haley & Berndt, 1987). Ingestion: Do not drink, pipet or siphon by mouth. May cause gastrointestinal/digestive tract irritation with Abdominal pain, nausea, vomiting. Ethylbenzene is a pulmonary aspiration hazard. Pulmonary aspiration of even small amounts of the liquid may cause fatal pneumonitis. It may also affect behavior/central nervous system with

Section 12: Ecological Information

Ecotoxicity:

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

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

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

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

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

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Ethylbenzene UNNA: 1175 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

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

Other Regulations:

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

Other Classifications:

WHMIS (Canada):

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

DSCL (EEC):

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

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

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

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

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

Section 16: Other Information**References:**

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

Other Special Considerations: Not available.

Created: 10/09/2005 05:28 PM

Last Updated: 06/09/2012 12:00 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.

PHIBRO ENERGY USA, INC. -- DIESEL FUEL -- 9140-00-000-0184

===== Product Identification =====

Product ID:DIESEL FUEL
MSDS Date:01/31/1994
FSC:9140
NIIN:00-000-0184
MSDS Number: BVGFN
=== Responsible Party ===
Company Name:PHIBRO ENERGY USA, INC.
Address:500 DALLAS AVE, SUITE 3200
City:HOUSTON
State:TX
ZIP:77002
Country:US
Info Phone Num:713-646-5135
Emergency Phone Num:713-923-6641, CHEMTREC 800-424-9300
Preparer's Name:SUE BOTTOM
CAGE:0V310
=== Contractor Identification ===
Company Name:PHIBRO ENERGY USA INC
Address:500 DALLAS AVE SUITE 3200
Box:City:HOUSTON
State:TX
ZIP:77002
Country:US
Phone:713-923-6641, CHEMTREC800-424-9300
CAGE:0V310

===== Composition/Information on Ingredients =====

Ingred Name:PETROLEUM DISTILLATE, ALIPHATIC AND AROMATIC HYDROCARBONS
(VARYING FROM C9 TO C20), CONTAING ALSO INGREDIENT #2 TO 7.

Fraction by Wt: BALANCE
Other REC Limits:NONE SPECIFIED
OSHA PEL:400 PPM NAPHTHA TWA

Ingred Name:N-OCTANE
CAS:111-65-9
RTECS #:RG8400000
Fraction by Wt: <1-2%
Other REC Limits:NONE SPECIFIED
OSHA PEL:300 PPM TWA 1989
ACGIH TLV:300 PPM/375STEL;9394

Ingred Name:N-NONANE
CAS:111-84-2
RTECS #:RA6115000
Fraction by Wt: <1-3%
Other REC Limits:NONE SPECIFIED
OSHA PEL:200 PPM
ACGIH TLV:200 PPM; 9192

Ingred Name:NAPHTHALENE (SARA III)
CAS:91-20-3
RTECS #:QJ0525000
Fraction by Wt: <1-3%
Other REC Limits:NONE RECOMMENDED

OSHA PEL:10 PPM
 ACGIH TLV:10 PPM/15 STEL; 9394
 EPA Rpt Qty:100 LBS
 DOT Rpt Qty:100 LBS

Ingred Name:HEXANE ISOMERS (OTHER THAN N-HEXANE)
 Fraction by Wt: <1-3%
 Other REC Limits:NONE RECOMMENDED
 OSHA PEL:500 PPM
 ACGIH TLV:500 PPM

Ingred Name:N-HEXANE
 CAS:110-54-3
 RTECS #:MN9275000
 Fraction by Wt: <1-2%
 Other REC Limits:NONE RECOMMENDED
 OSHA PEL:50 PPM 1989
 ACGIH TLV:50 PPM; 9394
 EPA Rpt Qty:1 LB
 DOT Rpt Qty:1 LB

Ingred Name:N-HEPTANE
 CAS:142-82-5
 RTECS #:MI7700000
 Fraction by Wt: <1-2%
 Other REC Limits:NONE RECOMMENDED
 OSHA PEL:400 PPM TWA 1989
 ACGIH TLV:400 PPM/500STEL; 9394

Ingred Name:HYDROGEN SULFIDE (SARA III)
 CAS:7783-06-4
 RTECS #:MX1225000
 Other REC Limits:NONE RECOMMENDED
 OSHA PEL:C, 20 PPM
 ACGIH TLV:10 PPM/15 STEL; 9394
 EPA Rpt Qty:100 LBS
 DOT Rpt Qty:100 LBS

===== Hazards Identification =====

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
 Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
 Health Hazards Acute and Chronic:ACUTE-INHALATION:CNS EFFECTS,
 RESPIRATORY IRRITATION. EYES:SEVERE IRRITATION. INGESTION:HARMFUL
 OR FATAL, IRRITATION OF GI TRACT. ASPIRATION INTO THE LUNGS CAN
 CAUSE SEVERE CHEMICAL PNEUMONITIS, WHICH CAN BE FATAL.
 SKIN:REPEATED EXPOSURE MAY CAUSE IRRITATION. CHRONIC:DERMATITIS.
 TARGET ORGANS:SKIN, LUNG, CNS.
 Explanation of Carcinogenicity:PER NIOSH BULLETIN 50 A POTENTIAL
 OCCUPATIONAL CARCINOGENIC HAZARD EXISTS DUE TO HUMAN EXPOSURE TO
 DIESEL EXHAUST.
 Effects of Overexposure:EYE:IRRITATION, REDNESS, TEARING, BLURRED
 VISION, CONJUNCTIVITIS. SKIN:IRRITATION, DRYNESS, REDNESS, ITCHING.
 INHAL:HEADACHE, DIZZINESS, DROWZINESS, NAUSEA, VOMITNING, TREMORS,
 CONVULSIONS, IRREGULAR H EART BEAT. INGESTION: G/I IRRITATION AND
 SYMPTOMS SIMILAR TO INHALATION.
 Medical Cond Aggravated by Exposure:EYE, SKIN, HEART, CNS, AND
 RESPIRATORY DISORDERS MAY BE AGGARAVATED BY OVEREXPOSURE.

===== First Aid Measures =====

First Aid:SKIN:REMOVE CONTAMINATED CLOTHING. WASH WITH SOAP AND WATER.
 GET MEDICAL ATTENTION IF IRRITATION PERSISTS. INHALATION:REMOVE TO
 FRESH AIR & RESTORE BREATHING IF NECESSARY. GET MEDICAL ATTENTION.
 EYE:IMMEDIATELY FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING
 EYELIDS OPEN. GET MEDICAL ATTENTION. INGESTION:GET IMMEDIATE
 MEDICAL ATTENTION. DO NOT INDUCE VOMITING. NOTHING BY MOUTH IF
 UNCONSCIOUS.

===== Fire Fighting Measures =====

Flash Point:125F,52C
 Lower Limits:0.4%
 Upper Limits:8.0%
 Extinguishing Media:CARBON DIOXIDE, FOAM, OR DRY CHEMICAL.
 Fire Fighting Procedures:EVACUATE AREA. USE NIOSH APPROVED SCBA & FULL
 PROTECTIVE EQUIPMENT TO FIGHT FIRE. USE WATER SPRAY TO COOL EXPOSED
 CONTAINERS. DIRECT WATER SPRAY MAY SPREAD FIRE
 Unusual Fire/Explosion Hazard:VAPORS ARE HEAVIER THAN AIR AND MAY
 TRAVEL ALONG GROUND OR FLOOR, THEN 'FLASH BACK' FROM A DISTANT
 IGNITION SOURCE. TOXIC FUMES & GASES ARE PRODUCED BY FIRE.

===== Accidental Release Measures =====

Spill Release Procedures:EVACUATE AREA. WEAR PROTECTIVE EQUIPMENT. SHUT
 OFF SOURCE IF POSSIBLE & CONTAIN SPILL. REMOVE IGNITION SOURCES.
 KEEP OUT OF WATER RESOURCES AND SEWERS. ABSORB IN INERT MATERIAL OR
 RECOVER BY PUMPING. TRANSFER TO DISPOSAL DRUMS.
 Neutralizing Agent:NONE

===== Handling and Storage =====

Handling and Storage Precautions:KEEP AWAY FROM HEAT, SPARKS, FLAME.
 STORE IN WELL VENTILATED AREA. GROUND CONTAINERS DURING TRANSFER.
 STORE IN CLOSED CONTAINER.
 Other Precautions:EMPTY CONTAINERS RETAIN RESIDUE. DO NOT PRESSURIZE,
 CUT, WELD OR EXPOSE TO HEAT, FLAME, STATIC ELECTRICITY, OR OTHER
 SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:FOR CONCENTRATIONS EXCEEDING RECOMMENDED LEVEL,
 USE NIOSH/MSHA APPROVED AIR PURIFYING RESPIRATOR. FOR SPILL OR IF
 CONCENTRATION IS UNKNOWN, USE NIOSH/MSHA SUPPLIED AIR RESPIRATOR OR
 SCBA.
 Ventilation:GENERAL OR MECHANICAL
 Protective Gloves:NEOPRENE OR NITRILE
 Eye Protection:SAFETY GLASSES OR CHEMICAL SPLASH GOGGLE
 Other Protective Equipment:PROTECTIVE GARMENTS TO PREVENT SKIN CONTACT.
 Work Hygienic Practices:DO NOT EAT, DRINK OR SMOKE WHILE WORKING WITH
 THIS PRODUCT.
 Supplemental Safety and Health
 DANGER! UNTREATED PRODUCT MAY CONTAIN OR RELEASE HYDROGEN SULFIDE. H2S
 IS A HIGHLY TOXIC AND FLAMMABLE GAS WHICH CAN BE FATAL IF INHALED
 AT CERTAIN CONCENTRATION.

===== Physical/Chemical Properties =====

HCC:F4
 NRC/State Lic Num:NONE

Boiling Pt:B.P. Text:325F,163C
Vapor Pres:<0.1 PSI
Vapor Density:3-7
Spec Gravity:0.84 - 0.93
Viscosity:8 CST @ -4F
Solubility in Water:NEGLIGIBLE
Appearance and Odor:CLEAR TO STRAW COLORED LIQUID, KEROSENE ODOR.
Percent Volatiles by Volume:NEGLIG

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZING AGENTS, STRONG ACIDS, CAUSTICS AND HALOGENS.
Stability Condition to Avoid:OPEN FLAMES, SOURCES OF IGNITION, STATIC
ELECTRICITY.
Hazardous Decomposition Products:CARBON MONOXIDE, CARBON DIOXIDE AND
REACTIVE HYDROCARBONS (LDEHYDES, AROMATICS, ETC) COMPOUNDS.

===== Disposal Considerations =====

Waste Disposal Methods:DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND
FEDERAL REGULATIONS.

Disclaimer (provided with this information by the compiling agencies):
This information is formulated for use by elements of the Department
of Defense. The United States of America in no manner whatsoever,
expressly or implied, warrants this information to be accurate and
disclaims all liability for its use. Any person utilizing this
document should seek competent professional advice to verify and
assume responsibility for the suitability of this information to their
particular situation.

INDUSTRIAL GAS DIVISION AIR PRODUCTS AND CHEMICALS, INC. -- OXYGEN, COMPRESSED -- 6830-01-169-3977

===== Product Identification =====

Product ID:OXYGEN, COMPRESSED
 MSDS Date:01/01/1995
 FSC:6830
 NIIN:01-169-3977
 Status Code:A
 MSDS Number: CKTPJ
 === Responsible Party ===
 Company Name:INDUSTRIAL GAS DIVISION AIR PRODUCTS AND CHEMICALS, INC.
 Address:7201 HAMILTON BLVD
 City:ALLENTOWN
 State:PA
 ZIP:18195-1501
 Country:US
 Info Phone Num:215-481-4911
 Emergency Phone Num:800-523-9374/610-481-7711
 Resp. Party Other MSDS Num.:1012
 CAGE:00742
 === Contractor Identification ===
 Company Name:AIR PRODUCTS AND CHEMICALS INC
 Address:7201 HAMILTON BLVD
 Box:City:ALLENTOWN
 State:PA
 ZIP:18195-1501
 Country:US
 Phone:800-345-3148/ 800-752-1597
 Contract Num:SP0450-00-M-SJ79
 CAGE:00742

===== Composition/Information on Ingredients =====

Ingred Name:OXYGEN
 CAS:7782-44-7
 RTECS #:RS2060000
 > Wt:99.

===== Hazards Identification =====

Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO
 Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
 Health Hazards Acute and Chronic:TARGET ORGANS: EYES, CENTRAL NERVOUS
 SYSTEM. INHALATION: BREATHING 80% OR MORE OXYGEN AT ATMOSPHERIC
 PRESSURE FOR MORE THAN A FEW HOURS MAY CAUSE NASAL STUFFINESS,
 COUGH, SORE THROAT, CHEST PAIN & BREATHING DIFFICULTY. BREATHING
 OXYGEN AT HIGHER PRESSURE INCREASES THE LIKELIHOOD OF ADVERSE
 EFFECTS WITHIN A SHORTER TIME PERIOD. BREATHING PURE OXYGEN UNDER
 PRESSURE MAY CAUSE LUNG DAMAGE & ALSO CNS EFFECTS, AND MAY CAUSE
 PROLONGATION OF ADAPTATION TO DARKNESS AND REDUCED PERIPHERAL
 VISION.
 Explanation of Carcinogenicity:OXYGEN IS NOT LISTED AS A CARCINOGEN OR
 POTENTIAL CARCINOGEN BY NTP, IARC, OR OSHA SUBPART Z.
 Effects of Overexposure:BREATHING 80% OR MORE OXYGEN AT ATMOSPHERIC
 PRESSURE: NASAL STUFFINESS, COUGH, SORE THROAT, CHEST PAIN &
 BREATHING DIFFICULTY. BREATHING PURE OXYGEN UNDER PRESSURE MAY
 CAUSE LUNG DAMAGE & ALSO CNS EFFECTS RESULTING IN DIZZINESS, POOR

COORDINATION, TINGLING SENSATION, VISUAL & HEARING DISTURBANCES, MUSCULAR TWITCHING, UNCONSCIOUSNESS & CONVULSIONS, MAY CAUSE PROLONGATION OF ADAPTATION TO DARKNESS & REDUCED PERIPHERAL VISION.

Medical Cond Aggravated by Exposure: PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE.

===== First Aid Measures =====

First Aid: INHALATION: MOVE VICTIM TO FRESH AIR OR IF IN ELEVATED PRESSURES REDUCE OXYGEN PRESSURES TO ONE ATMOSPHERE. CALL A PHYSICIAN. THE PHYSICIAN SHOULD BE ADVISED THAT THE VICTIM HAS BEEN EXPOSED TO A HIGH CONCENTRATION OF OXYGEN. NO TREATMENT IS REQUIRED IN THE ABSENCE OF SYMPTOMS OF HIGH PRESSURE EXPOSURE. EYE/SKIN: NOT APPLICABLE. NOTES TO PHYSICIAN: ANIMAL STUDIES SUGGEST THAT THE ADMINISTRATION OF CERTAIN DRUGS, INCLUDING PHENOTHIAZINE DRUGS AND CHLOROQUINE, INCREASE THE SUSCEPTIBILITY TO TOXICITY FROM OXYGEN AT HIGH PRESSURES. ANIMAL STUDIES ALSO INDICATE THAT VITAMIN "E" DEFICIENCY (CONTINUE D TO TOXICOLOGICAL SECTION)

===== Fire Fighting Measures =====

Flash Point: NONFLAMMABLE

Extinguishing Media: OXYGEN IS NONFLAMMABLE BUT WILL SUPPORT COMBUSTION. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

Fire Fighting Procedures: EVACUATE ALL PERSONNEL FROM THE DANGER AREA. IF POSSIBLE, SHUT OFF FLOW OF OXYGEN WHICH IS SUPPORTING THE FIRE. IMMEDIATELY COOL CONTAINERS WITH WATER SPRAY FROM MAXIMUM DISTANCE. WHEN COOL MOVE CYLINDERS FROM FIRE AREA, IF POSSIBLE WITHOUT RISK. SELF CONTAINED BREATHING APPARATUS MAY BE REQUIRED FOR RESCUE WORKERS.

Unusual Fire/Explosion Hazard: OXYGEN VIGOROUSLY ACCELERATES COMBUSTION. SOME MATERIALS WHICH ARE NONCOMBUSTIBLE IN AIR WILL BURN IN THE PRESENCE OF AN OXYGEN ENRICHED ATMOSPHERE (GREATER THEN 23%). FIRE RESISTANT CLOTHING MAY BURN AND OFFER NO PROTECTION IN OXYGEN RICH ATMOSPHERES. OXYGEN MAY FORM EXPLOSIVE COMPOUNDS WHEN EXPOSED TO COMBUSTIBLES.

===== Accidental Release Measures =====

Spill Release Procedures: EVACUATE ALL PERSONNEL FROM AFFECTED AREA. SHUT OFF SOURCE OF OXYGEN IF POSSIBLE. INCREASE VENTILATION TO RELEASE AREA. PERSONNEL WHO HAVE BEEN EXPOSED TO HIGH CONCENTRATIONS OF OXYGEN SHOULD STAY IN A WELL-VENTILATED OR OPEN AREA FOR 30 MINUTES BEFORE GOING INTO A CONFINED SPACE OR NEAR AN IGNITION SOURCE. IF LEAK IS FROM CONTAINER OR ITS VALVE, CALL THE AIR PRODUCTS EMERGENCY TELEPHONE NUMBER.

===== Handling and Storage =====

Handling and Storage Precautions: CYLINDERS SHOULD BE STORED UPRIGHT IN A WELL-VENTILATED, SECURE AREA, PROTECTED FROM THE WEATHER. STORAGE AREA TEMPERATURES SHOULD NOT EXCEED 125F (52C) AND AREA SHOULD BE FREE OF COMBUSTIBLE MATERIALS. STORAGE SHOULD BE AWAY FROM HEAVILY TRAVELED AREAS AND EMERGENCY EXITS.

Other Precautions: SPECIAL REQUIREMENTS: ALWAYS STORE AND HANDLE COMPRESSED GASES IN ACCORDANCE WITH COMPRESSED GAS ASSOCIATION, INC. (PH. 703-412-0900) PAMPHLET CGA P-1, SAFE HANDLING OF COMPRESSED GASES IN CONTAINERS. LOCAL REGULATIONS MAY REQUIRE

SPECIFIC EQUIPMENT FOR STORAGE OR USE.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:GENERAL USE: NONE REQUIRED. EMERGENCY: USE SCBA
DUE TO POSSIBILITY OF FIRE WHEN CONCENTRATIONS EXCEED 23%.

Ventilation:PROVIDE VENTILATION AND/OR LOCAL EXHAUST TO PREVENT
ACCUMULATION OF HIGH CONCENTRATIONS OF GAS (GREATER THAN 23%).

Protective Gloves:WORK GLOVES RECOMMENDED WHEN HANDLING CYLINDERS.

Other Protective Equipment:SAFETY SHOES RECOMMENDED WHEN HANDLING
CYLINDERS.

Work Hygienic Practices:CLOTHING EXPOSED TO HIGH CONCENTRATIONS MAY
RETAIN OXYGEN 30 MINUTES OR LONGER AND BECOME A POTENTIAL FIRE
HAZARD. STAY AWAY FROM IGNITION SOURCES.

Supplemental Safety and Health

CAUTION:COMPRESSED GAS CYLINDERS SHALL NOT BE REFILLED EXCEPT BY
QUALIFIED PRODUCERS OF COMPRESSED GASES. SHIPMENT OF A COMPRESSED
GAS CYLINDER WHICH HAS NOT BEEN FILLED BY THE OWNER OR WITH THE
OWNER 'S WRITTEN CONSENT IS A VIOLATION OF FEDERAL LAW. NSN FOR GAS
ONLY: 6810-01-169-4836.

===== Physical/Chemical Properties =====

HCC:G4

Boiling Pt:=-182.9C, -297.3F

Melt/Freeze Pt:=-218.8C, -361.9F

Vapor Pres:NOT APPLICABLE AT 70F

Spec Gravity:1.10

Solubility in Water:0.049

Appearance and Odor:COLORLESS GAS; ODORLESS.

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

OILS, GREASE, HYDROCARBONS AND FLAMMABLE MATERIALS.

Stability Condition to Avoid:NONE.

Hazardous Decomposition Products:NONE

Conditions to Avoid Polymerization:WILL NOT OCCUR.

===== Toxicological Information =====

Toxicological Information:FROM FIRST AID: VITAMIN E DEFICIAENCY MAY
INCREASE SUSCEPTIBILITY TO OXYGEN TOXICITY. AIRWAY OBSTRUCTION
DURING HIGH OXYGEN TENSION MAY CAUSE ALVEOLAR COLLAPSE FOLLOWING
ABSORPTION OF THE OXYGEN. SIMI LARLY, OCCLUSION OF THE EUSTACHIAN
TUBS MAY CAUSE RETRACTION OF THE EARDRUM AND OBSTRUCTION OF THE
PARANASAL SINUS MAY PRODUCE "VACUUM-TYPE" HEADACHE. ALL INDIVIDUALS
EXPOSED FOR LONG PERIODS TO OXYGE N AT HIGH PRESSURE AND WHO
EXHIBIT OVERT OXYGEN TOXICITY SHOULD HAVE OPHTHALMOLOGIC
EXAMINATIONS.

===== Ecological Information =====

Ecological:ATMOSPHERE CONTAINS 21% OXYGEN. NO ADVERSE ECOLOGICAL
EFFECTS ARE EXPECTED. OXYGEN DOES NOT CONTAIN ANY CLASS I CLASS II
OZONE DEPLETING CHEMICALS. OXYGEN IS LISTED AS A MARINE POLLUTANT
BY DOT (29 CF R 171).

===== Disposal Considerations =====

Waste Disposal Methods:FOR EMERGENCY DISPOSAL, SECURE CYLINDER AND SLOWLY DISCHARGE GAS TO THE ATMOSPHERE IN A WELL-VENTILATED AREA OR OUTDOORS. UNUSED PRODUCT/EMPTY CONTAINER:RETURN CONTAINER AND UNUSED PRODUCT TO SUPPLIER. DO NOT ATTEMPT TO DISPOSE OF RESIDUAL OR UNUSED QUANTITIES.

===== MSDS Transport Information =====

Transport Information:PSN: OXYGEN, COMPRESSED, 2.2, UN1072. LABEL: NON-FLAMMABLE GAS, OXIDIZER.

===== Other Information =====

Disclaimer (provided with this information by the compiling agencies): This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever, expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.



Material Safety Data Sheets

Division of Facilities Services

DOD Hazardous Material Information (ANSI Format) For Cornell University Convenience Only

1000 PPM COBALT

Section 1 - Product and Company Identification	Section 9 - Physical & Chemical Properties
Section 2 - Composition/Information on Ingredients	Section 10 - Stability & Reactivity Data
Section 3 - Hazards Identification Including Emergency Overview	Section 11 - Toxicological Information
Section 4 - First Aid Measures	Section 12 - Ecological Information
Section 5 - Fire Fighting Measures	Section 13 - Disposal Considerations
Section 6 - Accidental Release Measures	Section 14 - MSDS Transport Information
Section 7 - Handling and Storage	Section 15 - Regulatory Information
Section 8 - Exposure Controls & Personal Protection	Section 16 - Other Information

The information in this document is compiled from information maintained by the United States Department of Defense (DOD). Anyone using this information is solely responsible for the accuracy and applicability of this information to a particular use or situation.

Cornell University does not in any way warrant or imply the applicability, viability or use of this information to any person or for use in any situation.

Section 1 - Product and Company Identification 1000 PPM COBALT

Product Identification: 1000 PPM COBALT

Date of MSDS: 03/05/1992 **Technical Review Date:** 11/22/1994

FSC: 6550 **NIIN:** LIIN: 00F037421

Submitter: F BT

Status Code: C

MFN: 01

Article: N

Kit Part: N

Manufacturer's Information

Manufacturer's Name: ENVIRONMENTAL RESOURCE ASSOCIATES
Post Office Box: N/K
Manufacturer's Address1: 5540 MARSHALL ST
Manufacturer's Address2: ARVADA, CO 80002-3108
Manufacturer's Country: US
General Information Telephone: 303-431-8454
Emergency Telephone: 303-431-8454
Emergency Telephone: 303-431-8454
MSDS Preparer's Name: DANIEL A GOLDSTEIN
Proprietary: N
Reviewed: Y
Published: Y
CAGE: 1R664
Special Project Code: N

Preparer Information

Preparer's Name: ENVIRONMENTAL RESOURCE ASSOCIATES
Preparer's Address1: 5540 MARSHALL STREET
Preparer's Address2: ARVADA, CO 80002
Preparer's CAGE: 1R664
Assigned Individual: N

Contractor Information

Contractor's Name: ENVIRONMENTAL RESOURCE ASSOCIATES
Contractor's Address1: 5540 MARSHALL STREET
Contractor's Address2: ARVADA, CO 80002
Contractor's Telephone: 303-431-8454
Contractor's CAGE: 1R664

Section 2 - Composition/Information on Ingredients 1000 PPM COBALT

Ingredient Name: COBALT (ANIMAL CARCINOGEN BY IARC - GROUP 2B) *94-3*
Ingredient CAS Number: 7440-48-4 **Ingredient CAS Code:** M
RTECS Number: GF8750000 **RTECS Code:** M
=WT: =WT Code:
=Volume: =Volume Code:
>WT: >WT Code:
>Volume: >Volume Code:
<WT: <WT Code:
<Volume: <Volume Code:
% Low WT: % Low WT Code:
% High WT: % High WT Code:
% Low Volume: % Low Volume Code:
% High Volume: % High Volume Code:
% Text: <1
% Enviromental Weight:

Other REC Limits: 0.05 PPM
OSHA PEL: 0.05 MG/CUM **OSHA PEL Code:** M
OSHA STEL: **OSHA STEL Code:**
ACGIH TLV: 0.05 MG/CUM **ACGIH TLV Code:** M
ACGIH STEL: N/P **ACGIH STEL Code:**
EPA Reporting Quantity:
DOT Reporting Quantity:
Ozone Depleting Chemical:

Ingredient Name: NITRIC ACID, HYDROGEN NITRATE
Ingredient CAS Number: 7697-37-2 **Ingredient CAS Code:** M
RTECS Number: QU5775000 **RTECS Code:** M
=WT: =WT Code:
=Volume: =Volume Code:
>WT: >WT Code:
>Volume: >Volume Code:
<WT: <WT Code:
<Volume: <Volume Code:
% Low WT: % Low WT Code:
% High WT: % High WT Code:
% Low Volume: % Low Volume Code:
% High Volume: % High Volume Code:
% Text: <5
% Enviromental Weight:
Other REC Limits: N/K
OSHA PEL: 2 PPM **OSHA PEL Code:** M
OSHA STEL: **OSHA STEL Code:**
ACGIH TLV: 5.2 MG/CUM **ACGIH TLV Code:** M
ACGIH STEL: N/P **ACGIH STEL Code:**
EPA Reporting Quantity: 1000 LBS
DOT Reporting Quantity: 1000 LBS
Ozone Depleting Chemical: N

Section 3 - Hazards Identification, Including Emergency Overview

1000 PPM COBALT

Health Hazards Acute & Chronic: POISON & CORROSIVE TO SKIN, EYES, MUCOUS MEMBRANES/LUNGS. MAY BURN ANY TISSUE & CAUSE BLINDNESS. MAY CAUSE GI TRACT PERFORATION, PULMONARY EDEMA. COBALT: HEART FAILURE, SEVERE GASTROENTERITIS.

Signs & Symptoms of Overexposure:
IRRITATION, BURNING, COUGH, METHEMOGLOBINEMIA, PAIN, ABDOMINAL PAIN, FLUSHING, DEAFNESS, RASH, GOITRE, REDNESS, SHORTNESS OF BREATH, VOMITING, CYANOSIS, THYROID ENLARGEMENT, ANKLE SWELLING.

Medical Conditions Aggravated by Exposure:
ASTHMA, THYROID/HEART DISEASE.

LD50 LC50 Mixture: N/P

Route of Entry Indicators:**Inhalation:** YES**Skin:** YES**Ingestion:** YES**Carcenogenicity Indicators****NTP:** NO**IARC:** YES**OSHA:** NO**Carcinogenicity Explanation:** SEE INGREDIENTS

Section 4 - First Aid Measures
1000 PPM COBALT

First Aid:

EYES/SKIN: FLUSH W/COPIOUS AMOUNTS OF WATER. INHALATION: GIVE MOIST OXYGEN. INGESTION: GIVE WATER/MILK. OBTAIN MEDICAL ATTENTION IN ALL CASES.

Section 5 - Fire Fighting Measures
1000 PPM COBALT

Fire Fighting Procedures:

NONE

Unusual Fire or Explosion Hazard:

NONE

Extinguishing Media:

NONE

Flash Point: Flash Point Text: N/K**Autoignition Temperature:****Autoignition Temperature Text:** N/A**Lower Limit(s):** N/K**Upper Limit(s):** N/K

Section 6 - Accidental Release Measures
1000 PPM COBALT

Spill Release Procedures:

NEUTRALIZE & FLUSH W/WATER/NEUTRALIZE & ABOSRB. VENTILATE AREA.

Section 7 - Handling and Storage
1000 PPM COBALT

Handling and Storage Precautions:**Other Precautions:**

Section 8 - Exposure Controls & Personal Protection
1000 PPM COBALT

Respiratory Protection:

WEAR ACID GAS TYPE DUST/MIST RESPIRATOR IF MIST PRODUCTION OCCURS.

Ventilation:

MECHANICAL/LOCAL EXHAUST: USE IN HOOD.

Protective Gloves:

ACID PROOF

Eye Protection: SPLASH GOGGLES

Other Protective Equipment: ACID PROOF APRON W/SLEEVES, LAB COAT, CLOSED SHOES, SAFETY SHOWER, EYE WASH.

Work Hygienic Practices: N/K

Supplemental Health & Safety Information: BOILING POINT (0-5% ACID): 212-212.72F.

Section 9 - Physical & Chemical Properties
1000 PPM COBALT

HCC:

NRC/State License Number:

Net Property Weight for Ammo:

Boiling Point: Boiling Point Text: (SEE SUPP)

Melting/Freezing Point: Melting/Freezing Text: N/K

Decomposition Point: Decomposition Text: N/K

Vapor Pressure: 28 **Vapor Density:** >1

Percent Volatile Organic Content:

Specific Gravity: 1

Volatile Organic Content Pounds per Gallon:

pH: <1

Volatile Organic Content Grams per Liter:

Viscosity: N/P

Evaporation Weight and Reference: (WATER =1): 1

Solubility in Water: COMPLETE

Appearance and Odor: RED LIQUID W/NO ODOR

Percent Volatiles by Volume: N/K

Corrosion Rate: N/K

Section 10 - Stability & Reactivity Data
1000 PPM COBALT

Stability Indicator: YES

Materials to Avoid:

METALS

Stability Condition to Avoid:

FREEZING

Hazardous Decomposition Products:

HYDROGEN

Hazardous Polymerization Indicator: NO

Conditions to Avoid Polymerization:

NONE

Section 11 - Toxicological Information
1000 PPM COBALT

Toxicological Information:

N/P

Section 12 - Ecological Information
1000 PPM COBALT

Ecological Information:

N/P

Section 13 - Disposal Considerations
1000 PPM COBALT

Waste Disposal Methods:

DISPOSE OF AS NON-HAZARDOUS WASTE IAW/FEDERAL, STATE & LOCAL REGULATIONS.

Section 14 - MSDS Transport Information
1000 PPM COBALT

Transport Information:

N/P

Section 15 - Regulatory Information
1000 PPM COBALT

SARA Title III Information:

N/P

Federal Regulatory Information:

N/P

State Regulatory Information:

N/P

Section 16 - Other Information
1000 PPM COBALT

Other Information:

N/P

HAZCOM Label Information**Product Identification:** 1000 PPM COBALT**CAGE:** 1R664**Assigned Individual:** N**Company Name:** ENVIRONMENTAL RESOURCE ASSOCIATES**Company PO Box:****Company Street Address1:** 5540 MARSHALL STREET**Company Street Address2:** ARVADA, CO 80002 US**Health Emergency Telephone:** 303-431-8454**Label Required Indicator:** Y**Date Label Reviewed:** 12/16/1998**Status Code:** C**Manufacturer's Label Number:****Date of Label:** 12/16/1998**Year Procured:** N/K

Organization Code: G
Chronic Hazard Indicator: N/P
Eye Protection Indicator: N/P
Skin Protection Indicator: N/P
Respiratory Protection Indicator: N/P
Signal Word: N/P
Health Hazard:
Contact Hazard:
Fire Hazard:
Reactivity Hazard:

8/8/2002 4:22:58 PM



New Jersey Department of Health and Senior Services

HAZARDOUS SUBSTANCE FACT SHEET

Common Name: **CADMIUM**

CAS Number: 7440-43-9

DOT Number: UN 2570

RTK Substance number: 0305

Date: April 1994

Revision: December 1999

HAZARD SUMMARY

- * **Cadmium** can affect you when breathed in.
- * **Cadmium** is a CARCINOGEN and a TERATOGEN -- HANDLE WITH EXTREME CAUTION.
- * **Cadmium** can cause a flu-like illness with chills, headache, aching and/or fever.
- * High exposure to **Cadmium** may cause nausea, salivation, vomiting, abdominal cramps and diarrhea.
- * Breathing **Cadmium** can irritate the lungs causing coughing and/or shortness of breath. Higher exposures can cause a build-up of fluid in the lungs (pulmonary edema), a medical emergency, with severe shortness of breath.
- * Repeated low exposures can cause kidney and liver damage, anemia, and loss of smell.

IDENTIFICATION

Cadmium is a blue-white solid or gray-black powder. It is used in silver solder, making batteries and metal plating, for plastics and pigments, and as a catalyst.

REASON FOR CITATION

- * **Cadmium** is on the Hazardous Substance List because it is regulated by OSHA and cited by ACGIH, DOT, NIOSH, NTP, DEP, IARC, HHAG and EPA.
- * This chemical is on the Special Health Hazard Substance List because it is a **CARCINOGEN** and a **TERATOGEN**.
- * Definitions are provided on page 5.

HOW TO DETERMINE IF YOU ARE BEING EXPOSED

The New Jersey Right to Know Act requires most employers to label chemicals in the workplace and requires public employers to provide their employees with information and training concerning chemical hazards and controls. The federal OSHA Hazard Communication Standard, 1910.1200, requires private employers to provide similar training and information to their employees.

- * Exposure to hazardous substances should be routinely evaluated. This may include collecting personal and area air samples. You can obtain copies of sampling results from your employer. You have a legal right to this information under OSHA 1910.1020.

- * If you think you are experiencing any work-related health problems, see a doctor trained to recognize occupational diseases. Take this Fact Sheet with you.

WORKPLACE EXPOSURE LIMITS

OSHA: The legal airborne permissible exposure limit (PEL) is **0.005 mg/m³** for **Cadmium dust or fume** averaged over an 8-hour workshift.

OSHA has recognized that some processes in certain industries may be unable to achieve the **0.005 mg/m³** limit through engineering and work practices. These industries must follow SECALs (separate engineering control air limits) of either **0.015** or **0.05 mg/m³**.

NIOSH: Recommends that exposure to occupational carcinogens be limited to the lowest feasible concentration.

ACGIH: The recommended airborne exposure limit is **0.01 mg/m³** for *elemental Cadmium* and **0.002 mg/m³** for *Cadmium compounds (respirable fraction)*, averaged over an 8-hour workshift.

- * **Cadmium** is a PROBABLE CARCINOGEN in humans. There may be no safe level of exposure to a carcinogen, so all contact should be reduced to the lowest possible level.

WAYS OF REDUCING EXPOSURE

- * Enclose operations and use local exhaust ventilation at the site of chemical release. If local exhaust ventilation or enclosure is not used, respirators should be worn.
- * A regulated, marked area should be established where **Cadmium** is handled, used, or stored as required by the OSHA Standard: 29 CFR 1910.1027.
- * Wear protective work clothing.
- * Wash thoroughly immediately after exposure to **Cadmium** and at the end of the workshift.
- * Post hazard and warning information in the work area. In addition, as part of an ongoing education and training effort, communicate all information on the health and safety hazards of **Cadmium** to potentially exposed workers.

This Fact Sheet is a summary source of information of all potential and most severe health hazards that may result from exposure. Duration of exposure, concentration of the substance and other factors will affect your susceptibility to any of the potential effects described below.

Metal, metal compounds and alloys are often used in “hot” operations in the workplace. These may include, but are not limited to, welding, brazing, soldering, plating, cutting, and metallizing. At the high temperatures reached in these operations, metals often form metal fumes which have different health effects and exposure standards than the original metal or metal compound and require specialized controls. Your workplace can be evaluated for the presence of particular fumes which may be generated. Consult the appropriate New Jersey Department of Health and Senior Services Hazardous Substance Fact Sheets.

HEALTH HAZARD INFORMATION

Acute Health Effects

The following acute (short-term) health effects may occur immediately or shortly after exposure to **Cadmium**:

- * **Cadmium** can cause a flu-like illness with chills, headache, aching and/or fever.
- * High exposure to **Cadmium** may cause nausea, salivation, vomiting, abdominal cramps and diarrhea.
- * Breathing **Cadmium** can irritate the lungs causing coughing and/or shortness of breath. Higher exposures can cause a build-up of fluid in the lungs (pulmonary edema), a medical emergency, with severe shortness of breath.

Chronic Health Effects

The following chronic (long-term) health effects can occur at some time after exposure to **Cadmium** and can last for months or years:

Cancer Hazard

- * **Cadmium** is a PROBABLE CARCINOGEN in humans. There is some evidence that it causes prostate and kidney cancer in humans and it has been shown to cause lung and testes cancer in animals.
- * Many scientists believe there is no safe level of exposure to a carcinogen.

Reproductive Hazard

- * **Cadmium** is a PROBABLE TERATOGEN in humans.
- * **Cadmium** may damage the testes (male reproductive glands) and may affect the female reproductive cycle.

Other Long-Term Effects

- * **Cadmium** can irritate the lungs. Repeated exposure may cause bronchitis to develop with cough, phlegm, and/or shortness of breath.

- * Repeated low exposures can cause permanent kidney damage which can lead to kidney stones.
- * Long term exposure can cause anemia, loss of sense of smell, fatigue and/or yellow staining of teeth.
- * **Cadmium** can damage the liver.

MEDICAL

Medical Testing

For those with frequent or potentially high exposure (half the TLV or greater, or significant skin contact), the following are recommended before beginning work and at regular times after that:

- * Blood test for **Cadmium** (levels should be less than **5 micrograms per liter** of whole blood).
- * Urine test for **Cadmium** (levels should be less than **3 micrograms per liter** of urine).
- * Urine test for Beta-2-microglobulin to detect kidney damage.
- * Urinalysis (UA).
- * Lung function tests.
- * Liver function tests.
- * Complete blood count.
- * Consider chest x-ray after acute overexposure.

Any evaluation should include a careful history of past and present symptoms with an exam. Medical tests that look for damage already done are not a substitute for controlling exposure.

Request copies of your medical testing. You have a legal right to this information under OSHA 1910.1020.

Mixed Exposures

- * Cigarette smoke contains some **Cadmium**. Because it is hard for the body to eliminate **Cadmium**, it tends to build up in the body. Any workplace exposure adds to these levels.
- * Smoking cigarettes near **Cadmium** increases release of toxic fumes. Also, because both smoking and **Cadmium** can cause emphysema, lung effects may be greater in smokers.

WORKPLACE CONTROLS AND PRACTICES

Unless a less toxic chemical can be substituted for a hazardous substance, **ENGINEERING CONTROLS** are the most effective way of reducing exposure. The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release. Isolating operations can also reduce exposure. Using respirators or protective equipment is less effective than the controls mentioned above, but is sometimes necessary.

In evaluating the controls present in your workplace, consider: (1) how hazardous the substance is, (2) how much of the substance is released into the workplace and (3) whether harmful skin or eye contact could occur. Special controls should be in place for highly toxic chemicals or when significant skin, eye, or breathing exposures are possible.

In addition, the following controls are recommended:

- * If **Cadmium** is used in a “hot” process such as smelting, steel fabricating or melting **Cadmium ingots**, **Cadmium fume** may be released. This is more acutely toxic than **Cadmium dust** and proper controls and protective equipment are necessary.
- * Where possible, automatically transfer **Cadmium** from drums or other storage containers to process containers.
- * Specific engineering controls are required for this chemical by OSHA. Refer to the OSHA Standards: 1910.1027, 1915.1027, 1926.63, and 1928.1027.

Good **WORK PRACTICES** can help to reduce hazardous exposures. The following work practices are recommended:

- * Workers whose clothing has been contaminated by **Cadmium** should change into clean clothing promptly.
- * Do not take contaminated work clothes home. Family members could be exposed.
- * Contaminated work clothes should be laundered by individuals who have been informed of the hazards of exposure to **Cadmium**.
- * Eye wash fountains should be provided in the immediate work area for emergency use.
- * If there is the possibility of skin exposure, emergency shower facilities should be provided.
- * On skin contact with **Cadmium**, immediately wash or shower to remove the chemical. At the end of the workshift, wash any areas of the body that may have contacted **Cadmium**, whether or not known skin contact has occurred.
- * Do not eat, smoke, or drink where **Cadmium** is handled, processed, or stored, since the chemical can be swallowed. Wash hands carefully before eating, drinking, smoking, or using the toilet.
- * Use a vacuum or a wet method to reduce dust during clean-up. DO NOT DRY SWEEP.

PERSONAL PROTECTIVE EQUIPMENT

WORKPLACE CONTROLS ARE BETTER THAN PERSONAL PROTECTIVE EQUIPMENT. However, for some jobs (such as outside work, confined space entry, jobs done only once in a while, or jobs done while workplace controls are being installed), personal protective equipment may be appropriate.

OSHA 1910.132 requires employers to determine the appropriate personal protective equipment for each hazard and to train employees on how and when to use protective equipment.

The following recommendations are only guidelines and may not apply to every situation.

Clothing

- * Avoid skin contact with **Cadmium**. Wear protective gloves and clothing. Safety equipment suppliers/manufacturers can provide recommendations on the most protective glove/clothing material for your operation.
- * All protective clothing (suits, gloves, footwear, headgear) should be clean, available each day, and put on before work.

Eye Protection

- * Wear impact resistant eye protection with side shields or goggles.
- * Wear a face shield along with goggles when working with corrosive, highly irritating or toxic substances.

Respiratory Protection

IMPROPER USE OF RESPIRATORS IS DANGEROUS.

Such equipment should only be used if the employer has a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing and medical exams, as described in OSHA 1910.134.

- * Where the potential exists for exposure over **0.002 mg/m³**, use a MSHA/NIOSH approved supplied-air respirator with a full facepiece operated in a pressure-demand or other positive-pressure mode. For increased protection use in combination with an auxiliary self-contained breathing apparatus operated in a pressure-demand or other positive-pressure mode.
- * Exposure to **9 mg/m³** is immediately dangerous to life and health. If the possibility of exposure above **9 mg/m³** exists, use a MSHA/NIOSH approved self-contained breathing apparatus with a full facepiece operated in a pressure-demand or other positive-pressure mode.

HANDLING AND STORAGE

- * Prior to working with **Cadmium** you should be trained on its proper handling and storage.
- * A regulated, marked area should be established where **Cadmium** is handled, used, or stored as required by the OSHA Standard: 1910.1027.
- * **Cadmium powder** and **metal** must be stored to avoid contact with POTASSIUM, HYDRAZOIC ACID, and OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE) since violent reactions occur.
- * **Cadmium** may react with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) to release flammable *Hydrogen gas*.
- * **Cadmium powder** is not compatible with SULFUR, SELENIUM, TELLURIUM, AMMONIUM NITRATE, and ZINC.
- * Store in tightly closed containers in a cool, well-ventilated area away from AIR.

- * Sources of ignition, such as smoking and open flames, are prohibited where **Cadmium powder** is used, handled, or stored.
- * Store **Cadmium powder** under *Nitrogen*.

QUESTIONS AND ANSWERS

- Q: If I have acute health effects, will I later get chronic health effects?
- A: Not always. Most chronic (long-term) effects result from repeated exposures to a chemical.
- Q: Can I get long-term effects without ever having short-term effects?
- A: Yes, because long-term effects can occur from repeated exposures to a chemical at levels not high enough to make you immediately sick.
- Q: What are my chances of getting sick when I have been exposed to chemicals?
- A: The likelihood of becoming sick from chemicals is increased as the amount of exposure increases. This is determined by the length of time and the amount of material to which someone is exposed.
- Q: When are higher exposures more likely?
- A: Conditions which increase risk of exposure include dust releasing operations (grinding, mixing, blasting, dumping, etc.), other physical and mechanical processes (heating, pouring, spraying, spills and evaporation from large surface areas such as open containers), and "confined space" exposures (working inside vats, reactors, boilers, small rooms, etc.).
- Q: Is the risk of getting sick higher for workers than for community residents?
- A: Yes. Exposures in the community, except possibly in cases of fires or spills, are usually much lower than those found in the workplace. However, people in the community may be exposed to contaminated water as well as to chemicals in the air over long periods. This may be a problem for children or people who are already ill.
- Q: Don't all chemicals cause cancer?
- A: No. Most chemicals tested by scientists are not cancer-causing.
- Q: Should I be concerned if a chemical causes cancer in animals?
- A: Yes. Most scientists agree that a chemical that causes cancer in animals should be treated as a suspected human carcinogen unless proven otherwise.
- Q: But don't they test animals using much higher levels of a chemical than people usually are exposed to?
- A: Yes. That's so effects can be seen more clearly using fewer animals. But high doses alone don't cause cancer unless it's a cancer agent. In fact, a chemical that causes cancer in animals at high doses could cause cancer in humans exposed to low doses.

- Q: Can men as well as women be affected by chemicals that cause reproductive system damage?
- A: Yes. Some chemicals reduce potency or fertility in both men and women. Some damage sperm and eggs, possibly leading to birth defects.
- Q: Who is at the greatest risk from reproductive hazards?
- A: Pregnant women are at greatest risk from chemicals that harm the developing fetus. However, chemicals may affect the ability to have children, so both men and women of childbearing age are at high risk.

The following information is available from:

New Jersey Department of Health and Senior Services
Occupational Health Service
PO Box 360
Trenton, NJ 08625-0360
(609) 984-1863
(609) 292-5677 (fax)

Web address: <http://www.state.nj.us/health/eoh/odisweb/>

Industrial Hygiene Information

Industrial hygienists are available to answer your questions regarding the control of chemical exposures using exhaust ventilation, special work practices, good housekeeping, good hygiene practices, and personal protective equipment including respirators. In addition, they can help to interpret the results of industrial hygiene survey data.

Medical Evaluation

If you think you are becoming sick because of exposure to chemicals at your workplace, you may call personnel at the Department of Health and Senior Services, Occupational Health Service, who can help you find the information you need.

Public Presentations

Presentations and educational programs on occupational health or the Right to Know Act can be organized for labor unions, trade associations and other groups.

Right to Know Information Resources

The Right to Know Infoline (609) 984-2202 can answer questions about the identity and potential health effects of chemicals, list of educational materials in occupational health, references used to prepare the Fact Sheets, preparation of the Right to Know survey, education and training programs, labeling requirements, and general information regarding the Right to Know Act. Violations of the law should be reported to (609) 984-2202.

DEFINITIONS

ACGIH is the American Conference of Governmental Industrial Hygienists. It recommends upper limits (called TLVs) for exposure to workplace chemicals.

A **carcinogen** is a substance that causes cancer.

The **CAS number** is assigned by the Chemical Abstracts Service to identify a specific chemical.

A **combustible** substance is a solid, liquid or gas that will burn.

A **corrosive** substance is a gas, liquid or solid that causes irreversible damage to human tissue or containers.

DEP is the New Jersey Department of Environmental Protection.

DOT is the Department of Transportation, the federal agency that regulates the transportation of chemicals.

EPA is the Environmental Protection Agency, the federal agency responsible for regulating environmental hazards.

A **fetus** is an unborn human or animal.

A **flammable** substance is a solid, liquid, vapor or gas that will ignite easily and burn rapidly.

The **flash point** is the temperature at which a liquid or solid gives off vapor that can form a flammable mixture with air.

HHAG is the Human Health Assessment Group of the federal EPA.

IARC is the International Agency for Research on Cancer, a scientific group that classifies chemicals according to their cancer-causing potential.

A **miscible** substance is a liquid or gas that will evenly dissolve in another.

mg/m³ means milligrams of a chemical in a cubic meter of air. It is a measure of concentration (weight/volume).

MSHA is the Mine Safety and Health Administration, the federal agency that regulates mining. It also evaluates and approves respirators.

A **mutagen** is a substance that causes mutations. A **mutation** is a change in the genetic material in a body cell. Mutations can lead to birth defects, miscarriages, or cancer.

NAERG is the North American Emergency Response Guidebook. It was jointly developed by Transport Canada, the United States Department of Transportation and the Secretariat of Communications and Transportation of Mexico. It is a guide for first responders to quickly identify the specific or generic hazards of material involved in a transportation incident, and to protect themselves and the general public during the initial response phase of the incident.

NCI is the National Cancer Institute, a federal agency that determines the cancer-causing potential of chemicals.

NFPA is the National Fire Protection Association. It classifies substances according to their fire and explosion hazard.

NIOSH is the National Institute for Occupational Safety and Health. It tests equipment, evaluates and approves respirators, conducts studies of workplace hazards, and proposes standards to OSHA.

NTP is the National Toxicology Program which tests chemicals and reviews evidence for cancer.

OSHA is the Occupational Safety and Health Administration, which adopts and enforces health and safety standards.

PEOSHA is the Public Employees Occupational Safety and Health Act, a state law which sets PELs for New Jersey public employees.

ppm means parts of a substance per million parts of air. It is a measure of concentration by volume in air.

A **reactive** substance is a solid, liquid or gas that releases energy under certain conditions.

A **teratogen** is a substance that causes birth defects by damaging the fetus.

TLV is the Threshold Limit Value, the workplace exposure limit recommended by ACGIH.

The **vapor pressure** is a measure of how readily a liquid or a solid mixes with air at its surface. A higher vapor pressure indicates a higher concentration of the substance in air and therefore increases the likelihood of breathing it in.

FIRST AID

In NJ, for POISON INFORMATION call 1-800-764-7661

Hazard rating	NJDHSS	NFPA
FLAMMABILITY	Not Found	Not Rated
REACTIVITY	Not Found	Not Rated
CARCINOGEN FLAMMABLE IN POWDER FORM TOXIC FUMES ARE PRODUCED IN FIRE CONTAINERS MAY EXPLODE IN FIRE		

Hazard Rating Key: 0=minimal; 1=slight; 2=moderate; 3=serious; 4=severe

FIRE HAZARDS

- * **Cadmium** is a noncombustible solid but finely divided **Cadmium powder** is FLAMMABLE.
- * Use dry chemical or CO₂ extinguishers for **Cadmium powder**.
- * FIRE MAY RESTART AFTER IT HAS BEEN EXTINGUISHED.
- * TOXIC FUMES ARE PRODUCED IN A FIRE.
- * CONTAINERS MAY EXPLODE IN FIRE.
- * If employees are expected to fight fires, they must be trained and equipped as stated in OSHA 1910.156.

SPILLS AND EMERGENCIES

If **Cadmium powder** is spilled, take the following steps:

- * Evacuate persons not wearing protective equipment from area of spill until clean-up is complete.
- * Remove all ignition sources.
- * Collect powdered material in the most convenient and safe manner and deposit in sealed containers.
- * Ventilate and wash area after clean-up is complete.
- * It may be necessary to contain and dispose of **Cadmium** as a HAZARDOUS WASTE. Contact your Department of Environmental Protection (DEP) or your regional office of the federal Environmental Protection Agency (EPA) for specific recommendations.
- * If employees are required to clean-up spills, they must be properly trained and equipped. OSHA 1910.120(q) may be applicable.

FOR LARGE SPILLS AND FIRES immediately call your fire department. You can request emergency information from the following:

CHEMTREC: (800) 424-9300
NJDEP HOTLINE: (609) 292-7172

HANDLING AND STORAGE (See page 3)

Eye Contact

- * Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting upper and lower lids. Seek medical attention immediately.

Skin Contact

- * Remove contaminated clothing. Wash contaminated skin with soap and water.

Breathing

- * Remove the person from exposure.
- * Begin rescue breathing (using universal precautions) if breathing has stopped and CPR if heart action has stopped.
- * Transfer promptly to a medical facility.
- * Medical observation is recommended for 24 to 48 hours after breathing overexposure, as pulmonary edema may be delayed.

PHYSICAL DATA

Vapor Pressure: 0 mm Hg at 68°F (20°C)

Water Solubility: Insoluble

OTHER COMMONLY USED NAMES

Chemical Name:

Cadmium

Other Names:

C.I. 77180; Colloidal Cadmium

Not intended to be copied and sold for commercial purposes.

NEW JERSEY DEPARTMENT OF HEALTH AND
SENIOR SERVICES

Right to Know Program

PO Box 368, Trenton, NJ 08625-0368
(609) 984-2202

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATHESON TRI-GAS, INC.
150 Allen Road Suite 302
Basking Ridge, New Jersey 07920
Information: 1-800-416-2505

Emergency Contact:
CHEMTREC 1-800-424-9300
Calls Originating Outside the US:
703-527-3887 (Collect Calls Accepted)

SUBSTANCE: BUTYL BENZENE

TRADE NAMES/SYNONYMS:

MTG MSDS 139; BUTYLBENZENE; 1-PHENYLBUTANE; N-BUTYLBENZENE; UN 2709; MAT03530; RTECS CY9070000

CHEMICAL FAMILY: hydrocarbons, aromatic

CREATION DATE: Jan 24 1989

REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: BUTYL BENZENE

CAS NUMBER: 104-51-8

PERCENTAGE: 100

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=2 REACTIVITY=0



EMERGENCY OVERVIEW:

COLOR: colorless

PHYSICAL FORM: liquid

ODOR: odorless

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression

PHYSICAL HAZARDS: Combustible liquid and vapor.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation, vomiting, headache, symptoms of drunkenness, coma

LONG TERM EXPOSURE: lung damage

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation, headache, symptoms of drunkenness

LONG TERM EXPOSURE: same as effects reported in short term exposure

EYE CONTACT:

SHORT TERM EXPOSURE: irritation, tearing

LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:

SHORT TERM EXPOSURE: vomiting, headache, symptoms of drunkenness, coma

LONG TERM EXPOSURE: lung damage

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: DO NOT induce vomiting. Never make an unconscious person vomit or drink fluids. If vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention.

NOTE TO PHYSICIAN: For inhalation, consider oxygen. For ingestion, consider gastric lavage, catharsis and activated charcoal slurry.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Severe fire hazard. Vapor/air mixtures are explosive above flash point. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water, regular foam

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny

entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

FLASH POINT: 160 F (71 C) (OC)

LOWER FLAMMABLE LIMIT: 0.8%

UPPER FLAMMABLE LIMIT: 5.8%

AUTOIGNITION: 770 F (410 C)

FLAMMABILITY CLASS (OSHA): IIIA

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

BUTYL BENZENE:

No occupational exposure limits established.

VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before

use.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid

COLOR: colorless

ODOR: odorless

MOLECULAR WEIGHT: 134.21

MOLECULAR FORMULA: C₁₀-H₁₄

BOILING POINT: 356 F (180 C)

FREEZING POINT: -116 F (-82 C)

VAPOR PRESSURE: 1 mmHg @ 23 C

VAPOR DENSITY (air=1): 4.6

SPECIFIC GRAVITY (water=1): 0.9

WATER SOLUBILITY: insoluble

PH: Not available

VOLATILITY: Not available

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not available

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SOLVENT SOLUBILITY:

Miscible: alcohol, ether, benzene

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat. Keep out of water supplies and sewers.

INCOMPATIBILITIES: oxidizing materials

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: miscellaneous decomposition products

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

BUTYL BENZENE:

LOCAL EFFECTS:

Irritant: inhalation, skin, eye

TARGET ORGANS: central nervous system

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

INVERTEBRATE TOXICITY: 340 ug/L 48 hour(s) EC50 (Immobilization) Water flea (Daphnia magna)

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Butyl benzenes

ID NUMBER: UN2709

HAZARD CLASS OR DIVISION: 3

PACKING GROUP: III

LABELING REQUIREMENTS: 3

MARINE POLLUTANT: BUTYL BENZENE



CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Butylbenzenes

UN NUMBER: UN2709

CLASS: 3

PACKING GROUP/CATEGORY: III

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart B): Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart C): Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B

and C):

ACUTE: Yes

CHRONIC: No

FIRE: Yes

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29 CFR 1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDL): Not determined.

16. OTHER INFORMATION

©Copyright 1984-2009 ChemADVISOR, Inc. All rights reserved.

MATHESON TRI-GAS, INC. MAKES NO EXPRESS OR IMPLIED WARRANTIES, GUARANTEES OR REPRESENTATIONS REGARDING THE PRODUCT OR THE INFORMATION HEREIN, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR USE. MATHESON TRI-GAS, INC. SHALL NOT BE LIABLE FOR ANY PERSONAL INJURY, PROPERTY OR OTHER DAMAGES OF ANY NATURE, WHETHER COMPENSATORY, CONSEQUENTIAL, EXEMPLARY, OR OTHERWISE, RESULTING FROM ANY PUBLICATION, USE OR RELIANCE UPON THE INFORMATION HEREIN.



Division of Facilities Services

**DOD Hazardous Material Information (ANSI Format)
For Cornell University Convenience Only**

BENZENE

Section 1 - Product and Company Identification	Section 9 - Physical & Chemical Properties
Section 2 - Composition/Information on Ingredients	Section 10 - Stability & Reactivity Data
Section 3 - Hazards Identification Including Emergency Overview	Section 11 - Toxicological Information
Section 4 - First Aid Measures	Section 12 - Ecological Information
Section 5 - Fire Fighting Measures	Section 13 - Disposal Considerations
Section 6 - Accidental Release Measures	Section 14 - MSDS Transport Information
Section 7 - Handling and Storage	Section 15 - Regulatory Information
Section 8 - Exposure Controls & Personal Protection	Section 16 - Other Information

The information in this document is compiled from information maintained by the United States Department of Defense (DOD). Anyone using this information is solely responsible for the accuracy and applicability of this information to a particular use or situation.

Cornell University does not in any way warrant or imply the applicability, viability or use of this information to any person or for use in any situation.

Section 1 - Product and Company Identification
BENZENE

Product Identification: BENZENE

Date of MSDS: 01/01/1985 **Technical Review Date:** 02/29/1984

FSC: 6810 **NIIN:** 00-973-8588

Submitter: N EN

Status Code: C

MFN: 01

Article: N

Kit Part: N

Manufacturer's Information

Manufacturer's Name: BURDICK & JACKSON LAB (SEE SUP DATA)
Manufacturer's Address1: 1953 S HARVEY STREET
Manufacturer's Address2: MUSKEGON, MI 49442-6101
Manufacturer's Country: US
General Information Telephone: 616-726-3171
Emergency Telephone: 616-726-3171
Emergency Telephone: 616-726-3171
MSDS Preparer's Name: N/P
Proprietary: N
Reviewed: Y
Published: Y
CAGE: BURDI
Special Project Code: N

Item Description

Item Name: BENZENE,ACS
Item Manager:
Specification Number: NK
Type/Grade/Class: NK
Unit of Issue:
Unit of Issue Quantity:
Type of Container: BOTTLE,GLASS

Contractor Information

Contractor's Name: BURDICK & JACKSON, INC.
Contractor's Address1: 1953 S. HARVEY STREET
Contractor's Address2: MUSKEGON, MI 49442
Contractor's Telephone: 616-726-3171
Contractor's CAGE: BURDI

Contractor Information

Contractor's Name: BURDICK AND JACKSON DIV OF BAXTER HEALTHCARE CORP.
Contractor's Address1: 1953 S HARVEY STREET
Contractor's Address2: MUSKEGON, MI 49442-6101
Contractor's Telephone: 616-726-3171, CHEMTREC 800-424-9300
Contractor's CAGE: 2H215

Section 2 - Composition/Information on Ingredients

BENZENE

Ingredient Name: BENZENE (SARA III)
Ingredient CAS Number: 71-43-2 **Ingredient CAS Code:** M
RTECS Number: CY1400000 **RTECS Code:** M
=WT: =WT Code:
=Volume: =Volume Code:
>WT: >WT Code:

>Volume: >Volume Code:
<WT: <WT Code:
<Volume: <Volume Code:
% Low WT: % Low WT Code:
% High WT: % High WT Code:
% Low Volume: % Low Volume Code:
% High Volume: % High Volume Code:
% Text: >90
% Enviromental Weight:
Other REC Limits: N/P
OSHA PEL: 1PPM/5STEL;1910.1028 OSHA PEL Code: M
OSHA STEL: OSHA STEL Code:
ACGIH TLV: 10 PPM; A2; 9192 ACGIH TLV Code: M
ACGIH STEL: N/P ACGIH STEL Code:
EPA Reporting Quantity: 10 LBS
DOT Reporting Quantity: 10 LBS
Ozone Depleting Chemical: N

Section 3 - Hazards Identification, Including Emergency Overview BENZENE

Health Hazards Acute & Chronic: N/P

Signs & Symptoms of Overexposure:

EYE: IRRIT. VAPOR: DIZZY,NAUSEA,INCOORDINATION,STUPOR,UNCONSCIOUSNESS &
CHANGE IN BLOOD COMPOSITION.

Medical Conditions Aggravated by Exposure:

N/P

LD50 LC50 Mixture: N/P

Route of Entry Indicators:

Inhalation: N/P

Skin: N/P

Ingestion: N/P

Carcenogenicity Indicators

NTP: N/P

IARC: N/P

OSHA: N/P

Carcinogenicity Explanation: N/P

Section 4 - First Aid Measures BENZENE

First Aid:

EYE: FLUSH WITH WATER 15 MIN,GET MED ATTN. INHALATION: REMOVE FROM
EXPOSURE,GIVE ARTIFICIAL RESPIRATION IF NEEDED,GET MEDICAL ASSISTANCE.

Section 5 - Fire Fighting Measures

BENZENE

Fire Fighting Procedures:

SELF-CONT BREATH APP, WATER FOG TO COOL EXPOSED CONTAINERS.

Unusual Fire or Explosion Hazard:

BURNS VIGOROUSLY AND EMITS ACID FUMES.

Extinguishing Media:

FOAM, CO₂, DRY CHEMICAL

Flash Point: **Flash Point Text:** 12F/-11C

Autoignition Temperature:

Autoignition Temperature Text: N/A

Lower Limit(s): 1.3

Upper Limit(s): 7.9

Section 6 - Accidental Release Measures

BENZENE

Spill Release Procedures:

PROTECT FROM IGNITION. WEAR SELF CONTAINED BREATHING APPARATUS.

Section 7 - Handling and Storage

BENZENE

Handling and Storage Precautions:**Other Precautions:**

Section 8 - Exposure Controls & Personal Protection

BENZENE

Respiratory Protection:

NIOSH/MSHA APPROVED RESP DEVICE IN ACCORD WITH EXPOSURE OF CONCERN.

Ventilation:

LOCAL/HIGH RATE MECHANICAL

Protective Gloves:

CHEMICAL TYPE

Eye Protection: GOGGLES/FACE MASK

Other Protective Equipment: AS REQUIRED TO PREVENT SKIN CONTACT.

Work Hygienic Practices: N/P

Supplemental Health & Safety Information: MFR CONT: PHILLIPS PETROL CO MFR'S THE RAW MATERIAL, BURDICK & JACKSON LAB. REFINES IT TO DESIRED PCT, SPEC & GRADE. CONTAINER SIZE: 500 ML BOTTLE

Section 9 - Physical & Chemical Properties

BENZENE

HCC: F5

NRC/State License Number: N/A
Net Property Weight for Ammo: N/A
Boiling Point: Boiling Point Text: 176F/80C
Melting/Freezing Point: Melting/Freezing Text: N/A
Decomposition Point: Decomposition Text: N/A
Vapor Pressure: 100 **Vapor Density:** 2.77
Percent Volatile Organic Content:
Specific Gravity: 0.884
Volatile Organic Content Pounds per Gallon:
pH: N/P
Volatile Organic Content Grams per Liter:
Viscosity: N/P
Evaporation Weight and Reference: <1 (ETHYL ETHER)
Solubility in Water: NEGLIGIBLE
Appearance and Odor: COLORLESS LIQUID. AROMATIC HYDROCARBON ODOR
Percent Volatiles by Volume: 100
Corrosion Rate: N/P

Section 10 - Stability & Reactivity Data BENZENE

Stability Indicator: YES
Materials to Avoid:
STRONG OXIDANTS
Stability Condition to Avoid:
N/P
Hazardous Decomposition Products:
N/P
Hazardous Polymerization Indicator: NO
Conditions to Avoid Polymerization:
N/P

Section 11 - Toxicological Information BENZENE

Toxicological Information:
N/P

Section 12 - Ecological Information BENZENE

Ecological Information:
N/P

Section 13 - Disposal Considerations BENZENE

Waste Disposal Methods:
BURN UNDER CONTROLLED CONDITIONS. COMPLY WITH LOCAL, STATE AND FEDERAL REGULATIONS.

Section 14 - MSDS Transport Information

BENZENE

Transport Information:N/P

Section 15 - Regulatory Information**BENZENE**

SARA Title III Information:

N/P

Federal Regulatory Information:

N/P

State Regulatory Information:N/P

Section 16 - Other Information**BENZENE**

Other Information:

N/P

HMIS Transportation Information**Product Identification:** BENZENE**Transportation ID Number:** 95976**Responsible Party CAGE:** BURDI**Date MSDS Prepared:** 01/01/1985**Date MSDS Reviewed:** 09/05/1986**MFN:** 09/05/1986**Submitter:** N TN**Status Code:** C**Container Information****Unit of Issue:****Container Quantity:****Type of Container:** BOTTLE, GLASS**Net Unit Weight:****Article without MSDS:** N**Technical Entry NOS Shipping Number:****Radioactivity:****Form:****Net Explosive Weight:****Coast Guard Ammunition Code:****Magnetism:** N/P**AF MMAC Code:****DOD Exemption Number:****Limited Quantity Indicator:****Multiple Kit Number:** 0**Kit Indicator:** N**Kit Part Indicator:** N**Review Indicator:** Y**Additional Data:**

Department of Transportation Information**DOT Proper Shipping Name:** BENZENE**DOT PSN Code:** BRS**Symbols:****DOT PSN Modifier:****Hazard Class:** 3**UN ID Number:** UN1114**DOT Packaging Group:** II**Label:** FLAMMABLE LIQUID**Special Provision(s):** B101,T8**Packaging Exception:** 150**Non Bulk Packaging:** 202**Bulk Packaging:** 242**Maximum Quantity in Passenger Area:** 5 L**Maximum Quantity in Cargo Area:** 60 L**Stow in Vessel Requirements:** B**Requirements Water/Sp/Other:** 40**IMO Detail Information****IMO Proper Shipping Name:** BENZENE**IMO PSN Code:** BXB**IMO PSN Modifier:****IMDG Page Number:** 3185**UN Number:** 1114**UN Hazard Class:** 3.2**IMO Packaging Group:** II**Subsidiary Risk Label:** -**EMS Number:** 3-03**Medical First Aid Guide Number:** 312**IATA Detail Information****IATA Proper Shipping Name:** BENZENE**IATA PSN Code:** DBA**IATA PSN Modifier:****IATA UN Id Number:** 1114**IATA UN Class:** 3**Subsidiary Risk Class:****UN Packaging Group:** II**IATA Label:** FLAMMABLE LIQUID**Packaging Note for Passengers:** 305**Maximum Quantity for Passengers:** 5L**Packaging Note for Cargo:** 307**Maximum Quantity for Cargo:** 60L**Exceptions:****AFI Detail Information****AFI Proper Shipping Name:** BENZENE**AFI Symbols:****AFI PSN Code:** DBA**AFI PSN Modifier:****AFI UN Id Number:** UN1114**AFI Hazard Class:** 3

AFI Packing Group: II

AFI Label:

Special Provisions: P5

Back Pack Reference: A7.3

HAZCOM Label Information

Product Identification: BENZENE

CAGE: BURDI

Assigned Individual: N

Company Name: BURDICK & JACKSON, INC.

Company PO Box:

Company Street Address1: 1953 S. HARVEY STREET

Company Street Address2: MUSKEGON, MI 49442 US

Health Emergency Telephone: 616-726-3171

Label Required Indicator: Y

Date Label Reviewed: 12/16/1998

Status Code: C

Manufacturer's Label Number:

Date of Label: 12/16/1998

Year Procured: N/K

Organization Code: F

Chronic Hazard Indicator: N/P

Eye Protection Indicator: N/P

Skin Protection Indicator: N/P

Respiratory Protection Indicator: N/P

Signal Word: N/P

Health Hazard:

Contact Hazard:

Fire Hazard:

Reactivity Hazard:

8/8/2002 1:28:59 AM



New Jersey Department of Health and Senior Services

HAZARDOUS SUBSTANCE FACT SHEET

Common Name: **BARIUM**

CAS Number: 7440-39-3

DOT Number: UN 1400

RTK Substance number: 0180

Date: January 1986 Revision: September 2000

HAZARD SUMMARY

- * **Barium** can affect you when breathed in.
- * Contact can irritate and burn the skin and eyes.
- * Breathing **Barium** can irritate the nose, throat and lungs causing coughing, wheezing and/or shortness of breath.
- * Very high exposure can cause **Barium** poisoning with symptoms of nausea, vomiting, diarrhea, irregular heartbeat, muscle weakness, tremors, paralysis and even death.
- * **Barium** may damage the kidneys.
- * **Barium** is a FLAMMABLE and REACTIVE chemical and a FIRE and EXPLOSION HAZARD.

IDENTIFICATION

Barium is a silver-white or yellowish metal powder. It is used in spark plugs and engine rod bearings, and to remove gas from vacuum tubes and television picture tubes.

REASON FOR CITATION

- * **Barium** is on the Hazardous Substance List because it is regulated by OSHA and cited by ACGIH, DOT, NIOSH, DEP, HHAG and EPA.
- * This chemical is on the Special Health Hazard Substance List because it is **FLAMMABLE** and **REACTIVE**.
- * Definitions are provided on page 5.

HOW TO DETERMINE IF YOU ARE BEING EXPOSED

The New Jersey Right to Know Act requires most employers to label chemicals in the workplace and requires public employers to provide their employees with information and training concerning chemical hazards and controls. The federal OSHA Hazard Communication Standard, 1910.1200, requires private employers to provide similar training and information to their employees.

- * Exposure to hazardous substances should be routinely evaluated. This may include collecting personal and area air samples. You can obtain copies of sampling results from your employer. You have a legal right to this information under OSHA 1910.1020.
- * If you think you are experiencing any work-related health problems, see a doctor trained to recognize occupational diseases. Take this Fact Sheet with you.

WORKPLACE EXPOSURE LIMITS

- OSHA: The legal airborne permissible exposure limit (PEL) is **0.5 mg/m³** averaged over an 8-hour workshift.
- NIOSH: The recommended airborne exposure limit is **0.5 mg/m³** averaged over a 10-hour workshift.
- ACGIH: The recommended airborne exposure limit is **0.5 mg/m³** averaged over an 8-hour workshift.

WAYS OF REDUCING EXPOSURE

- * Where possible, enclose operations and use local exhaust ventilation at the site of chemical release. If local exhaust ventilation or enclosure is not used, respirators should be worn.
- * Wear protective work clothing.
- * Wash thoroughly immediately after exposure to **Barium** and at the end of the workshift.
- * Post hazard and warning information in the work area. In addition, as part of an ongoing education and training effort, communicate all information on the health and safety hazards of **Barium** to potentially exposed workers.

This Fact Sheet is a summary source of information of all potential and most severe health hazards that may result from exposure. Duration of exposure, concentration of the substance and other factors will affect your susceptibility to any of the potential effects described below.

HEALTH HAZARD INFORMATION

Acute Health Effects

The following acute (short-term) health effects may occur immediately or shortly after exposure to **Barium**:

- * Contact can irritate and burn the skin and eyes.
- * Breathing **Barium** can irritate the nose, throat and lungs causing coughing, wheezing and/or shortness of breath.
- * Very high exposure can cause **Barium** poisoning with symptoms of nausea, vomiting, diarrhea, irregular heartbeat, muscle weakness, tremors, paralysis and even death.

Chronic Health Effects

The following chronic (long-term) health effects can occur at some time after exposure to **Barium** and can last for months or years:

Cancer Hazard

- * There is no evidence that **Barium** causes cancer in animals. This is based on test results presently available to the New Jersey Department of Health and Senior Services from published studies.

Reproductive Hazard

- * There is no evidence that **Barium** affects reproduction. This is based on test results presently available to the New Jersey Department of Health and Senior Services from published studies.

Other Long-Term Effects

- * **Barium** can irritate the lungs. Repeated exposure may cause bronchitis to develop with cough, phlegm, and/or shortness of breath.
- * **Barium** may damage the kidneys.
- * Repeated exposure can cause an abnormal chest x-ray. This usually takes years to develop.

MEDICAL

Medical Testing

For those with frequent or potentially high exposure (half the TLV or greater), the following are recommended before beginning work and at regular times after that:

- * Lung function tests.
- * Kidney function tests.
- * EKG.

Any evaluation should include a careful history of past and present symptoms with an exam. Medical tests that look for damage already done are not a substitute for controlling exposure.

Request copies of your medical testing. You have a legal right to this information under OSHA 1910.1020.

Mixed Exposures

- * Because smoking can cause heart disease, as well as lung cancer, emphysema, and other respiratory problems, it may worsen respiratory conditions caused by chemical exposure. Even if you have smoked for a long time, stopping now will reduce your risk of developing health problems.

WORKPLACE CONTROLS AND PRACTICES

Unless a less toxic chemical can be substituted for a hazardous substance, **ENGINEERING CONTROLS** are the most effective way of reducing exposure. The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release. Isolating operations can also reduce exposure. Using respirators or protective equipment is less effective than the controls mentioned above, but is sometimes necessary.

In evaluating the controls present in your workplace, consider: (1) how hazardous the substance is, (2) how much of the substance is released into the workplace and (3) whether harmful skin or eye contact could occur. Special controls should be in place for highly toxic chemicals or when significant skin, eye, or breathing exposures are possible.

In addition, the following controls are recommended:

- * Where possible, automatically transfer **Barium** from drums or other storage containers to process containers.
- * Before entering a confined space where **Barium** may be present, check to make sure that an explosive concentration does not exist.

Good **WORK PRACTICES** can help to reduce hazardous exposures. The following work practices are recommended:

- * Workers whose clothing has been contaminated by **Barium** should change into clean clothing promptly.
- * Do not take contaminated work clothes home. Family members could be exposed.
- * Contaminated work clothes should be laundered by individuals who have been informed of the hazards of exposure to **Barium**.
- * Eye wash fountains should be provided in the immediate work area for emergency use.
- * If there is the possibility of skin exposure, emergency shower facilities should be provided.

- * On skin contact with **Barium**, immediately wash or shower to remove the chemical. At the end of the workshift, wash any areas of the body that may have contacted **Barium**, whether or not known skin contact has occurred.
- * Do not eat, smoke, or drink where **Barium** is handled, processed, or stored, since the chemical can be swallowed. Wash hands carefully before eating, drinking, smoking, or using the toilet.
- * Use a vacuum to reduce dust during clean-up. DO NOT DRY SWEEP.

PERSONAL PROTECTIVE EQUIPMENT

WORKPLACE CONTROLS ARE BETTER THAN PERSONAL PROTECTIVE EQUIPMENT. However, for some jobs (such as outside work, confined space entry, jobs done only once in a while, or jobs done while workplace controls are being installed), personal protective equipment may be appropriate.

OSHA 1910.132 requires employers to determine the appropriate personal protective equipment for each hazard and to train employees on how and when to use protective equipment.

The following recommendations are only guidelines and may not apply to every situation.

Clothing

- * Avoid skin contact with **Barium**. Wear protective gloves and clothing. Safety equipment suppliers/manufacturers can provide recommendations on the most protective glove/clothing material for your operation.
- * All protective clothing (suits, gloves, footwear, headgear) should be clean, available each day, and put on before work.

Eye Protection

- * Wear impact resistant eye protection with side shields or goggles.
- * Wear a face shield along with goggles when working with corrosive, highly irritating or toxic substances.

Respiratory Protection

IMPROPER USE OF RESPIRATORS IS DANGEROUS. Such equipment should only be used if the employer has a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing and medical exams, as described in OSHA 1910.134.

- * NIOSH has established new testing and certification requirements for negative pressure, air purifying, particulate filter and filtering facepiece respirators. The filter classifications of dust/mist/fume, paint spray or pesticide prefilters, and filters for radon daughters, have been replaced with the N, R, and P series. Each series has three levels of filtering efficiency: 95%, 99%, and 99.9%.

Check with your safety equipment supplier or your respirator manufacturer to determine which respirator is appropriate for your facility.

- * If while wearing a filter or cartridge respirator you can smell, taste, or otherwise detect **Barium**, or if while wearing particulate filters abnormal resistance to breathing is experienced, or eye irritation occurs while wearing a full facepiece respirator, leave the area immediately. Check to make sure the respirator-to-face seal is still good. If it is, replace the filter or cartridge. If the seal is no longer good, you may need a new respirator.
- * Be sure to consider all potential exposures in your workplace. You may need a combination of filters, prefilters or cartridges to protect against different forms of a chemical (such as vapor and mist) or against a mixture of chemicals.
- * Where the potential for high exposure exists, use a MSHA/NIOSH approved supplied-air respirator with a full facepiece operated in a pressure-demand or other positive-pressure mode. For increased protection use in combination with an auxiliary self-contained breathing apparatus operated in a pressure-demand or other positive-pressure mode.
- * Exposure to **50 mg/m³** is immediately dangerous to life and health. If the possibility of exposure above **50 mg/m³** exists, use a MSHA/NIOSH approved self-contained breathing apparatus with a full facepiece operated in a pressure-demand or other positive-pressure mode.

HANDLING AND STORAGE

- * Prior to working with **Barium** you should be trained on its proper handling and storage.
- * **Barium** reacts violently with WATER, releasing flammable and/or explosive *Hydrogen gas*.
- * **Barium** must be stored to avoid contact with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); HALOGENATED HYDROCARBONS; and OXYGEN since violent reactions occur.
- * **Barium** is not compatible with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMAN-GANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE) and CHLORINATED SOLVENTS (such as CARBON TETRACHLORIDE and TRICHLOROETHYLENE).
- * Store **Barium** under *Inert Gas, Petroleum, or an Oxygen-free liquid* to exclude air.
- * Store in tightly closed containers in a cool, well-ventilated area away from MOISTURE and COMBUSTIBLES.
- * Sources of ignition, such as smoking and open flames, are prohibited where **Barium** is used, handled, or stored.
- * Use only non-sparking tools and equipment, especially when opening and closing containers of **Barium**.

QUESTIONS AND ANSWERS

- Q: If I have acute health effects, will I later get chronic health effects?
- A: Not always. Most chronic (long-term) effects result from repeated exposures to a chemical.
- Q: Can I get long-term effects without ever having short-term effects?
- A: Yes, because long-term effects can occur from repeated exposures to a chemical at levels not high enough to make you immediately sick.
- Q: What are my chances of getting sick when I have been exposed to chemicals?
- A: The likelihood of becoming sick from chemicals is increased as the amount of exposure increases. This is determined by the length of time and the amount of material to which someone is exposed.
- Q: When are higher exposures more likely?
- A: Conditions which increase risk of exposure include dust releasing operations (grinding, mixing, blasting, dumping, etc.), other physical and mechanical processes (heating, pouring, spraying, spills and evaporation from large surface areas such as open containers), and "confined space" exposures (working inside vats, reactors, boilers, small rooms, etc.).
- Q: Is the risk of getting sick higher for workers than for community residents?
- A: Yes. Exposures in the community, except possibly in cases of fires or spills, are usually much lower than those found in the workplace. However, people in the community may be exposed to contaminated water as well as to chemicals in the air over long periods. This may be a problem for children or people who are already ill.

The following information is available from:

New Jersey Department of Health and Senior Services
Occupational Health Service
PO Box 360
Trenton, NJ 08625-0360
(609) 984-1863
(609) 292-5677 (fax)

Web address: <http://www.state.nj.us/health/eoh/odisweb/>

Industrial Hygiene Information

Industrial hygienists are available to answer your questions regarding the control of chemical exposures using exhaust ventilation, special work practices, good housekeeping, good hygiene practices, and personal protective equipment including respirators. In addition, they can help to interpret the results of industrial hygiene survey data.

Medical Evaluation

If you think you are becoming sick because of exposure to chemicals at your workplace, you may call personnel at the Department of Health and Senior Services, Occupational Health Service, who can help you find the information you need.

Public Presentations

Presentations and educational programs on occupational health or the Right to Know Act can be organized for labor unions, trade associations and other groups.

Right to Know Information Resources

The Right to Know Infoline (609) 984-2202 can answer questions about the identity and potential health effects of chemicals, list of educational materials in occupational health, references used to prepare the Fact Sheets, preparation of the Right to Know survey, education and training programs, labeling requirements, and general information regarding the Right to Know Act. Violations of the law should be reported to (609) 984-2202.

DEFINITIONS

ACGIH is the American Conference of Governmental Industrial Hygienists. It recommends upper limits (called TLVs) for exposure to workplace chemicals.

A **carcinogen** is a substance that causes cancer.

The **CAS number** is assigned by the Chemical Abstracts Service to identify a specific chemical.

A **combustible** substance is a solid, liquid or gas that will burn.

A **corrosive** substance is a gas, liquid or solid that causes irreversible damage to human tissue or containers.

DEP is the New Jersey Department of Environmental Protection.

DOT is the Department of Transportation, the federal agency that regulates the transportation of chemicals.

EPA is the Environmental Protection Agency, the federal agency responsible for regulating environmental hazards.

A **fetus** is an unborn human or animal.

A **flammable** substance is a solid, liquid, vapor or gas that will ignite easily and burn rapidly.

The **flash point** is the temperature at which a liquid or solid gives off vapor that can form a flammable mixture with air.

HHAG is the Human Health Assessment Group of the federal EPA.

IARC is the International Agency for Research on Cancer, a scientific group that classifies chemicals according to their cancer-causing potential.

A **miscible** substance is a liquid or gas that will evenly dissolve in another.

mg/m³ means milligrams of a chemical in a cubic meter of air. It is a measure of concentration (weight/volume).

MSHA is the Mine Safety and Health Administration, the federal agency that regulates mining. It also evaluates and approves respirators.

A **mutagen** is a substance that causes mutations. A **mutation** is a change in the genetic material in a body cell. Mutations can lead to birth defects, miscarriages, or cancer.

NAERG is the North American Emergency Response Guidebook. It was jointly developed by Transport Canada, the United States Department of Transportation and the Secretariat of Communications and Transportation of Mexico. It is a guide for first responders to quickly identify the specific or generic hazards of material involved in a transportation incident, and to protect themselves and the general public during the initial response phase of the incident.

NCI is the National Cancer Institute, a federal agency that determines the cancer-causing potential of chemicals.

NFPA is the National Fire Protection Association. It classifies substances according to their fire and explosion hazard.

NIOSH is the National Institute for Occupational Safety and Health. It tests equipment, evaluates and approves respirators, conducts studies of workplace hazards, and proposes standards to OSHA.

NTP is the National Toxicology Program which tests chemicals and reviews evidence for cancer.

OSHA is the Occupational Safety and Health Administration, which adopts and enforces health and safety standards.

PEOSHA is the Public Employees Occupational Safety and Health Act, a state law which sets PELs for New Jersey public employees.

PIH is a DOT designation for chemicals which are Poison Inhalation Hazards.

ppm means parts of a substance per million parts of air. It is a measure of concentration by volume in air.

A **reactive** substance is a solid, liquid or gas that releases energy under certain conditions.

A **teratogen** is a substance that causes birth defects by damaging the fetus.

TLV is the Threshold Limit Value, the workplace exposure limit recommended by ACGIH.

The **vapor pressure** is a measure of how readily a liquid or a solid mixes with air at its surface. A higher vapor pressure indicates a higher concentration of the substance in air and therefore increases the likelihood of breathing it in.

FOR LARGE SPILLS AND FIRES immediately call your fire department. You can request emergency information from the following:

CHEMTREC: (800) 424-9300
NJDEP HOTLINE: 1-877-WARN-DEP

HANDLING AND STORAGE (See page 3)

FIRST AID

In N.J. for POISON INFORMATION call 1-800-764-7661

* Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting upper and lower lids. Seek medical attention immediately.

- ## Skin Contact

- * Remove contaminated clothing. Wash contaminated skin with soap and water.

- * Remove the person from exposure.
- * Begin rescue breathing (using universal precautions) if breathing has stopped and CPR if heart action has stopped.
- * Transfer promptly to a medical facility.

PHYSICAL DATA

Vapor Pressure: 10 mm Hg at 1,922°F (1,050°C)

- Water Solubility:** Insoluble

Chemical Name:

Barium

Not intended to be copied and sold for commercial purposes.

NEW JERSEY DEPARTMENT OF HEALTH AND
SENIOR SERVICES

Right to Know Program

PO Box 368, Trenton, NJ 08625-0368
(609) 984-2202



Material Safety Data Sheets

Division of Facilities Services

DOD Hazardous Material Information (ANSI Format) For Cornell University Convenience Only

ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

Section 1 - Product and Company Identification	Section 9 - Physical & Chemical Properties
Section 2 - Composition/Information on Ingredients	Section 10 - Stability & Reactivity Data
Section 3 - Hazards Identification Including Emergency Overview	Section 11 - Toxicological Information
Section 4 - First Aid Measures	Section 12 - Ecological Information
Section 5 - Fire Fighting Measures	Section 13 - Disposal Considerations
Section 6 - Accidental Release Measures	Section 14 - MSDS Transport Information
Section 7 - Handling and Storage	Section 15 - Regulatory Information
Section 8 - Exposure Controls & Personal Protection	Section 16 - Other Information

The information in this document is compiled from information maintained by the United States Department of Defense (DOD). Anyone using this information is solely responsible for the accuracy and applicability of this information to a particular use or situation.

Cornell University does not in any way warrant or imply the applicability, viability or use of this information to any person or for use in any situation.

Section 1 - Product and Company Identification ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

Product Identification: ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

Date of MSDS: 08/01/1997 **Technical Review Date:** 09/01/1999

FSC: 6810 **NIIN:** LIIN: 00N092040

Submitter: N NF

Status Code: A

MFN: 01

Article: N

Kit Part: N

Manufacturer's Information

Manufacturer's Name: UNITED MINERAL & CHEMICAL CORP
Manufacturer's Address1: 1100 VALLEYBROOK AVE
Manufacturer's Address2: LYNDHURST, NJ 07071
Manufacturer's Country: US
General Information Telephone: 201-507-3300
Emergency Telephone: (800)424-9300
Emergency Telephone: (800)424-9300
Chemtec Telephone: (800)424-9300
Proprietary: N
Reviewed: Y
Published: Y
CAGE: 87730

Contractor Information

Contractor's Name: UNITED MINERAL & CHEMICAL CORP
Contractor's Address1: 1100 VALLEYBROOK AVE
Contractor's Address2: LYNDHURST, NJ 07071
Contractor's Telephone: 201-507-3300
Contractor's CAGE: 87730

Section 2 - Composition/Information on Ingredients

ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

Ingredient Name: ARSENIC; (ARSENIC METAL)
Ingredient CAS Number: 7440-38-2 **Ingredient CAS Code:** T
RTECS Number: CG0525000 **RTECS Code:** T
=WT: 100. **=WT Code:** M
=Volume: **=Volume Code:**
>WT: **>WT Code:**
>Volume: **>Volume Code:**
<WT: **<WT Code:**
<Volume: **<Volume Code:**
% Low WT: **% Low WT Code:**
% High WT: **% High WT Code:**
% Low Volume: **% Low Volume Code:**
% High Volume: **% High Volume Code:**
% Text:
% Environmental Weight:
Other REC Limits: N/P
OSHA PEL: N/P **OSHA PEL Code:**
OSHA STEL: N/P **OSHA STEL Code:**
ACGIH TLV: 0.01 MG/M3 **ACGIH TLV Code:** T
ACGIH STEL: NOT ESTABLISHED **ACGIH STEL Code:** T
EPA Reporting Quantity: 1 LB
DOT Reporting Quantity: 1 LB
Ozone Depleting Chemical: N

Section 3 - Hazards Identification, Including Emergency Overview

ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

Health Hazards Acute & Chronic: ARSENIC METAL IS NOT AS READILY AVAIL IN THE BODY AS ARSENIC IN THE FORM OF DUST OR VAP OR WHEN PROCESSED INTO ARSENIC CMPDS (ARSENICALS). INORGANIC ARSENICALS ARE MORE TOXIC THAN ORGANIC ARSENICALS. ACUTE EFTS: ARSENIC IS POISON BY SUBCUTANEOUS, INTRAMUSCULAR & INTRAPERITONEAL ROUTES. ACUTE ARSENIC POISONING FROM INGEST RSLTS IN MARKED IRRIT OF STOMACH & INTESTINES W/NAUS, VOMIT & DIARR. IN SEV C ASES STOOLS & VOMIT ARE BLOODY & PATIENT MAY GO INTO COLLAPSE & SHOCK W/WEAK, RAPID PULSE, COLD SWEATS, COMA & DEATH. INHAL MAY CAUSE ULCERATION OF NASAL SEPTUM, RESP IRRIT. SKIN/EYE CNTCT MAY CAUSE DERM, SKIN & EYE (EFTS OF OVEREXP)

Signs & Symptoms of Overexposure:

HLTH HAZS: IRRIT. CHRONIC EFTS: ARSENIC IS CONFIRMED HUMAN CARCIN PRODUCING LIVER TUMORS & AN EXPERIMENTAL TERATOGEN (MAY CAUSE DMG TO DEVELOPING FETUS). CHRONIC ARSENIC POISONING MAY INCL ANY/ALL OF FOLLOWING: DIGEST SYS DISTURBS, LOSS OF APPETITE, CRAMPS, NAUS, CONSTIP, DIARR; LIVER DMG WHICH MAY RSLT IN JAUN; DISTURBS OF BLOOD, KIDNEYS & NERVOUS SYS; SKIN ABNORMS INCL ITCHING, PIGMENTATION & POS S CANCEROUS CHGS. TARGET ORGANS FOR INORGANIC CMPDS AS AS): LIVER, KIDNEYS, SKIN, LUNGS, LYMPHATIC SYS. TLV: 0.01 MG/M3 TWA ARSENIC, ELEMENTAL & INORGANIC CMPDS (EXCEPT ARSINE), AS AS. OSHA PEL: (SUPD AT)

Medical Conditions Aggravated by Exposure:

KNOWN EFFECTS ON OTHER ILLNESSES: GASTROINTESTINAL. NERVOUS SYSTEM. SKIN. LIVER & KIDNEY PROBLEMS. AFTER EXPOSURE HAVE URINE TEST.

LD50 LC50 Mixture: LD50: (ORAL, RAT) 763 MG/M3

Route of Entry Indicators:

Inhalation: YES

Skin: YES

Ingestion: YES

Carcenogenicity Indicators

NTP: YES

IARC: YES

OSHA: YES

Carcinogenicity Explanation: ARSENIC: IARC MONOGRAPHS, SUPPLEMENT, VOL 7, PG 100, 1987: GROUP 1. NTP 8TH ANNUAL REPORT ON CARCINOGENS, 1998: KNOWN TO BE CARCINOGEN. OSHA REGULATED: CFR 29 1910.1018.

Section 4 - First Aid Measures

ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

First Aid:

SKIN: FLUSH WITH SOAP AND WATER. AVOID RUBBING INTO SKIN. CONTACT MD IMMEDIATELY. EYES: FLUSH WITH WATER FOR AT LEAST 15 MINUTES. CONTACT

PHYSICIAN IMMEDIATELY. INHALATION: REMOVE TO FRESH AIR. PROVIDE OXYGEN IF NECESSARY. CONTACT PHYSICIAN IMMEDIATELY. INGESTION: TREATMENT WITH BAS (DIMERCAPTOL) IS OF QUESTIONABLE EFFECTIVENESS IN TRIVALENT ARSENIC COMPOUNDS. INDUCE VOMITING AND DO GASTRIC LAVAGE. GET PERSONNEL TO HOSPITAL IMMEDIATELY. A PHYSICIAN CAN INITIATE AN EXCHANGE TRANSFUSION AND DIALYSIS. ALSO ABSORPTION AND REMOVAL WITH ANIMAL BONE COAL OR FE (OH)*2 SHOULD BE DONE.

Section 5 - Fire Fighting Measures

ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

Fire Fighting Procedures:

USE NIOSH APPRVD SCBA & FULL PROT EQUIP (FP N). RESTRICT PERS NOT WEARING PROT EQUIP FROM AREA. TRY TO SNUFF FIRE W/SAND, DRY MEDIA, FOAM OR CO*2. IF NO OTHER OPTIONS AVAILABLE, USE WATER & ALWAYS WEAR NIOSH APPRVD SCBA OR NIOSH TOXIC VAPOR RESP. POISONOUS GASES ARE PRODUCED IN FIRE, INCLUDING ARSENIC OXIDES.

Unusual Fire or Explosion Hazard:

ARSENIC, WHEN HEATED OR IN CONTACT W/ACID OR ACID FUMES, CAN PRODUCE HIGHLY TOXIC FUMES. ARSENIC REACTS VIGOROUSLY W/OXIDIZING MATLS. ARSENIC IS FLAMMABLE IN FORM OF DUST WHEN EXPOSED TO HEAT OR FLAME OR BY CHEMICAL RXN W/POWERFUL OXIDIZERS. SLIGHT EXPLOSION HAZ EXISTS IN FORM OF DUST WHEN EXPOSED TO (ECOLOGICAL INFO)

Extinguishing Media:

FOAM, CARBON DIOXIDE, DRY CHEMICAL.

Flash Point: Flash Point Text: NONE

Autoignition Temperature:

Autoignition Temperature Text: N/K

Lower Limit(s): N/A

Upper Limit(s): N/A

Section 6 - Accidental Release Measures

ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

Spill Release Procedures:

RESTRICT PERSONS NOT WEARING PROTECTIVE EQUIPMENT FROM AREA UNTIL CLEANUP IS COMPLETE. WEARING NIOSH APPROVED RESPIRATOR, GLOVES, GOGGLES, LAB COAT, GATHER UP CHUNKS, RODS OR GRANULES WITH VACUUM OR UTENSILS RESERVED FOR POISONOUS SOLIDS. AVOID RAISING DUST. VENTILATE THE AREA AFTER CLEANUP IS COMPLETE.

Section 7 - Handling and Storage

ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

Handling and Storage Precautions:

Other Precautions:

Section 8 - Exposure Controls & Personal Protection

ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

Respiratory Protection:

NIOSH APPROVED, AIR PURIFYING, TOXIC VAPOR RESPIRATOR TO PARTICULATE AND FUME AIR LEVEL. FOR INORGANIC ARSENIC APPLICATIONS, SEE 29 CFR 1910.1018 FOR PROPER RESPIRATOR SELECTION.

Ventilation:

LOC EXHST/MECH (GEN) SCRUBBER OR TRAP IF POSS TO MAINTAIN EXPOS TO LESS THAN PERMISSIBLE LIMITS FOR ELEMENTAL ARSENIC & ANY CMPDS BEING GENERATED.

Protective Gloves:

NEOPRENE OR PLASTIC.

Eye Protection: ANSI APPROVED CHEMICAL WORKERS GOGGLES (FP N).

Other Protective Equipment: ANSI APPROVED EYE WASH AND DELUGE SHOWER (FP N). LAB COAT.

Work Hygienic Practices: N/P

Supplemental Health & Safety Information: EFTS OF OVEREXP: 0.01 MG/M3 AS AS & INORGANIC CMPDS; 0.5 AS AS ORGANIC CMPDS. ACGIH TLV: 0.01 MG/M3 TWA ARSENIC, ELEMENTAL & INORGANIC CMPDS (EXCEPT ARSINE), AS AS. ALSO SEE TOXICOLOGICAL INFO. WASTE DISP METH: HAZ DEPENDING ON LEVEL OF TOX CHARACT OF ARSENIC. SEE 40 CFR 261.24 FOR DETERMINATION. (OTHER INFO)

Section 9 - Physical & Chemical Properties

ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

HCC:

NRC/State License Number:

Net Property Weight for Ammo:

Boiling Point: =612.C, 1133.6F **Boiling Point Text:** SUBLIMES

Melting/Freezing Point: =814.C, #####F **Melting/Freezing Text:** @ 36 ATM. FP:N/A

Decomposition Point: **Decomposition Text:** N/P

Vapor Pressure: 1 MMHG @ 372C **Vapor Density:** N/A

Percent Volatile Organic Content:

Specific Gravity: 5.727

Volatile Organic Content Pounds per Gallon:

pH: NONE-0% IN H*2O

Volatile Organic Content Grams per Liter:

Viscosity: N/P

Evaporation Weight and Reference: N/A

Solubility in Water: INSOLUBLE

Appearance and Odor: SILVER GRAY CRYSTALLINE CHUNKS, RODS OR GRANULES; NO ODOR AS (ECOLOGICAL INFO)

Percent Volatiles by Volume: N/A (BY WT)

Corrosion Rate: N/P

Section 10 - Stability & Reactivity Data

ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

Stability Indicator: YES

Materials to Avoid:

INCOMPATIBLE W/BROMINE AZIDE, DIRUBIDIUM ACETYLIDE, HALOGENS, PALLADIUM ZINC, PLATINUM, NCL_3 , AGNO_3 , CRO_3 , NA_2O_2 , HEXAFLUOROISOPROPYLIDENEAMINO LITHIUM. CAN REACT W/ACIDS OR ACID FUMES & POWERFUL OXIDIZERS SUCH AS BROM

Stability Condition to Avoid:

AVOID OPEN CONTAINERS AND CONTACT WITH INCOMPATIBLE MATERIALS.

Hazardous Decomposition Products:

ARSENIC FUMES, ARSINE, OTHER ARSENIC COMPOUNDS.

Hazardous Polymerization Indicator: NO**Conditions to Avoid Polymerization:**

N/P

Section 11 - Toxicological Information**ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE**

Toxicological Information:

LD50: TDLO 605 ?G/KG. ORAL-MAN TDLO 7857 MG/KG/55Y SKIN. DERMAL IRRITATION-RABBIT: UNKNOWN; SUBCUTANEOUS IMPLANT RABBIT LTLO 75 MG/KG. EYE IRRITATION-RABBIT: UNKNOWN.

Section 12 - Ecological Information**ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE**

Ecological Information:

N/P. EXPLO HAZ: FLAME. IN EVENT OF A FIRE OR SPILL CONTACT THE STATE DEPARTMENT OF THE ENVIRONMENT & YOUR REGIONAL OFFICE OF THE FEDERAL EPA. PHYSICAL DATA - APPEAR/ODOR: METAL AS COMPOUND, ASH_3 , HAS GARLIC ODOR. ODOR THRESHOLD: N/A. MATLS TO AVOID: CHLORATES, IODATES, PEROXIDES, LITHIUM, NACL_3 , KMNO_3 , RB_2C_2 , AGNO_4 , NOCL , IF_5 , CRO_3 , CLF_3 , CLO , BRF_3 , BRF_5 , BRN_3 , RBC_3BCH , CSC_3BCH .

Section 13 - Disposal Considerations**ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE**

Waste Disposal Methods:

SOLID WASTES SHOULD BE VITRIFIED, PLACED IN LABELED CNTNR & BURIED IN EPA SUPERVISED FACILITY. ETCHING SOLNS & CUTTING WASTES SHOULD BE PRECIPITATED, CEMENTED/VITRIFIED & PLACED IN METAL/PLASTIC LABEL ED CNTNRS & BURIED IN EPA SUPERVISED FACILITY. PASS GAS THRU POTASSIUM PERMANGANATE, PRECIPITATE & TREAT AS ABOVE. WASTE MAY BE CONSIDERED (SUPDAT)

Section 14 - MSDS Transport Information**ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE**

Transport Information:

DOT REGULATED: YES. RQ: (NA - PIECES ARE LARGER THAN 100 MICROMETERS IN DIAMETER). IF REGULATED, PROPER SHIPPING NAME: ARSENIC. HAZARD CLASS: (6.1). IDENTIFICATION NO: (UN1558). PACKING GROUP: (III). LABEL REQUIRED: (POISON). INLAND B/L: ARSENIC, 6.1, UN1558, PACKING GROUP II, POISON. EMERGENCY RESPONSE GUIDE NO: (152).

Section 15 - Regulatory Information
ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

SARA Title III Information:

SARA TITLE III, SECT 313: LISTED.

Federal Regulatory Information:

TSCA: WE CERTIFY THAT ALL COMPONENTS OF THIS PRODUCT ARE REGISTERED UNDER THE REGULATIONS OF THE TOXIC SUBSTANCES CONTROL ACT. HMIS: HEALTH (4); FLAMMABILITY (0); REACTIVITY (1).

State Regulatory Information:

Section 16 - Other Information
ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE

Other Information:

WASTE DISP METH: HAZARDOUS DEPENDING ON LEVEL OF TOXICITY CHARACTERISTIC OF ARSENIC. SEE 40 CFR 261.24 FOR DETERMINATION. RCRA HAZARDOUS WASTE: YES RCRA @: D004; IF TESTED POSITIVE AS CHARACT OF TOXICITY FOR ARSENIC. CERCLA: YES. RQ (1 LB RQ IS APPLICABLE ONLY IF DIAMETER OF PIECES OF SOLID METAL RELEASED IS LESS THAN 100 MICROMETERS OR 0.004 INCH. THIS PROD FORM IS LARGER THAN 100 MICROMETERS & H AS NO RQ IN ITS CURRENT FORM. IF AS HAZ WASTE CHARACT OF ARSENIC, THEN RQ=1LB. FOLLOW ALL LOCAL, STATE AND FEDERAL INFO & REGULATIONS.

HAZCOM Label Information

Product Identification: ARSENIC METAL-MBE CHARGES, ARSENIC CHUNK & GRANULE
CAGE: 87730

Assigned Individual: N

Company Name: UNITED MINERAL & CHEMICAL CORP

Company PO Box:

Company Street Address1: 1100 VALLEYBROOK AVE

Company Street Address2: LYNDHURST, NJ 07071 US

Health Emergency Telephone: (800)424-9300

Label Required Indicator: Y

Date Label Reviewed: 09/01/1999

Status Code: A

Manufacturer's Label Number:

Date of Label:

Year Procured: N/K

Organization Code: F

Chronic Hazard Indicator: Y

Eye Protection Indicator: YES

Skin Protection Indicator: YES

Respiratory Protection Indicator: YES

Signal Word: DANGER

Health Hazard: Severe

Contact Hazard: Severe

Fire Hazard: None

Reactivity Hazard: Slight

8/9/2002 10:40:46 AM



Division of Facilities Services

DOD Hazardous Material Information (ANSI Format) For Cornell University Convenience Only

ALCONOX

Section 1 - Product and Company Identification	Section 9 - Physical & Chemical Properties
Section 2 - Composition/Information on Ingredients	Section 10 - Stability & Reactivity Data
Section 3 - Hazards Identification Including Emergency Overview	Section 11 - Toxicological Information
Section 4 - First Aid Measures	Section 12 - Ecological Information
Section 5 - Fire Fighting Measures	Section 13 - Disposal Considerations
Section 6 - Accidental Release Measures	Section 14 - MSDS Transport Information
Section 7 - Handling and Storage	Section 15 - Regulatory Information
Section 8 - Exposure Controls & Personal Protection	Section 16 - Other Information

The information in this document is compiled from information maintained by the United States Department of Defense (DOD). Anyone using this information is solely responsible for the accuracy and applicability of this information to a particular use or situation.

Cornell University does not in any way warrant or imply the applicability, viability or use of this information to any person or for use in any situation.

Section 1 - Product and Company Identification ALCONOX

Product Identification: ALCONOX

Date of MSDS: 08/14/1992 **Technical Review Date:** 09/28/1992

FSC: 6505 **NIIN:** 00-839-8894

Submitter: N EN

Status Code: C

MFN: 01

Article: N

Kit Part: N

Manufacturer's Information

Manufacturer's Name: ALCONOX INC
Manufacturer's Address1: 215 PARK AVE S
Manufacturer's Address2: NEW YORK, NY 10003
Manufacturer's Country: US
General Information Telephone: 212-473-1300
Emergency Telephone: 212-473-1300
Emergency Telephone: 212-473-1300
MSDS Preparer's Name: N/P
Proprietary: N
Reviewed: N
Published: Y
CAGE: 17534
Special Project Code: N

Item Description

Item Name: DETERGENT,SURGICAL INSTRUMENT
Item Manager: NK
Specification Number: NK
Type/Grade/Class: NK
Unit of Issue: NK **Quantitative Expression:** NK
Unit of Issue Quantity: NK
Type of Container:

Contractor Information

Contractor's Name: ALCONOX INC
Contractor's Address1: 9 EAST 40TH STREET, SUITE 200
Contractor's Address2: NEW YORK, NY 10016
Contractor's Telephone: 212-532-4040
Contractor's CAGE: 17534

Section 2 - Composition/Information on Ingredients ALCONOX

Ingredient Name: ALCONOX
Ingredient CAS Number: **Ingredient CAS Code:** X
RTECS Number: **RTECS Code:** X
=WT: **=WT Code:**
=Volume: **=Volume Code:**
>WT: **>WT Code:**
>Volume: **>Volume Code:**
<WT: **<WT Code:**
<Volume: **<Volume Code:**
% Low WT: **% Low WT Code:**
% High WT: **% High WT Code:**
% Low Volume: **% Low Volume Code:**
% High Volume: **% High Volume Code:**
% Text: N/K
% Enviromental Weight:
Other REC Limits: N/K
OSHA PEL: NOT APPLICABLE **OSHA PEL Code:** M
OSHA STEL: **OSHA STEL Code:**

ACGIH TLV: NOT APPLICABLE **ACGIH TLV Code:** M

ACGIH STEL: N/P **ACGIH STEL Code:**

EPA Reporting Quantity:

DOT Reporting Quantity:

Ozone Depleting Chemical:

Section 3 - Hazards Identification, Including Emergency Overview ALCONOX

Health Hazards Acute & Chronic: PROLONGED EXPOSURE TO DUST MAY IRRITATE MUCOUS MEMBRANES.

Signs & Symptoms of Overexposure:
SEE HEALTH HAZARDS.

Medical Conditions Aggravated by Exposure:
NONE SPECIFIED BY MANUFACTURER.

LD50 LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.

Route of Entry Indicators:
Inhalation: YES
Skin: NO
Ingestion: NO

Carcenogenicity Indicators
NTP: NO
IARC: NO
OSHA: NO

Carcinogenicity Explanation: NOT RELEVANT

Section 4 - First Aid Measures ALCONOX

First Aid:
EYES: FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MIN. SKIN: FLUSH WITH PLENTY OF WATER. INGEST: DRINK LARGE QTY OF WATER TO DILUTE MATERIAL. GET MED ATTN FOR DISCOMFORT. INHAL: REMOVE TO FRESH AIR. SU PPORT BRTHG (GIVE O*2/ARTF RESP) (FP N).

Section 5 - Fire Fighting Measures ALCONOX

Fire Fighting Procedures:
WEAR NIOSH/MSHA APPROVED SCBA AND FULL PROTECTIVE EQUIPMENT (FP N).

Unusual Fire or Explosion Hazard:
NONE.

Extinguishing Media:
WATER, CARBON DIOXIDE, DRY CHEMICAL, FOAM SAND/EARTH.

Flash Point: Flash Point Text: NONE

Autoignition Temperature:

Autoignition Temperature Text: N/A

Lower Limit(s): N/A

Upper Limit(s): N/A

Section 6 - Accidental Release Measures

ALCONOX

Spill Release Procedures:

MATERIAL FOAMS PROFUSELY, SHOVEL & RECOVER AS MUCH AS POSSIBLE. RINSE REMAINDER TO SEWER. MATERIAL IS COMPLETELY BIODEGRADABLE.

Section 7 - Handling and Storage

ALCONOX

Handling and Storage Precautions:

Other Precautions:

Section 8 - Exposure Controls & Personal Protection

ALCONOX

Respiratory Protection:

NIOSH/MSHA APPROVED DUST MASK.

Ventilation:

LOCAL EXHAUST: NORMAL.

Protective Gloves:

IMPERVIOUS GLOVES (FP N).

Eye Protection: CHEMICAL WORKERS GOGGLES (FP N).

Other Protective Equipment: NOT REQUIRED.

Work Hygienic Practices: NONE SPECIFIED BY MANUFACTURER.

Supplemental Health & Safety Information: NONE SPECIFIED BY MANUFACTURER.

Section 9 - Physical & Chemical Properties

ALCONOX

HCC:

NRC/State License Number:

Net Property Weight for Ammo:

Boiling Point: Boiling Point Text: N/A

Melting/Freezing Point: Melting/Freezing Text: N/K

Decomposition Point: Decomposition Text: N/K

Vapor Pressure: N/A **Vapor Density:** N/A

Percent Volatile Organic Content:

Specific Gravity: N/A

Volatile Organic Content Pounds per Gallon:

pH: N/K

Volatile Organic Content Grams per Liter:

Viscosity: N/P

Evaporation Weight and Reference: NOT APPLICABLE

Solubility in Water: APPRECIABLE

Appearance and Odor: WHITE POWDER INTERSPERSED W/CREAM COLORED FLAKES-
ODORLESS

Percent Volatiles by Volume: N/A

Corrosion Rate: N/K

Section 10 - Stability & Reactivity Data
ALCONOX

Stability Indicator: YES

Materials to Avoid:

AVOID STRONG ACIDS.

Stability Condition to Avoid:

NONE.

Hazardous Decomposition Products:

MAY RELEASE CARBON DIOXIDE GAS ON BURNING.

Hazardous Polymerization Indicator: NO

Conditions to Avoid Polymerization:

NOT RELEVANT

Section 11 - Toxicological Information
ALCONOX

Toxicological Information:

N/P

Section 12 - Ecological Information
ALCONOX

Ecological Information:

N/P

Section 13 - Disposal Considerations
ALCONOX

Waste Disposal Methods:

SMALL QTY MAY BE DISPOSED OF IN SEWER. LARGE QTY SHOULD BE DISPOSED OF ACCORDING TO LOCAL, FEDERAL & STATE REQUIREMENTS FOR NON-HAZARDOUS DETERGENT.

Section 14 - MSDS Transport Information
ALCONOX

Transport Information:

N/P

Section 15 - Regulatory Information
ALCONOX

SARA Title III Information:

N/P

Federal Regulatory Information:

N/P

State Regulatory Information:

N/P

Section 16 - Other Information
ALCONOX

Other Information:

N/P

HMIS Transportation Information**Product Identification:** ALCONOX**Transportation ID Number:** 88154**Responsible Party CAGE:** 17534**Date MSDS Prepared:** 08/14/1992**Date MSDS Reviewed:** 02/22/1993**MFN:** 02/22/1993**Submitter:** N TN**Status Code:** C**Container Information****Unit of Issue:** NK**Container Quantity:** NK**Type of Container:****Net Unit Weight:****Article without MSDS:** N**Technical Entry NOS Shipping Number:****Radioactivity:****Form:****Net Explosive Weight:****Coast Guard Ammunition Code:****Magnetism:** N/P**AF MMAC Code:****DOD Exemption Number:****Limited Quantity Indicator:****Multiple Kit Number:** 0**Kit Indicator:** N**Kit Part Indicator:** N**Review Indicator:** Y**Additional Data:**

NOT REGULATED FOR TRANSPORTATION

Department of Transportation Information**DOT Proper Shipping Name:** NOT REGULATED BY THIS MODE OF TRANSPORTATION**DOT PSN Code:** ZZZ**Symbols:** N/R**DOT PSN Modifier:****Hazard Class:** N/R**UN ID Number:** N/R**DOT Packaging Group:** N/R**Label:** N/R**Special Provision(s):** N/R**Packaging Exception:** N/R**Non Bulk Packaging:** N/R**Bulk Packaging:** N/R**Maximum Quantity in Passenger Area:** N/R**Maximum Quantity in Cargo Area:** N/R**Stow in Vessel Requirements:** N/R**Requirements Water/Sp/Other:** N/R**IMO Detail Information**

IMO Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION
IMO PSN Code: ZZZ
IMO PSN Modifier:
IMDG Page Number: N/R
UN Number: N/R
UN Hazard Class: N/R
IMO Packaging Group: N/R
Subsidiary Risk Label: N/R
EMS Number: N/R
Medical First Aid Guide Number: N/R

IATA Detail Information

IATA Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION
IATA PSN Code: ZZZ
IATA PSN Modifier:
IATA UN Id Number: N/R
IATA UN Class: N/R
Subsidiary Risk Class: N/R
UN Packaging Group: N/R
IATA Label: N/R
Packaging Note for Passengers: N/R
Maximum Quantity for Passengers: N/R
Packaging Note for Cargo: N/R
Maximum Quantity for Cargo: N/R
Exceptions: N/R

AFI Detail Information

AFI Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION
AFI Symbols:
AFI PSN Code: ZZZ
AFI PSN Modifier:
AFI UN Id Number: N/R
AFI Hazard Class: N/R
AFI Packing Group: N/R
AFI Label: N/R
Special Provisions: N/A
Back Pack Reference: N/A

HAZCOM Label Information

Product Identification: ALCONOX
CAGE: 17534
Assigned Individual: N
Company Name: ALCONOX INC
Company PO Box:
Company Street Address1: 9 EAST 40TH STREET, SUITE 200
Company Street Address2: NEW YORK, NY 10016 US
Health Emergency Telephone: 212-473-1300
Label Required Indicator: Y
Date Label Reviewed: 09/18/1992
Status Code: C
Manufacturer's Label Number:
Date of Label: 09/18/1992
Year Procured: N/K
Organization Code: G
Chronic Hazard Indicator: N
Eye Protection Indicator: YES
Skin Protection Indicator: YES

Respiratory Protection Indicator: YES

Signal Word: CAUTION

Health Hazard: Slight

Contact Hazard: Slight

Fire Hazard: None

Reactivity Hazard: None

8/8/2002 12:40:10 AM



Material Safety Data Sheets

MSDS No: 108-67-8**Date: 03/09/2001**

SUPPLIER ADDRESS: 6141 Easton Road, Bldg. 1
PO Box 310
Plumsteadville, PA 18949-0310

EMERGENCY PHONE NUMBER: (215) 766-8861

1. CHEMICAL PRODUCT

PRODUCT NAME: 1,3,5-TRIMETHYLBENZENE

SYNONYMS: Trimethylbenzol, Mesitylene

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient Name	Formula	CAS #	Concentration	ACGIH TLV	Exposure Limits (PPM)		
					OSHA PEL	MAC	Other STEL
1,3,5-TRIMETHYLBENZENE	C ₉ H ₁₂	108-67-8	99+%	25	NE	NE	NE

Note: NE = NONE ESTABLISHED

S/A = SIMPLE ASPHYXIAN

3. HAZARD IDENTIFICATION

* * * EMERGENCY OVERVIEW * * *

Flammable liquid and vapor.

Can form explosive mixtures with air.

Can cause skin and respiratory tract irritation.

May cause irritation to the eyes and mucous membrane.

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Inhalation , Ingestion

ACUTE EFFECTS: Inhalation of vapors may cause pulmonary edema, circulatory collapse, damage to upper respiratory tract, coughing, difficulty breathing and choking. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting. May cause pulmonary edema, fainting, convulsions and coma. Skin contact can cause defatting and dermatitis. Eye contact may result in destruction of eye tissue. Ingestion irritates the digestive tract and results in systemic effects from absorption.

CHRONIC EFFECTS: Kidney and liver damage. Blood effects.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Liver, kidney, skin, and central nervous system diseases or disorders.

OTHER EFFECTS OF OVEREXPOSURE: None

CARCINOGENICITY (US ONLY):

NTP - No

IARC MONOGRAPHS - No

OSHA REGULATED - No

4. FIRST AID MEASURES

INHALATION: Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

EYE CONTACT: Immediately flush with copious amounts of water for at least 15 minutes. Do not allow victim to rub or keep eyes tightly shut.

SKIN CONTACT: Immediately flush with copious amounts of water for at least 15 minutes while removing contaminated clothing.

INGESTION: Never give anything by mouth to an unconscious person. If ingested, have that conscious and alert person drink 1 to 2 glasses of water. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration to the victim.

IN EVENT OF EXPOSURE, CONSULT A PHYSICIAN

NOTE TO PHYSICIAN: None

5. FIRE FIGHTING MEASURES

FLASH POINT: 50 deg. C

AUTOIGNITION TEMPERATURE: 595 deg. C

FLAMMABLE LIMITS: Vol. %

LOWER: .93
UPPER: 8.62

EXTINGUISHING MEDIA: Carbon dioxide, foam, or dry chemical. Water is ineffective in putting out a fire, but should be used for cooling fire exposed cylinders.

SPECIAL FIRE FIGHTING INSTRUCTION AND EQUIPMENT: Wear self-contained breathing apparatus and full protective clothing. Keep fire exposed cylinders cool with water spray.

HAZARDOUS COMBUSTION PRODUCTS: Toxic carbon monoxide may be given off during combustion.

UNUSUAL FIRE AND EXPLOSION HAZARDS: May form explosive mixture in air. Dangerous fire hazard and moderate explosion hazard when heated. Vapors may travel a considerable distance to the source of ignition and flash back.

6. ACCIDENTAL RELEASE MEASURES

CLEAN UP PROCEDURES: Evacuate and ventilate area. Remove leaking cylinder to exhaust hood or safe outdoor area. Shut off source if possible and remove source of heat.

SPECIALIZED EQUIPMENT: Absorb small spills using a solid adsorbent such as vermiculite. Use non-sparking tools.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Secure cylinder when using to protect from falling. Use suitable

hand truck to move cylinders.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in well ventilated areas. Keep valve protection cap on cylinders when not in use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide adequate general and local exhaust ventilation to maintain concentrations below exposure and flammable limits.

EYE / FACE PROTECTION: Safety glasses , Goggles.

SKIN PROTECTION: Protective gloves.

RESPIRATORY PROTECTION: In case of leakage, use self-contained breathing apparatus.

OTHER PROTECTIVE EQUIPMENT: Safety shoes when handling cylinders.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless

ODOR: Odorless

PHYSICAL PRESSURE: Liquid

VAPOR PRESSURE: @20 deg.C: 1.86 mm Hg

VAPOR DENSITY (AIR=1): 4.14

BOILING POINT (C): 165

SOLUBILITY IN WATER: Insoluble

SPECIFIC GRAVITY (H2O=1): @4 deg.C: 0.888

EVAPORATION RATE: N/Av

ODOR THRESHOLD: N/Ap

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal storage conditions.

CONDITIONS TO AVOID: Storage in poorly ventilated areas. Storage near a heat source.

MATERIALS TO AVOID: Oxidizing agents.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: Toxic carbon monoxide.

11. TOXICOLOGICAL INFORMATION

LETHAL CONCENTRATION (LC50): 7,230 ppm, Rat 1 hour

LETHAL DOSE 50 (LD50): N/Ap

TERATOGENICITY: N/Ap

REPRODUCTIVE EFFECTS: N/Ap

MUTAGENICITY: N/AP

12. ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are the refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps in place.

14. TRANSPORT INFORMATION

CONCENTRATION: 99+%

DOT DESCRIPTION (US ONLY):

PROPER SHIPPING NAME: 1,3,5-Trimethylbenzene
HAZARD CLASS: 3 (flammable), Packing Group III
IDENTIFICATION NUMBER: UN2825
REPORTABLE QUANTITIES: None
LABELING: FLAMMABLE LIQUID

ADR / RID (EU Only): Class 3, 31(c)

SPECIAL PRECAUTIONS: Cylinders should be transported in a secure upright position in a well ventilated truck.

15. REGULATORY INFORMATION

OSHA: Process Safety Management: Material is not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemical.

TSCA: Material is listed in TSCA inventory.

SARA: The threshold planning quantity for material is 10,000 lbs.

EU NUMBER: 202-436-9

NUMBER IN ANNEX 1 OF DIR 67/548: Material is listed in annex 1.

EU CLASSIFICATION: N/Av

R: 10

S: 9

16. OTHER INFORMATION

OTHER PRECAUTIONS: Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).

ABBREVIATIONS: N/Ap - Not Applicable N/Av - Not Available SA - Simple Asphyxiant NE - None Established

DISCLAIMER: Information included in this document is given to the best of our knowledge, however, no warranty is made that the information is accurate or complete. We do not accept any responsibility for damages by the use of the document.



MATERIAL SAFETY DATA SHEET

Section 1 - Chemical Product and Company Identification

MSDS Name: 1,2,4-Trimethylbenzene
Catalog Numbers: AC140090000, AC140090010, AC140090025, AC140095000
Synonyms: Pseudocumene.
Company Identification: Acros Organics BVBA
 Janssen Pharmaceuticaaan 3a
 2440 Geel, Belgium
Company Identification: (USA) Acros Organics
 One Reagent Lane
 Fair Lawn, NJ 07410
For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#: 95-63-6
Chemical Name: 1,2,4-Trimethylbenzene
%: 98
EINECS#: 202-436-9

Hazard Symbols:



XN N



Risk Phrases:

10 20 36/37/38 51/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Warning! Flammable liquid and vapor. Harmful if inhaled. Causes eye, skin, and respiratory tract irritation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Target Organs: Blood, central nervous system, respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation. Causes redness and pain.
Skin: Causes skin irritation. Causes redness and pain. May be harmful if absorbed through the skin.
Ingestion: May cause irritation of the digestive tract. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal. May be harmful if swallowed. May cause central nervous system depression.
Inhalation: Harmful if inhaled. Causes respiratory tract irritation. May cause drowsiness, unconsciousness, and central nervous system depression.
Chronic: Prolonged or repeated skin contact may cause dermatitis. May cause anemia and other blood cell abnormalities. Prolonged exposure may produce a narcotic effect. Prolonged or repeated exposure may cause nausea, dizziness, and headache.

Section 4 - First Aid Measures

- Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
- Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Ingestion:** Do not induce vomiting. Possible aspiration hazard. Get medical aid immediately. Call a poison control center.
- Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Possible aspiration hazard. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to Physician:

Section 5 - Fire Fighting Measures

- General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Containers may explode in the heat of a fire. Flammable liquid and vapor.
- Extinguishing Media:** Use water spray to cool fire-exposed containers. Use water spray, dry chemical, carbon dioxide, or chemical foam.
- Autoignition Temperature:** 500 deg C (932.00 deg F)
- Flash Point:** 48 deg C (118.40 deg F)
- Explosion Limits: Lower:** 0.9 vol %
- Explosion Limits: Upper:** 6.4 vol %
- NFPA Rating:** health: 2; flammability: 2; instability: 0;

Section 6 - Accidental Release Measures

- General Information:** Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Remove all sources of ignition. Use a spark-proof tool. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

- Handling:** Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood. Keep away from heat, sparks and flame.
- Storage:** Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1,2,4-Trimethylbenzene	25 ppm TWA (listed under Trimethyl benzene).	25 ppm TWA; 125 mg/m3 TWA	none listed

OSHA Vacated PELs: 1,2,4-Trimethylbenzene: 25 ppm TWA; 125 mg/m3 TWA (listed under Trimethyl benzene)

Engineering Controls:

Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid
Color: colorless
Odor: aromatic odor
pH: Not available
Vapor Pressure: 7 mm Hg @ 44.4 deg C
Vapor Density: 4.15 (air=1)
Evaporation Rate: Not available
Viscosity: Not available
Boiling Point: 168 deg C @ 760 mmHg (334.40°F)
Freezing/Melting Point: -44 deg C (-47.20°F)
Decomposition Temperature: Not available
Solubility in water: Insoluble
Specific Gravity/Density: 0.880 g/cm3
Molecular Formula: C9H12
Molecular Weight: 120.19

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, ignition sources, excess heat.
Incompatibilities with Other Materials Strong oxidizing agents.
Hazardous Decomposition Products Carbon monoxide, carbon dioxide.
Hazardous Polymerization Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 95-63-6: DC3325000
LD50/LC50: RTECS:
CAS# 95-63-6: Inhalation, rat: LC50 = 18000 mg/m3/4H;
Oral, mouse: LD50 = 6900 mg/kg;
Oral, rat: LD50 = 5 gm/kg;
Carcinogenicity: 1,2,4-Trimethylbenzene - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: LC50 = 77.2 mg/L; 96 Hr; Flow-through at 25 C (pH 7.24)
Other: Do not empty into drains.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: FLAMMABLE LIQUIDS, N.O.S. (1,2,4-Trimethylbenzene)
Hazard Class: 3
UN Number: UN1993
Packing Group: III
Canada TDG

Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN N

Risk Phrases:

R 10 Flammable.

R 20 Harmful by inhalation.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 95-63-6: 3

Canada

CAS# 95-63-6 is listed on Canada's DSL List

Canadian WHMIS Classifications: B3, D1B, D2B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 95-63-6 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

CAS# 95-63-6 is listed on the TSCA
Inventory.

Section 16 - Other Information

MSDS Creation Date: 5/19/1999

Revision #5 Date 8/30/2007

Revisions were made in Sections: 3, 4, 5, 6, 7, 8, 9, 10, 11, 1

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

ATTACHMENT D

Standard Safe Work Practices

- 1) Eating, drinking, chewing tobacco, smoking and carrying matches or lighters is prohibited in a contaminated or potentially contaminated area or where the possibility for the transfer of contamination exists.
- 2) Avoid contact with potentially contaminated substances. Do not walk through puddles, pools, mud, etc. Avoid, whenever possible, kneeling on the ground, leaning or sitting on equipment or ground. Do not place monitoring equipment on potentially contaminated surfaces (i.e., ground, etc.).
- 3) All field crew members should make use of their senses to alert them to potentially dangerous situations in which they should not become involved; i.e., presence of strong and irritating or nauseating odors.
- 4) Prevent, to the extent possible, spills. In the event that a spillage occurs, contain liquid if possible.
- 5) Field crew members shall be familiar with the physical characteristics of investigations, including:
 - Wind direction
 - Accessibility to associates, equipment, vehicles
 - Communication
 - Hot zone (areas of known or suspected contamination)
 - Site access
 - Nearest water sources
- 6) All wastes generated during activities on-site should be disposed of as directed by the project manager or his on-site representative.
- 7) Protective equipment as specified in the section on personnel protection will be utilized by workers during the initial site reconnaissance, and other activities.

Employees shall follow procedures to avoid at-risk behaviors that could result in an incident.

APPENDIX D

Community Air Monitoring Plan

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.
4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

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

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed $150 \text{ mcg}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than $150 \text{ mcg}/\text{m}^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within $150 \text{ mcg}/\text{m}^3$ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

APPENDIX E

Quality Assurance Project Plan

Quality Assurance Project Plan

for

**1676 THIRD AVENUE
New York, New York**

Prepared For:

**Bevin Associates, LLC
c/o KLM Construction
155 East 56th Street, 6th Floor
New York, New York 10022**

Prepared By:

**Langan Engineering, Environmental, Surveying and
Landscape Architecture, D.P.C.
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, New York 10001
NJ Certificate of Authorization No: 24GA27996400**

**Joel B. Landes
Professional Engineer License No. 076348-1**

**May 6, 2013
170206301**

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

TABLE OF CONTENTS

	<u>PAGE</u>
1.0 PROJECT DESCRIPTION	1
1.1 Introduction	1
1.2 Project Objectives	1
1.3 Scope of Work	2
1.4 Data quality objectives and processes	3
2.0 PROJECT ORGANIZATION.....	5
3.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) OBJECTIVES FOR MEASUREMENT OF DATA.....	6
3.1 Introduction	6
3.2 Precision	6
3.3 Accuracy	10
3.4 Representativeness	11
3.5 Completeness.....	11
3.6 Comparability	12
4.0 SAMPLING PROGRAM.....	13
4.1 Introduction	13
4.2 Sample Container Preparation and Sample Preservation	13
4.3 Sample Holding Times	13
4.4 Field QC Samples.....	13
5.0 SAMPLE TRACKING AND CUSTODY	17
5.1 Introduction	17

5.2	Field Sample Custody.....	17
5.3	Laboratory Sample Custody	20
6.0	CALIBRATION PROCEDURES.....	21
6.1	Field Instruments	21
6.2	Laboratory Instruments.....	21
7.0	ANALYTICAL PROCEDURES.....	22
7.1	Introduction	22
8.0	DATA REDUCTION, VALIDATION, AND REPORTING	30
8.1	Introduction	30
8.2	Data Reduction	30
8.3	Data Validation	31
9.0	INTERNAL QUALITY CONTROL CHECKS AND FREQUENCY	33
9.1	Quality Assurance Batching.....	33
9.2	Calibration Standards and Surrogates.....	33
9.3	Organic Blanks and Matrix Spike.....	33
9.4	Trip and Field Blanks.....	33
10.0	QUALITY ASSURANCE PERFORMANCE AUDITS AND SYSTEM AUDITS	34
10.1	Introduction.....	34
10.2	System Audits	34
10.3	Performance Audits.....	34
10.4	Formal Audits	34
11.0	PREVENTIVE MAINTENANCE PROCEDURES AND SCHEDULES.....	36

11.1 Preventive Maintenance Procedures.....	36
11.2 Schedules.....	36
11.3 Records.....	36
12.0 CORRECTIVE ACTION	37
12.1 Introduction.....	37
12.2 Procedure Description.....	37
13.0 REFERENCES	40

LIST OF FIGURES

Figure 5.1 Sample Custody	18
Figure 5.2 Chain-of-Custody Record.....	19
Figure 12.1 Corrective Action Request.....	39

LIST OF TABLES

Table 3.1 Quality Control Limits for Water Samples	8
Table 3.2 Quality Control Limits for Soil Samples	9
Table 4.1 Water Sample Containerization, Preservation and Holding Times	15
Table 4.2 Soil Sample Containerization, Preservation and Holding Times	16
Table 7.1 Project Quantitation Limits	23

1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

Bevin Associates LLC is a volunteer that entered into a Brownfield Cleanup Program (BCP) Agreement (BCA), Index No. C231079, with the New York State Department of Environmental Conservation (NYSDEC) to investigate and, where necessary, remediate the approximately 930 square-foot property located at 1676 Third Avenue in Manhattan, New York. A description of the Site and proposed development were provided in the BCP application, submitted to NYSDEC on August 31, 2012. The proposed development included the construction of a five-story plus penthouse residential building with a basement. Additional Site information and data collected previously is provided in the Remedial Action Work Plan (RAWP).

This Quality Assurance Project Plan (QAPP) specifies analytical methods to be used to ensure that data from the proposed Remedial Action (RA) at the Site are precise, accurate, representative, comparable, and complete.

1.2 PROJECT OBJECTIVES

The environmental objectives of this project are to achieve a Track 4 cleanup under the New York State Brownfield Cleanup Program which includes the following:

- In-situ treatment of the groundwater VOC plume with the application of an oxidant, sodium persulfate;
- Placement of a highly visible barrier (e.g. orange snow fencing) between residual site material and imported backfill material.
- Installation of a Cupolex vapor intrusion system with active SSD within the basement of the Site to protect against exposure to potential migration VOCs onto the Site.
- Post remediation groundwater sampling to confirm effectiveness of remedy; and
- Development and execution of a Health and Safety Plan and a Community Monitoring Plan for the protection of on-site workers, the general public, and the environment during remediation and construction activities.

These objectives have been established in order to meet standards that will protect public health and the environment for the currently proposed mixed commercial and residential use development.

1.3 SCOPE OF WORK

The specific scope of work for this RA is described in detail in the RAWP. The RA will be conducted by the remediation contractor and overseen by Langan Engineering and Environmental Services, P.C. (Langan) on behalf of Bevin Associates LLC. The proposed development includes the demolition of existing structures and the construction of a five-story plus penthouse residential building.

The following activities will be performed as part of the remedial action:

- In Situ Chemical Oxidation- Injection of a chemical oxidant (sodium persulfate) will be performed using an estimated five direct push temporary injection points. The alkaline activation of the persulfate would be performed by addition of ferrous iron into the ground. Prior to field implementation of ISCO, limited bench-scale testing, including a test for total soil oxidant demand (SOD) and dosage treatability tests, will be conducted.
- Waste Characterization Soil Sampling - Soil samples for waste classification and disposal purposes will be collected during remedial activities. Soil samples will be collected at a frequency depending on the disposal facility requirements. Laboratory tests for characterization of a waste stream typically include all or a subset of the following list and will be determined by the facility's permit requirements: Target Compound List (TCL) volatile organic compounds (VOCs) and TCL semi-volatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs); Target Analyte List (TAL) metals; pesticides and herbicides; the Resource Conservation and Recovery Act (RCRA) hazardous characteristics of ignitability, corrosivity, and reactivity; RCRA toxicity characteristic using the Toxic Characteristics Leaching Procedure (TCLP) metals; Total Petroleum Hydrocarbons (TPH) Diesel Range Organics (DRO) and/or Gasoline Range Organics (GRO), hexavalent chromium, total cyanide, and paint filter.
- Cupolex® Soil Vapor Intrusion System with Active Sub-Slab Depressurization (SSD) – A Cupolex® soil vapor intrusion system will be installed beneath the entire basement slab of the Site. The Cupolex® system, which comprises of arrays of interlocking hardened plastic domes, will provide a highly efficient under-slab void network for an effective application of active SSD to facilitate the dilution and dispersal of vapors from beneath the slab. Concrete will be poured over the entire layout, creating a strengthened self-bearing aerated floor. Vapors that accumulate under the slab will migrate into a suction pit located at the northeast corner of the basement and will exit the suction pit through a 4-inch, black steel pipe, which rises to a roof-mounted discharge stack. A roof-mounted blower system will maintain a constant negative pressure through the vertical piping, and vapors will be channeled away from

the interior of the structure into the suction pits. The vacuum blowers will operate continuously after initial startup.

- Contingency for Previously Unknown Area of Concerns (AOCs) – During remediation activities, soil will be screened for evidence of previously unknown AOCs or hot spots, which could include buried structures, such as drains, sumps, or drywells. Any such structures and associated impacted soils will be remediated according to the appropriate guidelines (e.g., NYSDEC STARS Memo No. 1, NYSDEC DER-10, SPOTS #14, and 6 NYCRR Part 375 Soil Cleanup Objectives). Endpoint samples will be collected and analyzed for appropriate parameters for regulatory closeout. Waste characterization samples may also be collected for disposal purposes.

1.4 DATA QUALITY OBJECTIVES AND PROCESSES

The quality assurance and quality control objectives for all measurement data include:

- **Precision** – an expression of the reproducibility of measurements of the same parameter under a given set of conditions. Field sampling precision will be determined by analyzing coded duplicate samples and analytical precision will be determined by analyzing internal QC duplicates and matrix spike duplicates.
- **Accuracy** – a measure of the degree of agreement of a measured value with the true or expected value of the quantity of concern. Sampling accuracy will be determined through the assessment of the analytical results of field blanks and trip blanks for each sample set. Analytical accuracy will be assessed by examining the percent recoveries of surrogate compounds that are added to each sample (organic analyses only), and the percent recoveries of matrix spike compounds added to selected samples and laboratory blanks.
- **Representativeness** – expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness will be determined by assessing a number of investigation procedures, including chain of custody, decontamination, and analysis of field blanks and trip blanks.
- **Completeness** – the percentage of measurements made which are judged to be valid. Completeness will be assessed through data validation. The QC objective for completeness is generation of valid data for at least 90 percent of the analyses requested.
- **Comparability** – expresses the degree of confidence with which one data set can be compared to another. The comparability of all data collected for this project will be ensured using several procedures, including standard methods for sampling and analysis, instrument calibrations, using standard reporting units and reporting formats, and data validation.

Each of the above objectives are discussed in detail in Section 3.

2.0 PROJECT ORGANIZATION

The Remedial Action will be overseen by Langan on behalf of Bevin Associates LLC. Langan will oversee the remediation and off-site disposal of contaminated soil, in-situ groundwater treatment, installation of demarcation barrier, vapor intrusion system installation, and post remediation groundwater sampling. Langan will collect waste characterization and groundwater samples as required by the RAWP.

The analytical services will be performed by Alpha Analytical Laboratories (Alpha) or another NYSDOH ELAP-approved laboratory. Data validation services will be performed by EnviroAnalytics, or another independent data validator.

Key contacts for this project are as follows:

Bevin Associates LLC.:

Mr. Elias S Kefalidis
Telephone: (212) 758-7373

Langan Project Manager:

Mr. Jason Hayes, P.E.
Telephone: (212) 479-5427
Fax: (212) 479-5444

Langan Quality Assurance Officer (QAO):

Mr. Michael D. Burke
Telephone: (212) 479-5413
Fax: (212) 479-5444

Program Quality Assurance Monitor:

Mr. Ryan Wohlstrom
Telephone: (212) 479-5483

Laboratory Representatives:

Alpha Analytical Laboratories (Alpha):
Kevin Hoogerhyde
Telephone: (508) 898-9220

3.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) OBJECTIVES FOR MEASUREMENT OF DATA

3.1 INTRODUCTION

The quality assurance and quality control objectives for all measurement data include precision, accuracy, representativeness, completeness, and comparability. These objectives are defined in following subsections. They are formulated to meet the requirements of the USEPA SW-846. The analytical methods and their Contract Required Quantification Limits (CRQLs) are given in Section 7.

3.2 PRECISION

Precision is an expression of the reproducibility of measurements of the same parameter under a given set of conditions. Specifically, it is a quantitative measurement of the variability of a group of measurements compared to their average value (USEPA, 1987). Precision is usually stated in terms of standard deviation, but other estimates such as the coefficient of variation (relative standard deviation), range (maximum value minus minimum value), relative range, and relative percent difference (RPD) are common.

For this project, field sampling precision will be determined by analyzing coded duplicate samples (labeled so that the laboratory does not recognize them as duplicates) for the same parameters, and then, during data validation (Section 8), calculating the RPD for duplicate sample results.

Analytical precision will be determined by the laboratory by calculating the RPD for the results of the analysis of internal QC duplicates and matrix spike duplicates. The formula for calculating RPD is as follows:

$$RPD = \frac{|V1 - V2|}{(V1 + V2)/2} \times 100$$

where:

- RPD = Relative Percent Difference.
- V1, V2 = The two values to be compared.
- |V1 - V2| = The absolute value of the difference between the two values.
- (V1 + V2)/2 = The average of the two values.

The data quality objectives for analytical precision, calculated as the RPD between duplicate analyses, are presented in Tables 3.1 and 3.2.

TABLE 3.1
QUALITY CONTROL LIMITS FOR WATER SAMPLES

Laboratory Accuracy and Precision							
Analytical Parameters	Analytical Method (a)	Matrix Spike (MS) Compounds	MS/MSD (b) % Recovery	MS/MSD RPD I	LCS (d) % Recovery	Surrogate Compounds	Surrogate % Recovery
VOCs (e)	8260	1,1-Dichloroethane	61-145	-	NA	Toluene-d8	88-110
		Trichloroethene	71-120	-	NA	Bromofluorobenzene	86-115
		Benzene	76-127	-	NA	1,2-Dichloroethane-d4	76-114
		Toluene	76-125	-	NA		
		Chlorobenzene	75-130	-	NA		
SVOCs (f)	8270	Phenol	12-110	-	NA	Nitrobenzene-d5	35-114
		2-Chlorophenol	27-123	-	NA	2-Fluorobiphenyl	43-116
		1,4-Dichlorobenzene	36-97	-	NA	Terphenyl-d14	33-141
		N-Nitroso-di-n-propylamine	41-116	-	NA	Phenol-d5	10-110
		1,2,4-Trichlorobenzene	39-98	-	NA	2-Fluorophenol	21-110
		4-Chloro-3-methylphenol	23-97	-	NA	2,4,6-Tribromophenol	10-123
		Acenaphthene	46-118	-	NA	2-Chlorophenol-d4	33-110 (g)
		4-Nitrophenol	10-80	-	NA	1,2-Dichlorobenzene-d4	16-110 (g)
		2,4-Dinitrotoluene	24-96	-	NA		
		Pentachlorophenol	9-103	-	NA		
		Pyrene	26-127	-	NA		
Inorganics (i)	6010,7470/7471 , 7841,9010, OIA-1677	Inorganic Analyte	75-125 (j)	- (k)	80-120	NA	NA

(a) Analytical Methods: USEPA SW-846, 3rd edition, Revision 1, November 1990; any subsequent revisions shall supersede this information

(b) Matrix Spike/Matrix Spike Duplicate

(c) Relative Percent Difference

(d) Laboratory Control Sample

(e) Target Compound List Volatile Organic Compounds plus library search

(f) Target Compound List Semivolatile Organic Compounds plus library search

(g) Limits are advisory only

(h) Polychlorinated Biphenyls

(i) Target Analyte List Inorganics (metals)

(j) Matrix spike only

(k) Laboratory duplicate RPD

NA - Not Applicable

TABLE 3.2
QUALITY CONTROL LIMITS FOR SOIL SAMPLES

Laboratory Accuracy and Precision							
Analytical Parameter	Analytical Method (a)	Matrix Spike (MS) Compounds	MS/MSD (b) % Recovery	MS/MSD RPD (c)	LCS (d) % Recovery	Surrogate Compounds	Surrogate % Recovery
VOCs (e)	8260	1,1-Dichloroethane	59-172	22	NA	Toluene-d8	84-138
		Trichloroethene	62-137	24	NA	Bromofluorobenzene	59-113
		Benzene	66-142	21	NA	1,2-Dichloroethane-d4	70-121
		Toluene	59-139	21	NA		
		Chlorobenzene	60-133	21	NA		
SVOCs (f)	8270	Phenol	26-90	35	NA	Nitrobenzene-d5	23-120
		2-Chlorophenol	25-102	50	NA	2-Fluorobiphenyl	30-115
		1,4-Dichlorobenzene	28-104	27	NA	Terphenyl-d14	18-137
		N-Nitroso-di-n-propylamine	41-126	38	NA	Phenol-d5	24-113
		1,2,4-Trichlorobenzene	38-107	23	NA	2-Fluorophenol	25-121
		4-Chloro-3-methylphenol	26-103	33	NA	2,4,6-Tribromophenol	19-122
		Acenaphthene	31-137	19	NA	2-Chlorophenol-d4	20-130 (g)
		4-Nitrophenol	11-114	50	NA	1,2-Dichlorobenzene-d4	20-130 (g)
		2,4-Dinitrotoluene	28-89	47	NA		
		Pentachlorophenol	17-109	47	NA		
		Pyrene	35-142	36	NA		
Inorganics (i)	6010, 7470/7471, 7841, 9010	Inorganic Analyte	75-125 (j)	20 (k)	80-120	NA	NA
PCBs	8082	PCB (Aroclor 1260)	50-128	50	NA	Tetrachlorometaxylene	24-154
						Decachlorobiphenyl	25-159

(a) Analytical Methods: USEPA SW-846, 3rd edition, Revision 1, November 1990, any subsequent revisions shall supersede this information

(b) Matrix Spike/Matrix Spike Duplicate

(c) Relative Percent Difference

(d) Laboratory Control Sample

(e) Target Compound List Volatile Organic Compounds

(f) Target Compound List Semivolatile Organic Compounds

(g) Limits are advisory only

(h) Polychlorinated Biphenyls

(i) Target Analyte List Inorganics (metals and cyanide)

(j) Matrix spike only

(k) Laboratory duplicate RPD

NA - Not Applicable

3.3 ACCURACY

Accuracy is a measure of the degree of agreement of a measured value with the true or expected value of the quantity of concern (Taylor, 1987), or the difference between a measured value and the true or accepted reference value. The accuracy of an analytical procedure is best determined by the analysis of a sample containing a known quantity of material, and is expressed as the percent of the known quantity, which is recovered or measured. The recovery of a given analyte is dependent upon the sample matrix, method of analysis, and the specific compound or element being determined. The concentration of the analyte relative to the detection limit of the analytical method is also a major factor in determining the accuracy of the measurement. Concentrations of analytes, which are close to the detection limits are less accurate because they are more affected by such factors as instrument "noise". Higher concentrations will not be as affected by instrument noise or other variables and thus will be more accurate.

Sampling accuracy may be determined through the assessment of the analytical results of field blanks and trip blanks for each sample set. Analytical accuracy is typically assessed by examining the percent recoveries of surrogate compounds that are added to each sample (organic analyses only), and the percent recoveries of matrix spike compounds added to selected samples and laboratory blanks. Additionally, initial and continuing calibrations must be performed and accomplished within the established method control limits to define the instrument accuracy before analytical accuracy can be determined for any sample set.

Accuracy is normally measured as the percent recovery (%R) of a known amount of analyte, called a spike, added to a sample (matrix spike) or to a blank (blank spike). The %R is calculated as follows:

$$\%R = \frac{SSR - SR}{SA} \times 100$$

where:

- %R = Percent recovery.
- SSR = Spike sample result: concentration of analyte obtained by analyzing the sample with the spike added.
- SR = Sample result: the background value, i.e., the concentration of the analyte obtained by analyzing the sample.
- SA = Spiked analyte: concentration of the analyte spike added to the sample.

The acceptance limits for accuracy for each parameter are presented in Tables 3.1 and 3.2.

3.4 REPRESENTATIVENESS

Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a qualitative parameter, which is most concerned with the proper design of the sampling program (USEPA, 1987). Samples must be representative of the environmental media being sampled. Selection of sample locations and sampling procedures will incorporate consideration of obtaining the most representative sample possible.

Field and laboratory procedures will be performed in such a manner as to ensure, to the degree that is technically possible, that the data derived represents the in-place quality of the material sampled. Every effort will be made to ensure chemical compounds will not be introduced into the sample via sample containers, handling, and analysis. Decontamination of sampling devices and digging equipment will be performed between samples as outlined in the Field Sampling Plan. Analysis of field blanks, trip blanks, and method blanks will also be performed to monitor for potential sample contamination from field and laboratory procedures.

The assessment of representativeness also must consider the degree of heterogeneity in the material from which the samples are collected. Sampling heterogeneity will be evaluated during data validation through the analysis of coded field duplicate samples. The analytical laboratory will also follow acceptable procedures to assure the samples are adequately homogenized prior to taking aliquots for analysis, so the reported results are representative of the sample received.

Chain-of-custody procedures will be followed to document that contamination of samples has not occurred during container preparation, shipment, and sampling. Details of blank, duplicate and Chain-of-custody procedures are presented in Sections 4 and 5.

3.5 COMPLETENESS

Completeness is defined as the percentage of measurements made which are judged to be valid (USEPA, 1987). The QC objective for completeness is generation of valid data for at least 90 percent of the analyses requested. Completeness is defined as follows for all sample measurements:

$$\%C = \frac{V}{T} \times 100$$

where:

%C = Percent completeness.

V = Number of measurements judged valid.

T = Total number of measurements.

3.6 COMPARABILITY

Comparability expresses the degree of confidence with which one data set can be compared to another (USEPA, 1987). The comparability of all data collected for this project will be ensured by:

- Using identified standard methods for both sampling and analysis phases of this project;
- Requiring traceability of all analytical standards and/or source materials to the U.S. Environmental Protection Agency (USEPA) or National Institute of Standards and Technology (NIST);
- Requiring that all calibrations be verified with an independently prepared standard from a source other than that used for calibration (if applicable);
- Using standard reporting units and reporting formats including the reporting of QC data;
- Performing a complete data validation on a representative fraction of the analytical results, including the use of data qualifiers in all cases where appropriate; and
- Requiring that all validation qualifiers be used any time an analytical result is used for any purpose.

These steps will ensure all future users of either the data or the conclusions drawn from them will be able to judge the comparability of these data and conclusions.

4.0 SAMPLING PROGRAM

4.1 INTRODUCTION

The sampling program will provide:

- characterization of soils/waste that will be removed and disposed off-site;
- characterization and endpoint sampling for soil at previously unidentified hot spots or at underground storage tanks, if any are uncovered during remediation; and
- post-remediation groundwater samples to document effectiveness of remedy.

This section presents sample container preparation procedures, sample preservation procedures, sample holding times, and field QC sample requirements. The sampling procedures are presented in the Field Sampling Plan provided as Appendix E of the RAWP.

4.2 SAMPLE CONTAINER PREPARATION AND SAMPLE PRESERVATION

Sample containers will be properly washed and decontaminated prior to their use by either the analytical laboratory or the container vendor to the specifications required by the USEPA. Copies of the sample container QC analyses will be provided by the laboratory for each container lot used to obtain samples. The containers will be labeled and the appropriate preservatives will be added. The types of containers are shown in Tables 4.1 and 4.2.

Samples shall be preserved according to the preservation techniques given in Tables 4.1 and 4.2. Preservatives will be added to the sample bottles by the laboratory prior to their shipment in sufficient quantities to ensure that proper sample pH is met. Following sample collection, the sample bottles should be placed on ice in the shipping cooler, cooled to 4°C with ice or "blue ice", and delivered to the laboratory within 48 hours of collection. Chain-of-custody procedures are described in Section 7.

4.3 SAMPLE HOLDING TIMES

The sample holding times for organic and inorganic parameters are given in Tables 4.1 and 4.2 and must be in accordance with the NYSDEC ASP requirements. The NYSDEC ASP holding times must be strictly adhered to by the laboratory. Any holding time exceedances must be reported to Langan.

4.4 FIELD QC SAMPLES

To assess field sampling and decontamination performance, two types of "blanks" will be collected and submitted to the laboratory for analyses. In addition, the precision of

field sampling procedures will be assessed by collecting coded field duplicates and matrix spike/matrix spike duplicates (MS/MSDs). The blanks will include:

- a. Trip Blanks - A trip blank will be prepared before the sample containers are sent by the laboratory. The trip blank will consist of a 40-ml VOA vial containing distilled, deionized water, which accompanies the other water sample bottles into the field and back to the laboratory. A trip blank will be included with each shipment of water samples for Part 375 volatiles analysis. The Trip Blank will be analyzed for volatile organic compounds to assess any contamination from sampling and transport, and internal laboratory procedures.
- b. Field Blanks - Field blanks will be taken at a minimum frequency of one per 20 field samples per sample matrix. Field blanks are used to determine the effectiveness of the decontamination procedures for sampling equipment. The field blank will consist of a sample of deionized, distilled water provided by the laboratory that has passed through a decontaminated bailer, tubing or other sampling apparatus. It is usually collected as a last step in the decontamination procedure, prior to taking an environmental sample. The field blank may be analyzed for all or some of the parameters of interest.

The duplicates will include:

- a. Coded Field Duplicate - To determine the representativeness of the sampling methods, coded field duplicates will be collected at a minimum frequency of one per 20 field samples. The samples are termed "coded" because they will be labeled in such a manner that the laboratory will not be able to determine that they are a duplicate sample. This will eliminate any possible bias that could arise.
- b. Matrix Spike/Matrix Spike Duplicate (MS/MSD) - MS/MSD samples (MS/MSD for organics; MS and laboratory duplicate for inorganics) will be taken at a frequency of one pair per 20 field samples. These samples are used to assess the effect of the sample matrix on the recovery of target compounds or target analytes. The percent recoveries and RPDs are given in Tables 3.1 and 3.2.

TABLE 4.1
WATER SAMPLE CONTAINERIZATION, PRESERVATION,
AND HOLDING TIMES

Analysis	Bottle Type	Preservation (a)	Holding Time (b)
Volatile Organic Compounds (VOCs)	2-40 mL glass vial w/ Teflon septum	Cool to 4°C, HCL pH<2	7 days
Semi-volatile Organics Compounds (SVOCs)	1000 mL glass w/ Teflon lined cap	Cool to 4°C	7 days*
Metals	1000 mL plastic bottle	Nitric Acid to pH < 2 Cool to 4°C	6 months, except mercury (28 days)

(a) All samples to be preserved in ice during collection and transport.

(b) Days from validated time of sample receipt (VTSR).

* Continuous liquid-liquid extraction is the required extraction for water samples for SVOCs. Continuous liquid-liquid extraction and concentration of water samples for SVOCs analysis completed within 7 days of VTSR. Extracts of water samples must be analyzed within 40 days of extraction.

TABLE 4.2
SOIL SAMPLE
CONTAINERIZATION, PRESERVATION AND HOLDING TIMES

Analysis	Bottle Type	Preservation ^(a)	Holding Time ^(b)
Volatile Organic Compounds (VOCs)	Wide-mouth glass w/ teflon lined cap	Cool to 4°C	14 days
Other Organic Compounds ^(c)	Wide-mouth glass w/ teflon lined cap	Cool to 4°C	14 days*
Metals	Wide-mouth plastic or glass	Cool to 4°C	6 months, except mercury (28 days)
PCBs	Wide-mouth glass w/ Teflon-lined cap	Cool to 4°C	14 days**

(a) All samples to be preserved in ice during collection and transport.

(b) Days from date of sample collection.

(c) Semi-volatile organic compounds or PCBs.

* Soxhlet or sonication procedures for extraction and concentration of soil/waste samples for SVOCs must be completed within 10 days of VTSR. Extracts of soil samples must be analyzed within 40 days of extraction.

** Procedures for extraction and concentration of soil/waste samples for PCBs must be completed within 14 days of VTSR. Extracts of soil samples must be analyzed within 40 days of extraction.

5.0 SAMPLE TRACKING AND CUSTODY

5.1 INTRODUCTION

This section presents sample custody procedures for both the field and laboratory. Implementation of proper custody procedures for samples generated in the field is the responsibility of field personnel. Both laboratory and field personnel involved in the Chain-of-custody (COC) and transfer of samples will be trained as to the purpose and procedures prior to implementation.

Evidence of sample traceability and integrity is provided by COC procedures. These procedures document the sample traceability from the selection and preparation of the sample containers by the laboratory, to sample collection, to sample shipment, to laboratory receipt and analysis. The sample custody flowchart is shown in Figure 5.1. A sample is considered to be in a person's custody if the sample is:

- In a person's possession;
- Maintained in view after possession is accepted and documented;
- Locked and tagged with Custody Seals so that no one can tamper with it after having been in physical custody; or
- In a secured area which is restricted to authorized personnel.

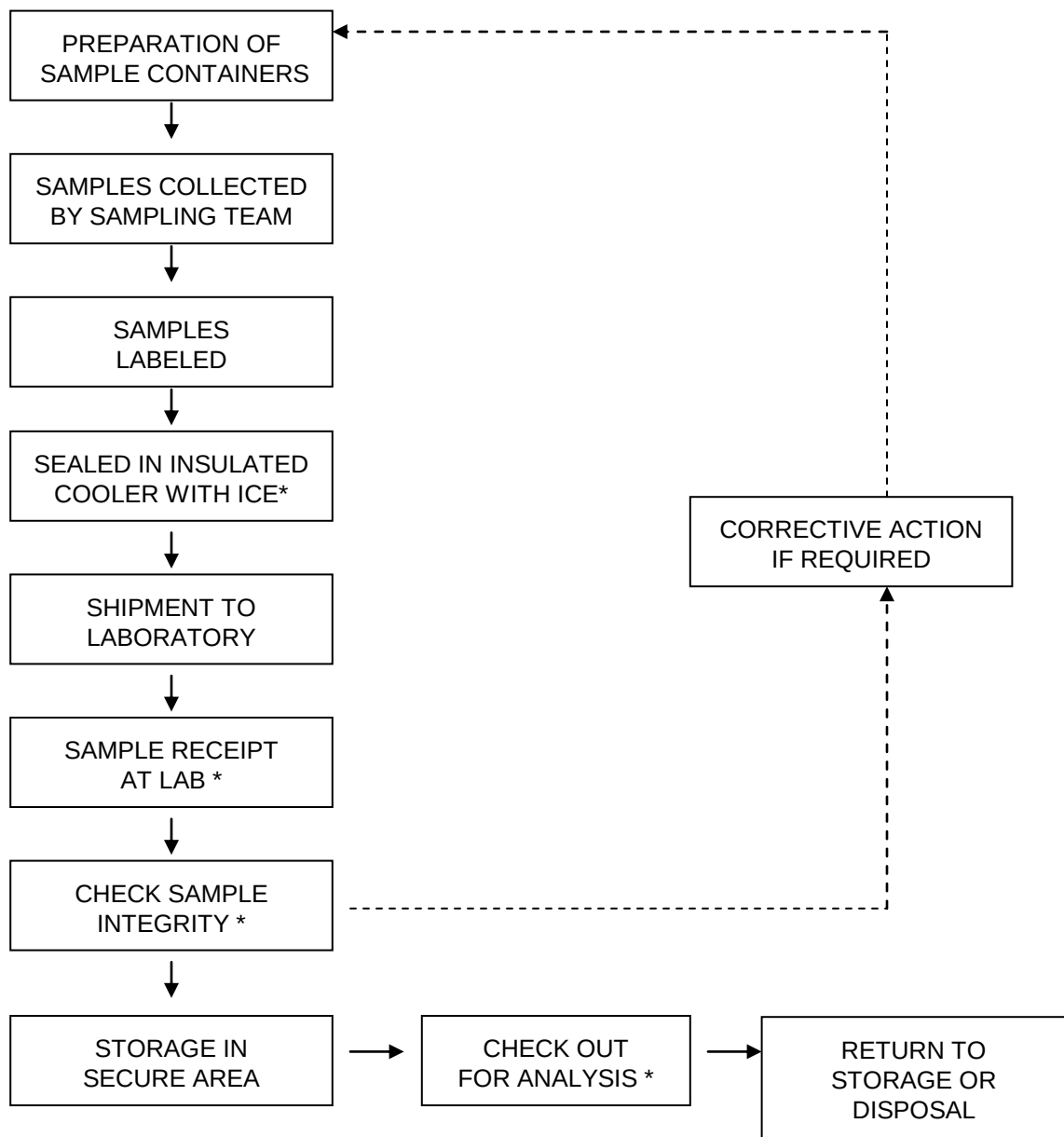
5.2 FIELD SAMPLE CUSTODY

A COC record (Figure 5.2 or similar) accompanies the sample containers from selection and preparation at the laboratory, during shipment to the field for sample containment and preservation, and during return to the laboratory. Triplicate copies of the COC must be completed for each sample set collected.

The COC lists the field personnel responsible for taking samples, the project name and number, the name of the analytical laboratory to which the samples are sent, and the method of sample shipment. The COC also lists a unique description of every sample bottle in the set. If samples are split and sent to different laboratories, a copy of the COC record will be sent with each sample.

The REMARKS space on the COC is used to indicate if the sample is a matrix spike, matrix spike duplicate, or any other sample information for the laboratory. Since they are not specific to any one sample point, trip and field blanks are indicated on separate rows. Once all bottles are properly accounted for on the form, a sampler will write his or her signature and the date and time on the first RELINQUISHED BY space. The sampler will also write the method of shipment, the shipping cooler identification number, and the shipper airbill number on the top of the COC.

Figure 5-1 Sample Custody



* REQUIRES SIGN-OFF ON CHAIN-OF-CUSTODY FORM

Langan
Engineering and Er

Engineering and Environmental Services

PAGE _____ OF _____

19

Mistakes will be crossed out with a single line in ink and initialed by the author.

One copy of the COC is retained by sampling personnel (notations identifying blind duplicate samples will be added to this copy of the COC but not the others that will go to the laboratory) and the other two copies are put into a sealable plastic bag and taped inside the lid of the shipping cooler. The cooler lid is closed, custody seals provided by the laboratory are affixed to the latch and across the back and front lids of the cooler, and the person relinquishing the samples signs their name across the seal. The seal is taped, and the cooler is wrapped tightly with clear packing tape. It is then relinquished by field personnel to personnel responsible for shipment, typically an overnight carrier. The COC seal must be broken to open the container. Breakage of the seals before receipt at the laboratory may indicate tampering. If tampering is apparent, the laboratory will contact the Project Manager, and the sample will not be analyzed.

5.3 LABORATORY SAMPLE CUSTODY

The Project Manager or Field Team Leader will notify the laboratory of upcoming field sampling activities, and the subsequent shipment of samples to the laboratory. This notification will include information concerning the number and type of samples to be shipped as well as the anticipated date of arrival.

The following laboratory sample custody procedures will be used:

- The laboratory will designate a sample custodian who will be responsible for maintaining custody of the samples, and for maintaining all associated records documenting that custody.
- Upon receipt of the samples, the custodian will check cooler temperature, and check the original COC documents and compare them with the labeled contents of each sample container for correctness and traceability. The sample custodian will sign the COC record and record the date and time received.
- Care will be exercised to annotate any labeling or descriptive errors. In the event of discrepant documentation, the laboratory will immediately contact the Project Manager or Field Team Leader as part of the corrective action process. A qualitative assessment of each sample container will be performed to note any anomalies, such as broken or leaking bottles. This assessment will be recorded as part of the incoming chain-of-custody procedure.
- The samples will be stored in a secured area at a temperature of approximately 4°C until analyses commence.
- A laboratory tracking record will accompany the sample or sample fraction through final analysis for control.
- A copy of the tracking record will accompany the laboratory report and will become a permanent part of the project records.

6.0 CALIBRATION PROCEDURES

6.1 FIELD INSTRUMENTS

All field analytical equipment will be calibrated immediately prior to each day's use. The calibration procedures will conform to manufacturer's standard instructions and are described in the Field Sampling Plan. This calibration will ensure that the equipment is functioning within the allowable tolerances established by the manufacturer and required by the project. Records of all instrument calibration will be maintained by the Field Team Leader. Copies of all the instrument manuals will be maintained on-site by the Field Team Leader.

Calibration procedures for instruments used for monitoring health and safety hazards (e.g., photoionization detector and explosimeter) are provided in the Health and Safety Plan.

6.2 LABORATORY INSTRUMENTS

The laboratory will follow all calibration procedures and schedules as specified in the sections of the USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods given in Section 7.

7.0 ANALYTICAL PROCEDURES

7.1 INTRODUCTION

Samples will be analyzed according to the USEPA SW-846 "Test Methods for Evaluating Solid Waste," November 1986, 3rd edition and subsequent updates. The methods to be used for the laboratory analysis of water and soil samples are presented in Table 7.1. These methods were selected because they attain the desired quantitation limits, which are compiled on Table 7.1.

TABLE 7.1
PROJECT QUANTITATION LIMITS

Analysis/Compound	Method	Estimated Quantitation Limits	
		RL (mg/L)	MDL(mg/kg)
Volatile Organics			
1 Methylene Chloride	SW8260B	0.034	0.0028
2 1,1-Dichloroethane	SW8260B	0.0051	0.001
3 Chloroform	SW8260B	0.0051	0.0011
4 Carbon Tetrachloride	SW8260B	0.0034	0.00072
5 1,2-Dichloropropane	SW8260B	0.012	0.00087
6 Dibromochloromethane	SW8260B	0.0034	0.001
7 1,1,2-Trichloroethane	SW8260B	0.0051	0.0013
8 Tetrachloroethene	SW8260B	0.0034	0.001
9 Chlorobenzene	SW8260B	0.0034	0.00064
10 Trichloroflouromethane	SW8260B	0.017	0.0013
11 1,2-Dichloroethane	SW8260B	0.0034	0.00078
12 1,1,1-Trichloroethane	SW8260B	0.0034	0.00092
13 Bromodichloromethane	SW8260B	0.0034	0.0016
14 Trans-1,3-Dichloropropene	SW8260B	0.0034	0.0017
15 Cis-1,3-Dichloropropene	SW8260B	0.0034	0.00082
16 1,1-Dichloropropene	SW8260B	0.017	0.001
17 Bromoform	SW8260B	0.014	0.00083
18 1,1,2,2-Tetrachloroethane	SW8260B	0.0034	0.00076
19 Benzene	SW8260B	0.0034	0.0027
20 Toluene	SW8260B	0.0051	0.0022
21 Ethylbenzene	SW8260B	0.0034	0.0026
f22 Chloromethane	SW8260B	0.017	0.0015
23 Bromomethane	SW8260B	0.0068	0.00089
24 Vinyl Chloride	SW8260B	0.0068	0.0013
25 Chloromethane	SW8260B	0.0068	0.00077
26 1,1-Dichloroethene	SW8260B	0.0034	0.0012
27 Trans-1,2-Dichloroethene	SW8260B	0.0051	0.0014
28 Trichloroethene	SW8260B	0.0034	0.0014
29 1,2-Dichlorobenzene	SW8260B	0.017	0.0017
30 1,3-Dichlorobenzene	SW8260B	0.017	0.0015
31 1,4-Dichlorobenzene	SW8260B	0.017	0.0014
32 Methyl tert butyl ether	SW8260B	0.0068	0.001
33 p/m-Xylene	SW8260B	0.0068	0.0015

TABLE 7.1 (Continued)

PROJECT QUANTITATION LIMITS PROJECT QUANTITATION LIMITS

Analysis/Compound	Method	Estimated Quantitation Limits	
		Water (mg/L)	Soil (mg/kg)
Volatile Organics (cont.)			
34 o-xylene	SW8260B	0.0068	0.0014
35 Cis-1,2-Dichloroethene	SW8260B	0.0034	0.001
36 Dibromomethane	SW8260B	0.034	0.0015
37 Styrene	SW8260B	0.0068	0.0025
38 Dichlorodiflouromethane	SW8260B	0.034	0.0013
39 Acetone	SW8260B	0.034	0.011
40 Carbon disulfide	SW8260B	0.034	0.0013
41 2-Butanone	SW8260B	0.034	0.013
42 Vinyl acetate	SW8260B	0.034	0.0026
43 4-Methyl-2pentanone	SW8260B	0.034	0.0028
44 1,2,3-Trichloropropane	SW8260B	0.034	0.0013
45 2-Hexanone	SW8260B	0.034	0.0014
46 Bromochloromethane	SW8260B	0.017	0.001
47 2,2-Dichloropropane	SW8260B	0.017	0.0027
48 1,2-Dibromoethane	SW8260B	0.014	0.0014
49 1,3-Dichloropropane	SW8260B	0.017	0.0019
50 1,1,1,2-Tetrachloroethane	SW8260B	0.0034	0.0011
51 Bromobenzene	SW8260B	0.017	0.00075
52 n-Butylbenzene	SW8260B	0.0034	0.0011
53 Sec-Butylbenzene	SW8260B	0.0034	0.00094
54 Tert-Butylbenzene	SW8260B	0.017	0.0021
55 O-chlorotoluene	SW8260B	0.017	0.0011
56 p-chlorotoluene	SW8260B	0.017	0.0012
57 1,2-Dibromo-3-chloropropane	SW8260B	0.017	0.0029
58 Hexachlorobutadiene	SW8260B	0.017	0.0016
59 Isopropylbenzene	SW8260B	0.0034	0.00061
60 p-Isopropylbenzene	SW8260B	0.0034	0.00094
61 Naphthalene	SW8260B	0.017	0.0026
62 Acrylonitrile	SW8260B	0.034	0.0013
63 n-Propylbenzene	SW8260B	0.0034	0.00097
64 1,2,3-Trichlorobenzene	SW8260B	0.017	0.0014
65 1,2,4-Trimethylbenzene	SW8260B	0.017	0.0027
66 1,3,5-Trimethylbenzene	SW8260B	0.017	0.0021
67 1,2,4-Trimethylbenzene	SW8260B	0.017	0.002

TABLE 7.1 (Continued)
PROJECT QUANTITATION LIMITS

Analysis/Compound	Method	Estimated Quantitation Limits	
		RL (ug/L)	MDL (ug/kg)
Volatile Organics (cont.)			
68 1,4-Diethylbenzene	SW8260B	0.014	0.00068
69 4-Ethyltoluene	SW8260B	0.014	0.00033
70 1,2,4,5-Tetramethylbenzene	SW8260B	0.014	0.00062
71 Ethyl ether	SW8260B	0.017	0.0013
72 Trans-1,4-Dichloro-2-butene	SW8260B	0.017	0.0051
Semivolatile Organics			
1 Acenaphthalene	SW8270C	0.18	0.042
2 1,2,4-Trichlorobenzene	SW8270C	0.22	0.037
3 Hexachlorobenzene	SW8270C	0.14	0.035
4 Bis(2-chloroethyl)ether	SW8270C	0.2	0.043
5 2-Chloronaphthalene	SW8270C	0.22	0.068
6 1,2-Dichlorobenzene	SW8270C	0.22	0.066
7 1,3-Dichlorobenzene	SW8270C	0.22	0.07
8 1,4-Dichlorobenzene	SW8270C	0.22	0.064
9 3,3'-Dichlorobenzidine	SW8270C	0.22	0.081
10 2,4-Dinitrotoluene	SW8270C	0.22	0.06
11 2,6-Dinitrotoluene	SW8270C	0.22	0.074
12 Fluoranthene	SW8270C	0.14	0.029
13 4-Chlorophenyl phenyl ether	SW8270C	0.22	0.031
14 4-Bromophenyl phenyl ether	SW8270C	0.22	0.036
15 Bis(2-chloroisopropyl)ether	SW8270C	0.27	0.072
16 Bis(2-chloroethoxy)methane	SW8270C	0.24	0.051
17 Hexachlorobutadiene	SW8270C	0.22	0.042
18 Hexachlorocyclopentadiene	SW8270C	0.65	0.18
19 Hexachloroethane	SW8270C	0.18	0.032
20 Isophorone	SW8270C	0.2	0.036
21 Naphthalene	SW8270C	0.22	0.072
22 Nitrobenzene	SW8270C	0.2	0.066
23 NitrosoDiPhenylAmine(NDPA/DPA)	SW8270C	0.18	0.056
24 n-Nitrosodi-n-propylamine	SW8270C	0.22	0.063
25 Bis(2-Ethylhexyl)phthalate	SW8270C	0.22	0.047

TABLE 7.1 (Continued)
PROJECT QUANTITATION LIMITS

		Estimated Quantitation Limits		
Analysis/Compound	Method	RL (mg/L)	MDL (mg/kg)	
Semivolatile Organics (cont.)				
26	Butyl benzyl phthalate	SW8270C	0.22	0.063
27	Di-n-butylphthalate	SW8270C	0.22	0.038
28	Di-n-octylphthalate	SW8270C	0.22	0.061
29	Diethyl phthalate	SW8270C	0.22	0.039
30	Dimethyl phthalate	SW8270C	0.22	0.037
31	Benzo(a)anthracene	SW8270C	0.14	0.045
32	Benzo(a)pyrene	SW8270C	0.18	0.054
33	Benzo(b)fluoranthene	SW8270C	0.14	0.036
34	Benzo(k)fluoranthene	SW8270C	0.14	0.035
35	Chrysene	SW8270C	0.14	0.029
36	Acenaphthylene	SW8270C	0.18	0.058
37	Anthracene	SW8270C	0.14	0.03
38	Benzo(ghi)perylene	SW8270C	0.18	0.057
39	Fluorene	SW8270C	0.22	0.041
40	Phenanthrene	SW8270C	0.14	0.038
41	Dibenzo(a,h)anthracene	SW8270C	0.14	0.042
42	Indeno(1,2,3-cd)Pyrene	SW8270C	0.18	0.055
43	Pyrene	SW8270C	0.14	0.037
44	Biphenyl	SW8270C	0.51	0.016
45	4-Chloroaniline	SW8270C	0.22	0.024
46	2-Nitroaniline	SW8270C	0.22	0.041
47	3-Nitroaniline	SW8270C	0.22	0.023
48	4-Nitroaniline	SW8270C	0.22	0.051
49	Dibenzofuran	SW8270C	0.22	0.036
50	2-Methylnaphthalene	SW8270C	0.27	0.089
51	1,2,4-Tetrachlorobenzene	SW8270C	0.22	0.066
52	Acetophenone	SW8270C	0.22	0.072
53	2,4,6-Trichlorophenol	SW8270C	0.14	0.041
54	P-chloro-M-Cresol	SW8270C	0.22	0.046
55	2-Chlorophenol	SW8270C	0.22	0.07

TABLE 7.1 (Continued)
PROJECT QUANTITATION LIMITS

		Estimated Quantitation Limits		
Analysis/Compound	Method	RL (mg/L)	MDL (mg/kg)	
Semivolatile Organics (cont.)				
56	2,4-Dinitrophenol	SW8270C	0.2	0.066
57	2,4-Dimethylphenol	SW8270C	0.22	0.034
58	2-Nitrophenol	SW8270C	0.2	0.16
59	4-Nitrophenol	SW8270C	0.49	0.096
60	2,4-Dinitro	SW8270C	0.32	0.35
61	4,6-Dinitro-o-cresol	SW8270C	1.1	0.21
62	Pentachlorophenol	SW8270C	0.59	0.053
63	Phenol	SW8270C	0.18	0.066
64	2-Methylphenol	SW8270C	0.22	0.056
65	3-Methylphenol/4-Methylphenol	SW8270C	0.22	0.097
66	2,4,5-Trichlorophenol	SW8270C	0.32	0.052
67	Benzoic Acid	SW8270C	0.22	0.19
68	Benzyl Alcohol	SW8270C	0.73	0.052
69	Carbazole	SW8270C	0.22	0.032
PCBs				
1	Aroclor-1016	SW8082	0.0469	0.009
2	Aroclor-1221	SW8082	0.0469	0.014
3	Aroclor-1232	SW8082	0.0469	0.01
4	Aroclor-1242	SW8082	0.0469	0.009
5	Aroclor-1248	SW8082	0.0469	0.006
6	Aroclor-1254	SW8082	0.0469	0.007
7	Aroclor-1260	SW8082	0.0469	0.008
Metals				
1	Aluminum	SW6010B	10	2.3
2	Antimony	SW6010B	5.2	1
3	Arsenic	SW6010B	1	0.36
4	Barium	SW6010B	1	0.09
5	Beryllium	SW6010B	0.52	0.04
6	Cadmium	SW6010B	1	0.07

TABLE 7.1 (Continued)
PROJECT QUANTITATION LIMITS

Analysis/Compound		Method	Estimated Quantitation Limits	
			RL (mg/L)	MDL (mg/kg)
Metals (cont.)				
7	Calcium	SW6010B	10	2.3
8	Chromium	SW6010B	1	0.21
9	Cobalt	SW6010B	2.1	0.22
10	Copper	SW6010B	1	1
11	Iron	SW6010B	5.2	1.8
12	Lead	SW6010B	5.2	0.29
13	Magnesium	SW6010B	10	4.7
14	Manganese	SW6010B	1	0.11
15	Mercury	SW7471A	0.1	0.02
16	Nickel	SW6010B	2.6	0.29
17	Potassium	SW6010B	260	84
18	Selenium	SW6010B	2.1	0.34
19	Silver	SW6010B	1	0.17
20	Sodium	SW6010B	210	83
21	Thallium	SW6010B	2.1	0.65
22	Vanadium	SW6010B	1	0.23
23	Zinc	SW6010B	5.2	0.57

TABLE 7.1 (Continued)
PROJECT QUANTITATION LIMITS

Analysis/Compound	Method	Estimated Quantitation Limits	
		RL (mg/L)	MDL (mg/kg)
Pesticides			
1 Delta-BHC	SW8081A	0.0029	0.000448
2 Lindane	SW8081A	0.000954	0.000426
3 Alpha-BHC	SW8081A	0.000954	0.000271
4 Beta-BHC	SW8081A	0.00229	0.000868
5 Heptachlor	SW8081A	0.00114	0.000513
6 Aldrin	SW8081A	0.00429	0.000806
7 Heptachlor epoxide	SW8081A	0.00429	0.00129
8 Endrin	SW8081A	0.000954	0.000391
9 Endrin Ketone	SW8081A	0.00229	0.00059
10 Dieldrin	SW8081A	0.00143	0.000715
11 4,4'-DDE	SW8081A	0.00229	0.000529
12 4,4'-DDD	SW8081A	0.00229	0.000816
13 4,4'-DDT	SW8081A	0.0033	0.00184
14 Endosulfan I	SW8081A	0.00229	0.000541
15 Endosulfan II	SW8081A	0.00229	0.000765
16 Endosulfan sulfate	SW8081A	0.000954	0.000436
17 Methoxychlor	SW8081A	0.00429	0.00134
18 Toxaphene	SW8081A	0.0429	0.012
19 Trans-Chlordane	SW8081A	0.00286	0.000756
20 Chlordane	SW8081A	0.0186	0.00758

Notes:

- (1) - = No Standard
- (2) RL = Reporting Limit
- (3) MDL = Minimum Detection Limit
- (4) RL and MDL values are taken from representative laboratory reports issued by Alpha Analytical Laboratories
- (5) RL and MDL values are estimated and may vary depending on instruments

8.0 DATA REDUCTION, VALIDATION, AND REPORTING

8.1 INTRODUCTION

Data collected during the field investigation will be reduced and reviewed by the laboratory QA personnel, and a report on the findings will be tabulated in a standard format. The criteria used to identify and quantify the analytes will be those specified for the applicable methods in the USEPA SW-846 and subsequent updates. The data package provided by the laboratory will contain all items specified in the USEPA SW-846 appropriate for the analyses to be performed, and be reported in standard format.

The completed copies of the Chain-of-custody records (both external and internal) accompanying each sample from time of initial bottle preparation to completion of analysis shall be attached to the analytical reports.

8.2 DATA REDUCTION

The Analytical Services Protocol (ASP) Category B data packages and an electronic data deliverable (EDD) will be provided by the laboratory after receipt of a complete sample delivery group. The Project Manager will immediately arrange for archiving the results and preparation of result tables. These tables will form the database for assessment of the site contamination condition.

Each EDD deliverable must be formatted using a Microsoft Windows operating system and the NYSDEC data deliverable format for EQulS. To avoid transcription errors, data will be loaded directly into the ASCII format from the laboratory information management system (LIMS). If this cannot be accomplished, the consultant should be notified via letter of transmittal indicating that manual entry of data is required for a particular method of analysis. All EDDs must also undergo a QC check by the laboratory before delivery. The original data, tabulations, and electronic media are stored in a secure and retrievable fashion.

The Project Manager or Task Manager will maintain close contact with the QA reviewer to ensure all non-conformance issues are acted upon prior to data manipulation and assessment routines. Once the QA review has been completed, the Project Manager may direct the Team Leaders or others to initiate and finalize the analytical data assessment.

8.3 DATA VALIDATION

Data validation will be performed in accordance with the USEPA validation guidelines for organic and inorganic data review. Validation will include the following:

- Verification of the QC sample results,
- Verification of the identification of sample results (both positive hits and non-detects),
- Recalculation of 10% of all investigative sample results, and
- Preparation of Data Usability Summary Reports (DUSR).

A DUSR will be prepared and reviewed by the QAO before issuance. The DUSR will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and COC procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method. A detailed assessment of each SDG will follow. For each of the organic analytical methods, the following will be assessed:

- Holding times;
- Instrument tuning;
- Instrument calibrations;
- Blank results;
- System monitoring compounds or surrogate recovery compounds (as applicable);
- Internal standard recovery results;
- MS and MSD results;
- Target compound identification;
- Chromatogram quality;
- Pesticide cleanup (if applicable);
- Compound quantitation and reported detection limits;
- System performance; and
- Results verification.

For each of the inorganic compounds, the following will be assessed:

- Holding times;
- Calibrations;
- Blank results;
- Interference check sample;
- Laboratory check samples;
- Duplicates;
- Matrix Spike;
- Furnace atomic absorption analysis QC;
- ICP serial dilutions; and
- Results verification and reported detection limits.

Based on the results of data validation, the validated analytical results reported by the laboratory will be assigned one of the following usability flags:

- "U" - Not detected. The associated number indicates the approximate sample concentration necessary to be detected significantly greater than the level of the highest associated blank;
- "UJ" - Not detected. Quantitation limit may be inaccurate or imprecise;
- "J" - Analyte is present. Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method
- "N" – Tentative identification. Analyte is considered present in the sample;
- "R" – Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample; and
- No Flag - Result accepted without qualification.

9.0 INTERNAL QUALITY CONTROL CHECKS AND FREQUENCY

9.1 QUALITY ASSURANCE BATCHING

Each set of samples will be analyzed concurrently with calibration standards, method blanks, matrix spikes (MS), matrix spike duplicates (MSD) or laboratory duplicates, and QC check samples (if required by the protocol). The MS/MSD samples will be designated by the field personnel. If no MS/MSD samples have been designated, the laboratory will contact the Langan Project Manager for corrective action.

9.2 CALIBRATION STANDARDS AND SURROGATES

All organic standard and surrogate compounds are checked by the method of mass spectrometry for correct identification and gas chromatography for degree of purity and concentration. All standards are traceable to a source of known quality certified by the USEPA or NIST, or other similar program. When the compounds pass the identity and purity tests, they are certified for use in standard and surrogate solutions. Concentrations of the solutions are checked for accuracy before release for laboratory use. Standard solutions are replaced monthly or more frequently, based upon data indicating deterioration.

9.3 ORGANIC BLANKS AND MATRIX SPIKE

Analysis of blank samples verifies that the analytical method does not introduce contaminants or detect "false positives". The blank water can be generated by reverse osmosis and Super-Q filtration systems, or distillation of water containing KMnO_4 . The matrix spike is generated by addition of surrogate standard to each sample.

9.4 TRIP AND FIELD BLANKS

Trip blanks and field blanks will be utilized in accordance with the specifications in Section 4. These blanks will be analyzed to provide a check on sample bottle preparation and to evaluate the possibility of atmospheric or cross contamination of the samples.

10.0 QUALITY ASSURANCE PERFORMANCE AUDITS AND SYSTEM AUDITS

10.1 INTRODUCTION

Quality assurance audits may be performed by the project quality assurance group under the direction and approval of the QAO. These audits will be implemented to evaluate the capability and performance of project and subcontractor personnel, items, activities, and documentation of the measurement system(s). Functioning as an independent body and reporting directly to corporate quality assurance management, the QAO may plan, schedule, and approve system and performance audits based upon procedures customized to the project requirements. At times, the QAO may request additional personnel with specific expertise from company and/or project groups to assist in conducting performance audits. However, these personnel will not have responsibility for the project work associated with the performance audit.

10.2 SYSTEM AUDITS

System audits may be performed by the QAO or designated auditors, and encompass a qualitative evaluation of measurement system components to ascertain their appropriate selection and application. In addition, field and laboratory quality control procedures and associated documentation may be system audited. These audits may be performed once during the performance of the project. However, if conditions adverse to quality are detected or if the Project Manager requests, additional audits may occur.

10.3 PERFORMANCE AUDITS

The laboratory may be required to conduct an analysis of Performance Evaluation samples or provide proof that Performance Evaluation samples submitted by USEPA or a state agency have been analyzed within the past twelve months.

10.4 FORMAL AUDITS

Formal audits refer to any system or performance audit that is documented and implemented by the QA group. These audits encompass documented activities performed by qualified lead auditors to a written procedure or checklists to objectively verify that quality assurance requirements have been developed, documented, and instituted in accordance with contractual and project criteria. Formal audits may be performed on project and subcontractor work at various locations.

Audit reports will be written by auditors who have performed the site audit after gathering and evaluating all data. Items, activities, and documents determined by lead auditors to be in noncompliance shall be identified at exit interviews conducted with the involved management. Non-compliances will be logged, and documented through audit

findings, which are attached to and are a part of the integral audit report. These audit-finding forms are directed to management to satisfactorily resolve the noncompliance in a specified and timely manner.

The Project Manager has overall responsibility to ensure that all corrective actions necessary to resolve audit findings are acted upon promptly and satisfactorily. Audit reports must be submitted to the Project Manager within fifteen days of completion of the audit. Serious deficiencies will be reported to the Project Manager within 24 hours. All audit checklists, audit reports, audit findings, and acceptable resolutions are approved by the QAO prior to issue. Verification of acceptable resolutions may be determined by re-audit or documented surveillance of the item or activity. Upon verification acceptance, the QAO will close out the audit report and findings.

11.0 PREVENTIVE MAINTENANCE PROCEDURES AND SCHEDULES

11.1 PREVENTIVE MAINTENANCE PROCEDURES

Equipment, instruments, tools, gauges, and other items requiring preventive maintenance will be serviced in accordance with the manufacturer's specified recommendations and written procedure developed by the operators.

A list of critical spare parts will be established by the operator. These spare parts will be available for use in order to reduce the downtime. A service contract for rapid instrument repair or backup instruments may be substituted for the spare part inventory.

11.2 SCHEDULES

Written procedures will establish the schedule for servicing critical items in order to minimize the downtime of the measurement system. The laboratory will adhere to the maintenance schedule, and arrange any necessary and prompt service. Required service will be performed by qualified personnel.

11.3 RECORDS

Logs shall be established to record and control maintenance and service procedures and schedules. All maintenance records will be documented and traceable to the specific equipment, instruments, tools, and gauges. Records produced shall be reviewed, maintained, and filed by the operators at the laboratories. The QAO may audit these records to verify complete adherence to these procedures.

12.0 CORRECTIVE ACTION

12.1 INTRODUCTION

The following procedures have been established to ensure that conditions adverse to quality, such as malfunctions, deficiencies, deviations, and errors, are promptly investigated, documented, evaluated, and corrected.

12.2 PROCEDURE DESCRIPTION

When a significant condition adverse to quality is noted at site, laboratory, or subcontractor location, the cause of the condition will be determined and corrective action will be taken to preclude repetition. Condition identification, cause, reference documents, and corrective action planned to be taken will be documented and reported to the QAO, Project Manager, Field Team Leader and involved contractor management, at a minimum. Implementation of corrective action is verified by documented follow-up action.

All project personnel have the responsibility, as part of the normal work duties, to promptly identify, solicit approved correction, and report conditions adverse to quality. Corrective actions will be initiated as follows:

- When predetermined acceptance standards are not attained;
- When procedure or data compiled are determined to be deficient;
- When equipment or instrumentation is found to be faulty;
- When samples and analytical test results are not clearly traceable;
- When quality assurance requirements have been violated;
- When designated approvals have been circumvented;
- As a result of system and performance audits;
- As a result of a management assessment;
- As a result of laboratory/field comparison studies; and
- As required by USEPA SW-846, and subsequent updates, or by the NYSDEC ASP.

Project management and staff, such as field investigation teams, remedial response planning personnel, and laboratory groups, monitor on-going work performance in the normal course of daily responsibilities. Work may be audited at the sites, laboratories, or contractor locations. Activities, or documents ascertained to be noncompliant with quality assurance requirements will be documented. Corrective actions will be mandated through audit finding sheets attached to the audit report. Audit findings are logged, maintained, and controlled by the Task Manager.

Personnel assigned to quality assurance functions will have the responsibility to issue and control Corrective Action Request (CAR) Forms (Figure 12.1 or similar). The CAR identifies the out-of-compliance condition, reference document(s), and recommended corrective action(s) to be administered. The CAR is issued to the personnel responsible for the affected item or activity. A copy is also submitted to the Project Manager. The individual to whom the CAR is addressed returns the requested response promptly to the QA personnel, affixing his/her signature and date to the corrective action block, after stating the cause of the conditions and corrective action to be taken. The QA personnel maintain the log for status of CARs, confirms the adequacy of the intended corrective action, and verifies its implementation. CARs will be retained in the project file for the records.

Any project personnel may identify noncompliance issues; however, the designated QA personnel are responsible for documenting, numbering, logging, and verifying the close out action. The Project Manager will be responsible for ensuring that all recommended corrective actions are implemented, documented, and approved.

FIGURE 12.1

CORRECTIVE ACTION REQUEST					
Number: _____		Date: _____			
TO: _____ You are hereby requested to take corrective actions indicated below and as otherwise determined by you to (a) resolve the noted condition and (b) to prevent it from recurring. Your written response is to be returned to the project quality assurance manager by _____					
CONDITION:					
REFERENCE DOCUMENTS:					
RECOMMENDED CORRECTIVE ACTIONS:					
_____ Originator	_____ Date	_____ Approval	_____ Date	_____ Approval	_____ Date
RESPONSE					
CAUSE OF CONDITION					
CORRECTIVE ACTION (A) RESOLUTION (B) PREVENTION (C) AFFECTED DOCUMENTS					
C.A. FOLLOWUP:					
CORRECTIVE ACTION VERIFIED BY: _____ DATE: _____					

13.0 REFERENCES

USEPA, 1986. SW-846 "Test Method for Evaluating Solid Waste," dated November 1986. U.S. Environmental Protection Agency, Washington, D.C.

Taylor, J. K., 1987. Quality Assurance of Chemical Measurements. Lewis Publishers, Inc., Chelsea, Michigan

USEPA, 1987. Data Quality Objectives for Remedial Response Actions Activities: Development Process, EPA/540/G-87/003, OSWER Directive 9355.0-7- U.S. Environmental Protection Agency, Washington, D.C.

USEPA, 1992a. CLP Organics Data Review and Preliminary Review. SOP No. HW-6, Revision #8, dated January 1992. USEPA Region II.

USEPA, 1992b. Evaluation of Metals Data for the Contract Laboratory Program (CLP) based on SOW 3/90. SOP No. HW-2, Revision XI, dated January 1992. USEPA Region II.

APPENDIX F

Field Sampling Plan

Field Sampling Plan
for
1676 THIRD AVENUE
New York, New York

Prepared For:

Bevin Associates, LLC
c/o KLM Construction
155 East 56th Street, 6th Floor
New York, New York 10022

Prepared By:

Langan Engineering, Environmental, Surveying and
Landscape Architecture, D.P.C.
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, New York 10001
NJ Certificate of Authorization No: 24GA27996400

Joel B. Landes
Professional Engineer License No. 076348-1

May 6, 2013
170206301

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
1.1 Overview of Field Sampling Activities.....	1
2.0 GENERAL FIELD GUIDELINES.....	3
2.1 Site Hazards and Underground Utilities	3
2.2 Field Log Books.....	3
3.0 FIELD EQUIPMENT DECONTAMINATION AND MANAGEMENT OF INVESTIGATION DERIVED WASTES	5
3.1 Decontamination Area	5
3.2 Equipment Decontamination	5
3.3 Management of remediation-derived wastes	5
4.0 SOIL SAMPLING PROCEDURES	7
4.1 Soil Sampling	7
5.0 DEWATERING DISCHARGE SAMPLING PROCEDURES.....	9
5.1 Introduction.....	9
5.2 Sampling Procedures	9
6.0 AIR MONITORING.....	10
6.1 Air Monitoring During Remediation	10
7.0 FIELD INSTRUMENTS AND CALIBRATION	11
7.1 Photoionization Detector (PID)	11
7.2 Dust Monitor.....	11
7.3 Water Quality Meter.....	12

8.0	FIELD SAMPLE IDENTIFICATION AND CUSTODY	13
8.1	Sample Location Numbering System.....	13
8.2	Sample Identification.....	13
8.3	Chain of Custody.....	13
8.4	Sample Documentation	14

LIST OF FIGURES

Figure 8.1	Chain-of-Custody Form	16

1.0 INTRODUCTION

Bevin Associates LLC is a volunteer that entered into a Brownfield Cleanup Program (BCP) Agreement (BCA), Index No. C231079, with the New York State Department of Environmental Conservation (NYSDEC) to investigate and, where necessary, remediate the approximately 930 square-foot property located at 1676 Third Avenue in Manhattan, New York. A description of the Site and proposed development were provided in the BCP application, submitted to NYSDEC on August 31, 2012. The proposed development included the construction of a five-story plus penthouse residential building with a basement. Additional Site information and data collected previously is provided in the Remedial Investigation Report (RIR) and Remedial Action Work Plan (RAWP).

This Field Sampling Plan (FSP) defines the methods and procedures for conducting sampling during the Remedial Action (RA) at the Site. Remediation will consist of removing contaminated soil, in-situ groundwater treatment, installation of a vapor intrusion system with active sub-slab depressurization (SSD), and post remediation groundwater monitoring.

The specific scope of work for these remedial actions are described in detail in the Remedial Action Work Plan (RAWP). The remedial action will be conducted by the remediation contractor and will be overseen by Langan Engineering and Environmental Services, P.C. (Langan) on behalf of Bevin Associates LLC.

1.1 OVERVIEW OF FIELD SAMPLING ACTIVITIES

The following field sampling activities will be performed as part of the RA:

- In Situ Chemical Oxidation- Injection of a chemical oxidant (sodium persulfate) will be performed using an estimated five direct push temporary injection points. The alkaline activation of the persulfate would be performed by addition of ferrous iron into the ground. Prior to field implementation of ISCO, limited bench-scale testing, including a test for total soil oxidant demand (SOD) and dosage treatability tests, will be conducted.
- Waste Characterization Soil Sampling - Soil samples for waste classification and disposal purposes will be collected during remedial activities. Soil samples will be collected at a frequency depending on the disposal facility requirements. Laboratory tests for characterization of a waste stream typically include all or a subset of the following list and will be determined by the facility's permit requirements: Target Compound List (TCL) volatile organic compounds (VOCs) and TCL semi-volatile organic compounds (SVOCs); poly-chlorinated biphenyls (PCBs); Target Analyte List (TAL) metals; pesticides and herbicides; the Resource Conservation and Recovery Act (RCRA) hazardous characteristics of ignitability, corrosivity, and reactivity; RCRA toxicity characteristic using the

Toxic Characteristics Leaching Procedure (TCLP) metals; Total Petroleum Hydrocarbons (TPH) Diesel Range Organics (DRO) and/or Gasoline Range Organics (GRO), hexavalent chromium, total cyanide, and paint filter.

- Cupolex® Soil Vapor Intrusion System with Active Sub-Slab Depressurization (SSD) - A Cupolex® soil vapor intrusion system will be installed beneath the entire basement slab of the Site. The Cupolex® system, which comprises of arrays of interlocking hardened plastic domes, will provide a highly efficient under-slab void network for an effective application of active SSD to facilitate the dilution and dispersal of vapors from beneath the slab. Concrete will be poured over the entire layout, creating a strengthened self-bearing aerated floor. Vapors that accumulate under the slab will migrate into a suction pit located at the northeast corner of the basement and will exit the suction pit through a 4-inch, black steel pipe, which rises to a roof-mounted discharge stack. A roof-mounted blower system will maintain a constant negative pressure through the vertical piping, and vapors will be channeled away from the interior of the structure into the suction pits. The vacuum blowers will operate continuously after initial startup.
- Contingency for Previously Unknown Area of Concerns (AOCs) – During remediation activities, soil will be screened for evidence of previously unknown AOCs or hot spots, which could include buried structures, such as drains, sumps, or drywells. Any such structures and associated impacted soils will be remediated according to the appropriate guidelines (e.g., NYSDEC STARS Memo No. 1, NYSDEC DER-10, SPOTS #14, and 6 NYCRR Part 375 Soil Cleanup Objectives). Endpoint samples will be collected and analyzed for appropriate parameters for regulatory closeout. Waste characterization samples may also be collected for disposal purposes.

2.0 GENERAL FIELD GUIDELINES

2.1 SITE HAZARDS AND UNDERGROUND UTILITIES

Potential on-site surface hazards, such as sharp objects, overhead power lines, energized areas, and other building hazards will be identified prior to initiation of fieldwork. Additionally, prior to beginning the construction activities, the New York City One-Call Center will be contacted for a Code 753 utility mark-out.

2.2 FIELD LOG BOOKS

All field activities will be documented in field logbooks. Entries will be of sufficient detail that a complete daily record of significant events, observations, and measurements is obtained. The field logbook will provide a legal record of the activities conducted at the Site. Accordingly:

- Field books will be assigned a unique identification number.
- Field books will be bound with consecutively numbered pages.
- Field books will be controlled by the Field Team Leader while fieldwork is in progress.
- Entries will be written with waterproof ink.
- Entries will be signed and dated at the conclusion of each day of fieldwork.
- Erroneous entries made while fieldwork is in progress will be corrected by the person that made the entries. Corrections will be made by drawing a line through the error, entering the correct information, and initialing the correction.
- Corrections made after departing the field will be made by the person who made the original entries. Corrections will be made by drawing a line through the error, entering the correct information, and initialing and dating the time of the correction.

At a minimum, daily field book entries will include the following information:

- Location of field activity;
- Date and time of entry;
- Names and titles of field team members;
- Names and titles of any site visitors and site contacts;

- Weather information, for example: temperature, cloud coverage, wind speed and direction;
- Purpose of field activity;
- A detailed description of the field work conducted;
- Sample media (soil, sediment, groundwater, etc.);
- Sample collection method;
- Number and volume of sample(s) taken;
- Description of sampling point(s) including location and depth;
- Volume of groundwater removed before sampling;
- Preservatives used;
- Analytical parameters;
- Date and time of collection;
- Sample identification number(s);
- Sample distribution (e.g., laboratory);
- Field observations;
- Any field measurements made, such as pH, temperature, conductivity, water level, etc.;
- References for all maps and photographs of the sampling site(s);
- Information pertaining to sample documentation such as:
 - Bottle lot numbers;
 - Dates and method of sample shipments; and
 - Chain-of-Custody Record and if shipped, Federal Express Air Bill numbers.

3.0 FIELD EQUIPMENT DECONTAMINATION AND MANAGEMENT OF INVESTIGATION DERIVED WASTES

3.1 DECONTAMINATION AREA

As required, a temporary decontamination area lined with polyethylene sheeting will be constructed for cleaning and decontamination of sampling equipment. The location of the decontamination area will be coordinated with the Construction Manager. At a minimum, the decontamination pad will have a minimum 20 mil low-permeability liner, be bermed and sloped to a collection sump to contain and collect fluids, and have side walls to mitigate, to the extent practicable, errant overspray, especially when decontaminating large equipment. Wash waters will be collected and properly disposed as described in Section 3.3.

3.2 EQUIPMENT DECONTAMINATION

The following procedures will be used to decontaminate equipment used during the remedial sampling activities.

- Hand augers, plastic scoops, and any other sampling apparatus will be decontaminated between each sample collected.
- A three-stage system will be used to decontaminate the equipment using buckets. The first bucket will contain an alconox-water mixture and scrub brush; second bucket will contain clean water for rinsing, and the third bucket will contain clean water for final rinsing.
- Decontamination water will be replaced when the third bucket of water becomes cloudy.

3.3 MANAGEMENT OF REMEDIATION-DERIVED WASTES

- Decontamination wash waters will be discharged to the New York City combined or sanitary sewer system. Where turbid, the collected rinse waters will pass through a sedimentation tank, and the sediment will be handled and disposed separately from the liquid portion.
- Alternatively, small quantities of wash waters may be collected into DOT approved 55-gallon drums for off-site disposal. The drums will be labeled as remediation-derived wastewater and temporarily stored in a secured area on wooden pallets in a plastic-lined containment area pending characterization and proper disposal.

- All personal protective equipment (PPE) and disposable sampling equipment will be disposed as solid waste or if impacted by petroleum contamination placed in 55-gallon drums or roll-off containers for proper disposal.

4.0 SOIL SAMPLING PROCEDURES

Soil samples will be collected during this RA for:

- Waste classification samples will be collected using hand augering or soil probes;
- Endpoint samples will be collected by hand;
- Characterization samples of soils/waste surrounding previously unknown USTs or other hot spots/AOCs encountered during remediation will be collected by hand or hand/auger.

These procedures are described in the following section.

4.1 SOIL SAMPLING

The following sampling equipment and methods will be used for soil sampling.

Suggested Equipment

- Field book
- Project plans
- Personal protective equipment in accordance with the HASP
- Disposable plastic sampling scoops, trowels, and bowls
- Stakes and flagging
- One pint containers for lithology samples
- Tape measure
- PID
- Camera
- Clear tape, duct tape
- Aluminum foil
- Laboratory sample bottles
- Coolers and ice
- Shipping supplies

Samples Collection

- Samples for VOC analyses will be collected first, directly from the sampling tool, placed into appropriate containers (Teflon-lined, glass jars of encore®)

containers), and compacted to minimize headspace. The remaining sample volume will be homogenized, and placed in appropriate containers for the other analyses.

- The sample containers will be labeled, placed in a laboratory-supplied cooler and packed on ice (to maintain a temperature of 4° C). The coolers transported via laboratory courier under standard chain-of-custody protocol to the laboratory for analysis.
- The sample locations, descriptions, and depths will be recorded in the field book.
- Chain-of-custody procedures will be followed as outlined in the Quality Assurance Project Plan (QAPP).
- The sampling equipment will be disposed as described in Section 3.3.
- Upon completion of the sample collection from the test pits or borings, the contractor will fill sample areas to the previous elevation.

5.0 DEWATERING DISCHARGE SAMPLING PROCEDURES

5.1 INTRODUCTION

Dewatering is anticipated during remedial activities at the Site. The following procedures will be followed if dewatering is deemed necessary. Prior to discharge to the city sewers, and as required to obtain a sewer discharge permit, groundwater beneath the Site will be sampled for the New York City Department of Environmental Protection (NYCDEP) sewer discharge criteria as described in this section. Although unlikely, samples may also be required during operation of a dewatering system.

5.2 SAMPLING PROCEDURES

The following methods will be used to collect groundwater samples:

Suggested Equipment and Supplies

- Field book
- Personal protective equipment in accordance with the HASP
- A pump with new, dedicated polyethylene tubing
- Coolers and ice
- Laboratory sample bottles

Sampling Method

- Before the dewatering system is operational, a groundwater sample will be collected from one of the existing groundwater monitoring wells before they are abandoned. A minimum of three well casing volumes will be purged before sampling.
- Once the dewatering system is operational, groundwater will be sampled directly from an outlet near the discharge point of the system to the combined sewer.
- The temperature, pH, and conductivity will be measured with a pre-calibrated probe and recorded in the field book.
- Collect VOC and SVOC samples first. Sample containers for the other analytes will follow.
- The sample containers will be labeled, placed in a laboratory-supplied cooler and packed on ice (to maintain a temperature of 4°C). The cooler will be transported via courier under standard chain-of-custody protocol to the laboratory for analysis.
- Chain-of-custody procedures will be followed as outlined in the QAPP.
- Water sampling data will be recorded in the field log book.
- Analytes with short holding times (e.g., hexavalent chromium) will be noted on the COC for the laboratory to expedite analysis.

6.0 AIR MONITORING

6.1 AIR MONITORING DURING REMEDIATION

Air monitoring of the breathing zone of remediation workers will be conducted in accordance with the HASP, to assure proper health and safety protection for site workers and visitors. Air monitoring will be conducted for organic vapors and dust during all remedial activities. Additionally, perimeter community air monitoring will be conducted in accordance with the Community Air Monitoring Plan (CAMP); included in the HASP) to assure proper health and safety for passersby and area residents.

- A MiniRAE 2000 photoionization detector (PID), or equivalent, will be used to monitor for organic vapors.
- A Dustrak dust monitor, or equivalent, will be used to monitor for dust.

Readings will be recorded in the field book and will be available for inspection by NYSDEC and NYSDOH at any time. The procedure for the PID operation and calibration is included in Section 7.

7.0 FIELD INSTRUMENTS AND CALIBRATION

All field analytical equipment will be calibrated immediately prior to each day's use and more frequently if required by the equipment manufacturer. This calibration will ensure that the equipment is functioning within the allowable tolerances established by the manufacturer and required by the project. All instrument calibrations will be documented in the project field book and in an instrument calibration log. Records of all instrument calibration will be maintained by the Field Team Leader and will be subject to audit by the Project Manager or Technical Manager. Copies of all of the instrument manuals and/or instruction sheets will be maintained on-site by the Field Team Leader.

The following portable field instruments, or equivalent, will be used during the investigation:

- MiniRAE 2000 PID;
- Dustrak dust monitor;

The following field instrument, or equivalent, will be used during the collection of dewatering samples:

- Horiba U-10 water quality meter capable of measuring pH, conductivity, and temperature .

7.1 PHOTOIONIZATION DETECTOR (PID)

- The PID will be a MiniRAE 2000 (or equivalent), equipped with a 10.6 eV lamp. The PID is capable of ionizing and detecting compounds with an ionization potential of less than 10.6 eV. This accounts for up to 73% of the volatile organic compounds on the Target Compound List.
- Calibration must be performed at the beginning of each day of use with a standard calibration gas having an approximate concentration of 100 parts per million of isobutylene. If the unit experiences abnormal perturbation or erratic readings, additional calibration will be required.
- All calibration data must be recorded in the field logbook.
- A battery check must be completed at the beginning and end of each working day.

7.2 DUST MONITOR

- The dust monitor will be a Dustrak capable of detecting dust levels at the levels stipulated in the CAMP.
- Calibration is not required for this meter.
- Units at the perimeter community air monitoring stations will be set to collect and record readings at the unit's minimum frequency. The data will be downloaded on a daily basis in the field. Readings from hand held units used

in the work areas will be made at a minimum frequency of once every 15 minutes while soil handling is ongoing, and recorded hourly in the field book.

- A battery check must be completed at the beginning and end of each working day.
- In general, dust monitoring and response actions will depend more reliably on observation of visible dust. Dust readings from the meters will provide backup confirmation data on actual measured dust levels.

7.3 WATER QUALITY METER

If water sampling is required, the following procedure will be followed. All of the individual probes within the Horiba U-10 water quality meter, except for redox potential, are calibrated with a 2 to 3 point calibration curves before the meter is deployed to the field. In addition, field calibration shall consist of a daily check against a factory provided auto calibration solution. The concentrations in the auto calibration solution and the acceptable range of field calibration are as follows:

<u>PARAMETER</u>	<u>CONCENTRATION</u>	<u>CALIBRATION RANGE</u>
pH	4.01	3.9 – 4.1 standard units
Conductivity	4.49	4.40 – 4.58 mS/cm

8.0 FIELD SAMPLE IDENTIFICATION AND CUSTODY

8.1 SAMPLE LOCATION NUMBERING SYSTEM

- Soil samples will be designated with the sample type, location, depth and collection date.
- Water samples collected for dewatering (if required) will be numbered consecutively by beginning with W-1 and collection date.

8.2 SAMPLE IDENTIFICATION

Each sample will be given a unique alphanumeric identifier similar to the following classification system guidance.

SAMPLE IDENTIFICATION

LL-*	NN-**	N-N-	LL
Sample Type	Sample Number	Depth Code	QC Identifier

Sample Type: Soil – SL; Water – W; Test Pit – TP; Waste Class. – WC; End Point – EP; Bottom – B; Sidewall - SW

Sample Number: Number referenced to a sample location map.

Depth Code: Depth in feet of sample interval (e.g., 0-2 = Sample depth of 0-2 feet bgs).

QC Identifier: DUP = Field Duplicate (blind sample, do not indicate sample location)

Trip Blank: Designated by TB and the date (e.g., TB-062504)

-
- * L = Letter
 - ** N = Number

Field duplicate samples will be assigned identifiers that do not allow the laboratory to distinguish them as field duplicates. Each sample container will be labeled prior to packing for shipment. The sample identifier, site name, date and time of sampling, and analytical parameters will be written on the label in waterproof ink and recorded in the field book.

8.3 CHAIN OF CUSTODY

- A Chain-of-Custody (COC) record (Figure 8.1 or similar) will accompany the sample containers during selection and preparation at the laboratory, during shipment to the field, and during return shipment to the laboratory.

- The COC will identify each sample container and the analytical parameters for each, and will list the field personnel that collected the samples, the project name and number, the name of the analytical laboratory that will receive the samples, and the method of sample shipment.
- If samples are split and sent to different laboratories, a copy of the COC record will be sent with each sample shipment.
- The COC will be completed by field personnel as samples are collected and packed for shipment.
- Erroneous markings will be crossed-out with a single line and initialed by the author.
- The REMARKS space will be used to indicate if the sample is a matrix spike, matrix spike duplicate, or matrix duplicate.
- Trip and field blanks will be listed on separate rows.
- After the samples have been collected and sample information has been listed on the COC form, the method of shipment, the shipping cooler identification number(s), and the shipper airbill number will be entered on the COC.
- A second member of the field team will review the COC for completeness and accuracy whenever possible.
- Finally, a member of the sampling team will write his/her signature, the date, and time on the first RELINQUISHED BY space. Duplicate copies of each COC must be completed.
- One copy of the COC will be retained by sampling personnel. Blind duplicate samples will be identified on the copy retained by the sampling crew. The other copy and the original will be sealed in a plastic bag and taped inside the lid of the shipping cooler without the additional identification of blind duplicate samples.
- Sample shipments will be refrigerated at 4°C, typically by packing with ice, to preserve the samples during shipment.
- After the shipping cooler is closed, custody seals provided by the laboratory will be affixed to the latch and across the front and back of the cooler lid, and signed by the person relinquishing the samples to the shipper or courier.
- The seal will be covered with clear tape, and the cooler lid will be secured by wrapping with packing tape if shipped.
- The cooler will be relinquished to the courier or shipper.
- The COC seal must be broken to open the container. Breakage of the seals before receipt at the laboratory may indicate tampering. If tampering is apparent, the laboratory will contact the Project Manager, and the samples will not be analyzed.
- The samples must be delivered to the laboratory within 48 hours of collection.

8.4 SAMPLE DOCUMENTATION

The field team leader will retain a copy of the COC, and, in addition, the field team leader will ensure that the following information about each sample is recorded in the field book:

- Sample identifier;

- Identification of sampled media (e.g., soil, water);
- Sample location with respect to known reference point;
- Physical description of sample location;
- Field measurements, (e.g., pH, temperature, conductivity, and water levels);
- Date and time of collection;
- Sample collection method;
- Volume of groundwater purged before sampling;
- Number of sample containers;
- Analytical parameters;
- Preservatives used; and
- Shipping information:
 - Dates and method of sample shipments;
 - Chain-of-Custody Record numbers;
 - Federal Express Air Bill numbers, if shipped; and
 - Sample recipient (e.g., laboratory name).



Langan
Engineering and Environmental Services

CHAIN OF CUSTODY RECORD / ANALYSIS REQUEST

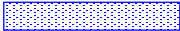
PAGE _____ OF _____

APPENDIX G

Remediation Schedule

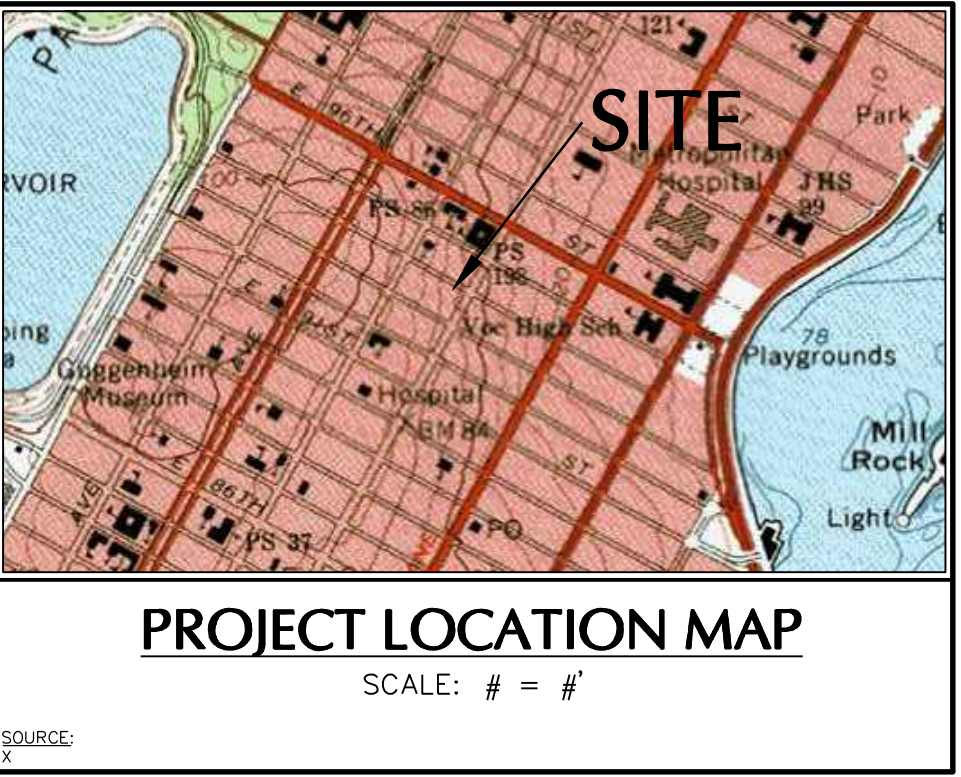
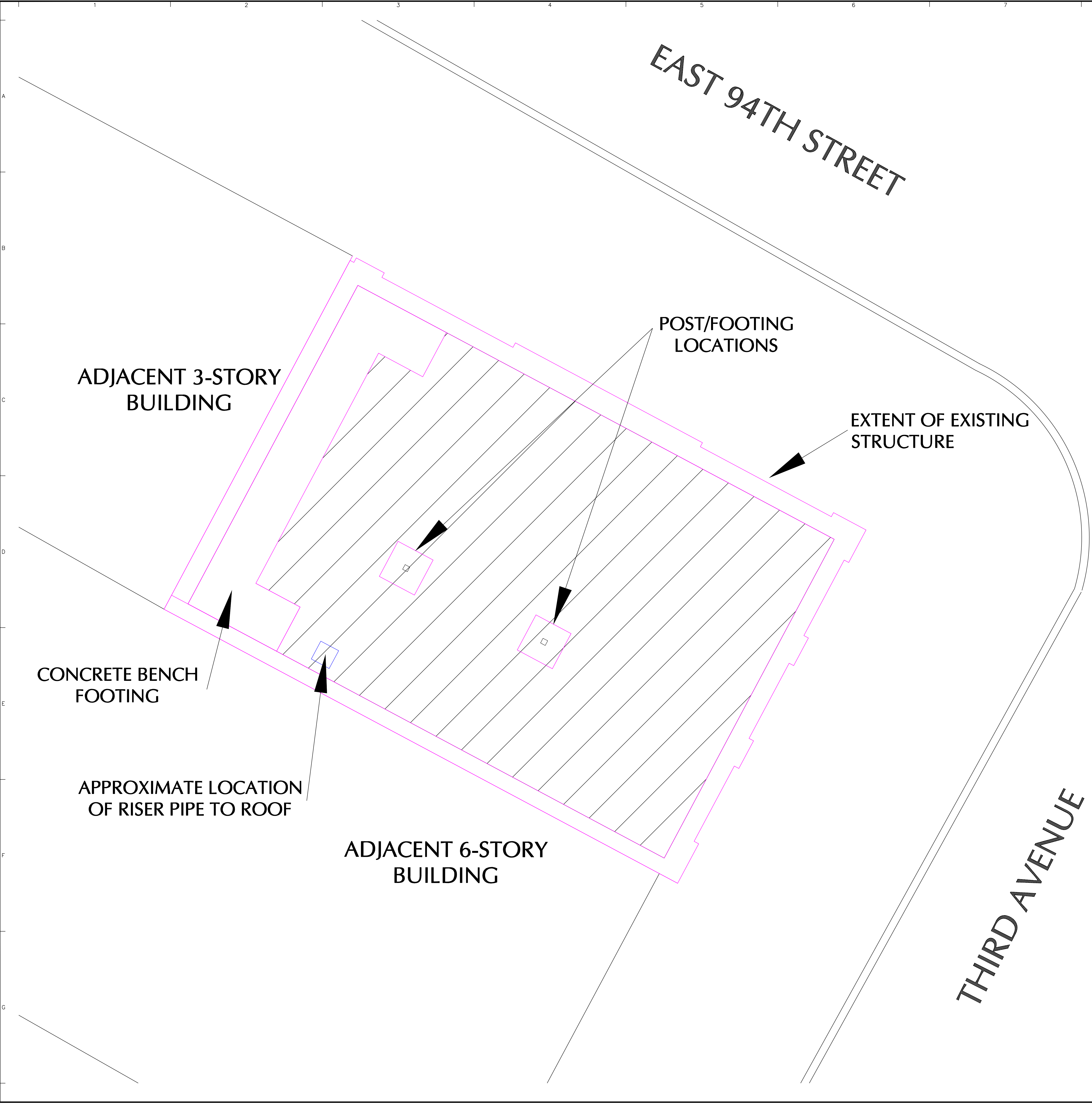
1676 Third Avenue - Estimated Remediation Schedule

ID	Task Name	Duration	Start	Finish	February	March	April	May	June	July	August	September	October	November	December	January
1	DEC Finalize RAWP	1 day?	Fri 5/3/13	Fri 5/3/13												
2	Construction Notice Fact Sheet	1 day?	Mon 5/6/13	Mon 5/6/13												
3	Obtain Permits	10 days?	Mon 5/13/13	Fri 5/24/13												
4	RAWP Implementation	31 days?	Fri 5/24/13	Fri 7/5/13												
5	Final Engineering Report (FER) & Site Management Plan (SMP)	21 days?	Fri 7/5/13	Fri 8/2/13												
6	FER Fact Sheet	1 day	Mon 8/5/13	Mon 8/5/13												
7	DEC Review and Approval of FER and SMP	25 days?	Mon 8/5/13	Fri 9/6/13												
8	Certificate of Completion	1 day?	Fri 9/6/13	Fri 9/6/13												
9	IC/EC Notice Fact Sheet (within 10 days of Notice)	1 day?	Fri 9/20/13	Fri 9/20/13												
10	Environmental Easement Development/Filing	92 days?	Wed 8/14/13	Wed 12/18/13												
11	Implement SMP (Operations, Maintenance and Annual Inspections) - On-going	1 day	Wed 12/18/13	Wed 12/18/13												

1676 Third Avenue December 2012	Task		Summary		Rolled Up Progress		Project Summary	
	Progress		Rolled Up Task		Split		Group By Summary	
	Milestone		Rolled Up Milestone		External Tasks		Deadline	

APPENDIX H

Vapor Membrane and Sub-Membrane Depressurization System Design



LEGEND:

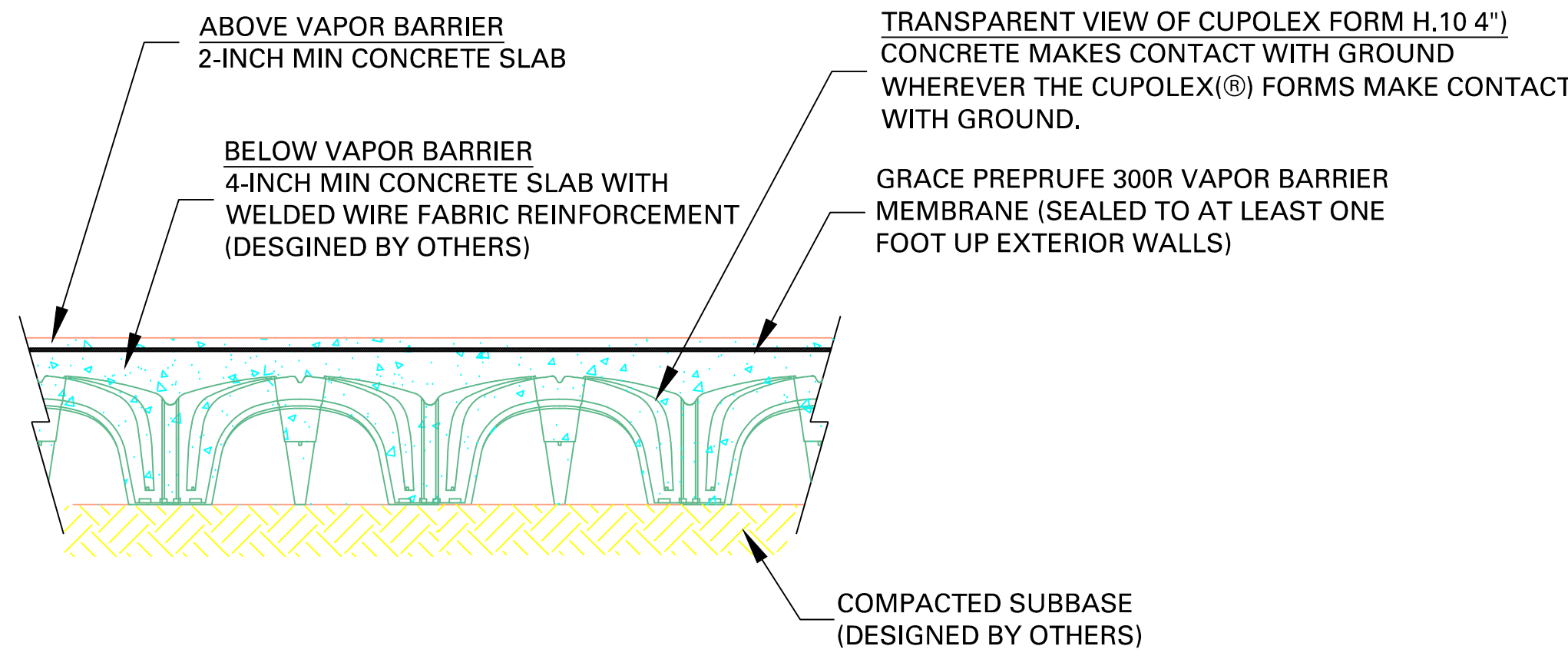
EXTENT OF VAPOR BARRIER UNDERNEATH SLAB OF NEW BUILDING. CONSTRUCTION DETAILS ON DRAWING H-002-00.

- NOTES:
- 1. LOCATION OF VENT RISER PIPE TO ROOF IS APPROXIMATE. FINAL LOCATIONS WILL BE DETERMINED BY AN ENGINEER IN THE FIELD.
 - 2. SUB-MEMBRANE DEPRESSURIZATION SYSTEM DETAILS ARE SHOWN ON DRAWING H-002-00.

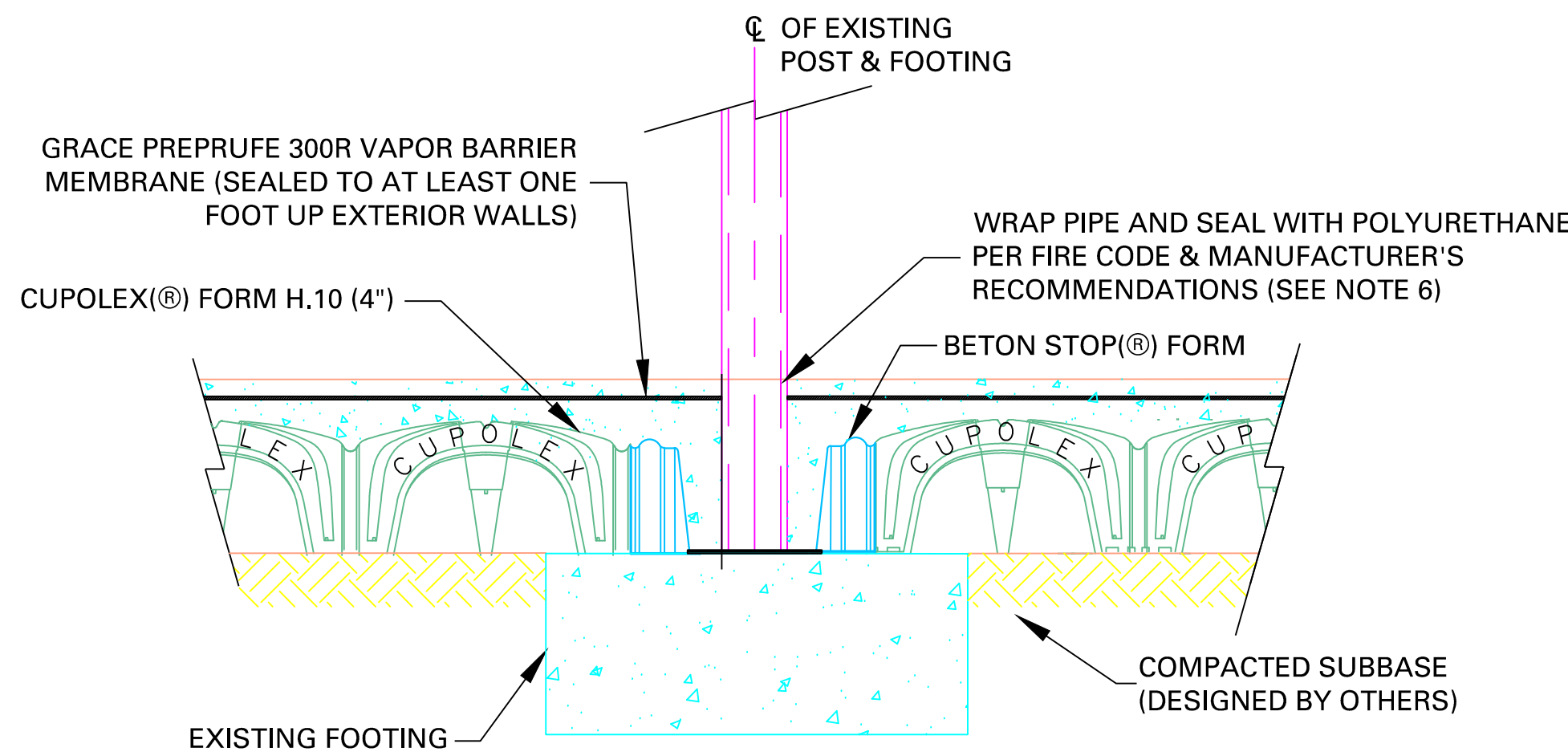
DRAFT- NOT FOR CONSTRUCTION

WARNING:
IT IS A VIOLATION OF THE NYS EDUCATION LAW
ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING
UNDER THE DIRECTION OF A LICENSED
PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN
ANY WAY.

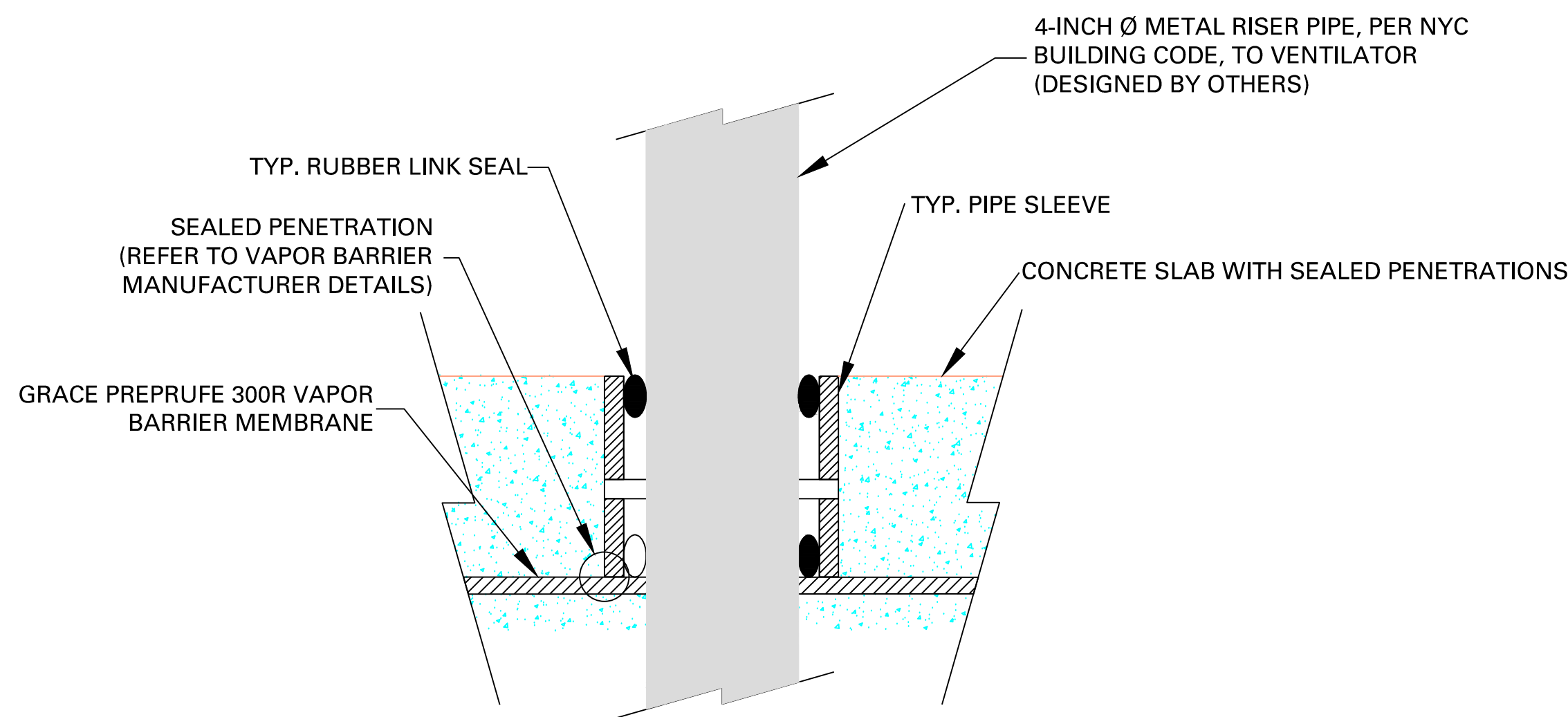
Date	Description	No.
REVISIONS		
SIGNATURE _____ DATE SIGNED _____ PROFESSIONAL XXXXXXXXX STATE LIC. No. XXXXX		
LANGAN 21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, NY 10001 T: 212.479.5400 F: 212.479.5444 www.langan.com NEW JERSEY NEW YORK VIRGINIA CALIFORNIA PENNSYLVANIA CONNECTICUT FLORIDA ARIZONA ALABAMA OHIO ILLINOIS IOWA Langan Engineering, Environmental, Surveying and Landscape Architecture, P.C. Langan Engineering and Environmental Services, Inc. Langan International LLC Collectively known as Langan		
Project 1676 THIRD AVENUE BLOCK No. 1522, LOT No. 40 NEW YORK COUNTY NEW YORK NEW YORK		
Drawing Title SUB-MEMBRANE DEPRESSUREIZATION SYSTEM - PLAN VIEW		
Project No. 170206301		Drawing No. H-001.00
Date 2013/05/08		
Scale 1" = 2.5'		
Drawn By RW		
Submission Date		
Sheet 1 of 2		



DETAIL 1: SUB-MEMBRANE DEPRESSURIZATION SYSTEM
NOT TO SCALE



DETAIL 2: TYPICAL POST/FOOTING PENETRATION
NOT TO SCALE



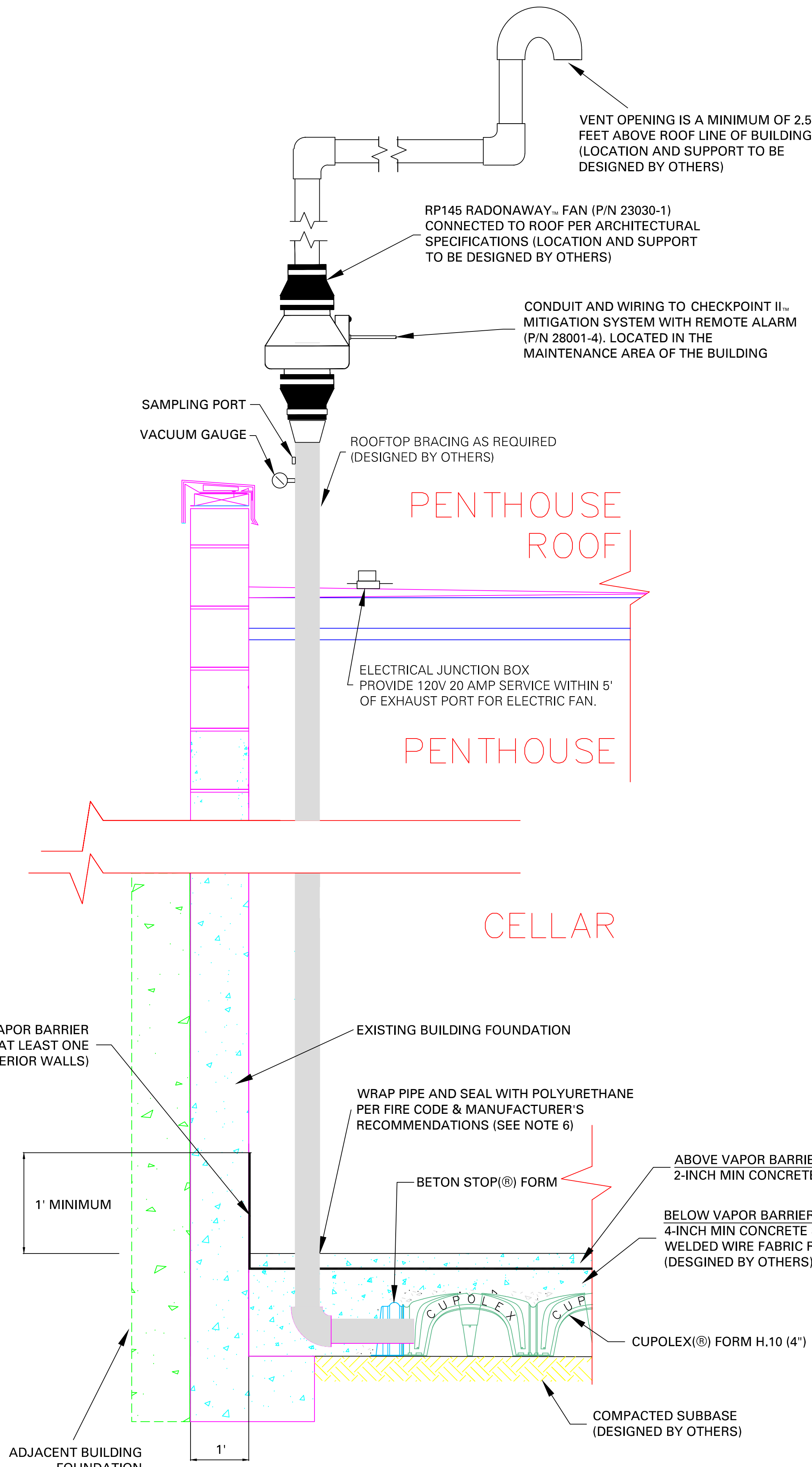
DETAIL 3: RISER PIPE PENETRATION CONNECTION
NOT TO SCALE

GENERAL NOTES

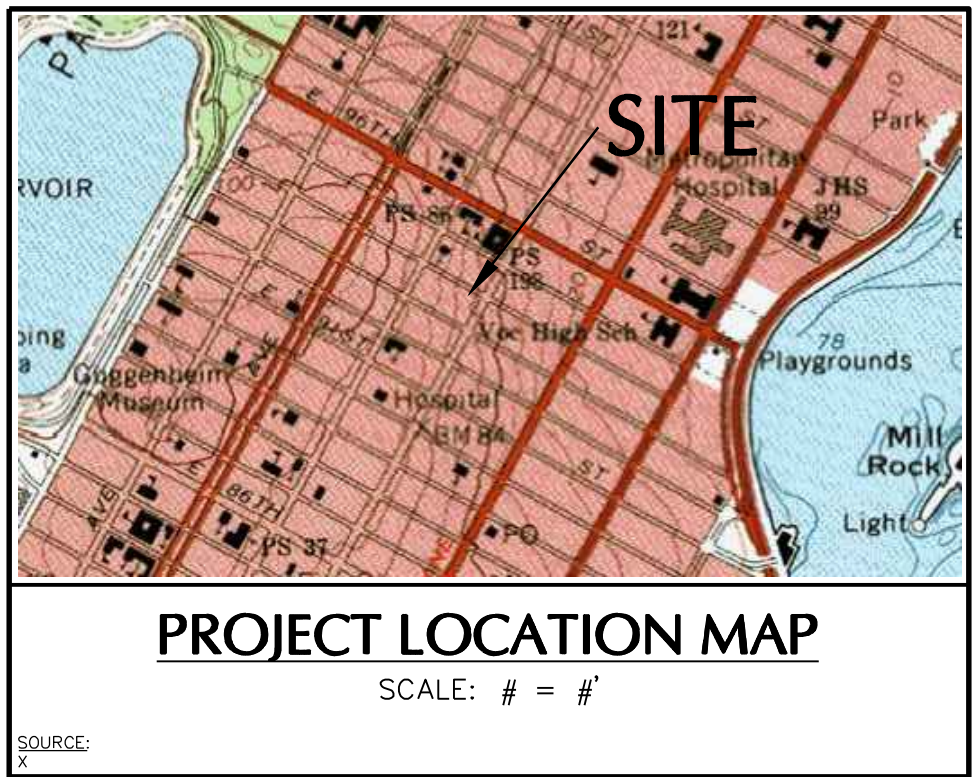
- DESIGN DETAILS AND DRAWING ARE ADAPTED FROM EPA DOCUMENT EPA/625/R-92/016.
- THE CONTRACTOR SHALL CONFER WITH AND SEEK THE APPROVAL OF THE ARCHITECT FOR THE FINAL LOCATIONS OF VENTING SYSTEM COMPONENTS, SUCH AS THE POINTS OF FLOOR PENETRATION, PIPE RUNS, FAN LOCATION, AND EXHAUST POINTS ON THE ROOF.
- ALL PIPING CONNECTIONS SHALL BE SOLVENT CEMENTED AND PERMANENTLY SEALED USING A PRIMER MEETING ASTM F866 AND SOLVENT MEETING ASTM D2564. JOINTS SHALL BE MADE WHILE SOLVENT IS WET AND SHALL BE IN ACCORDANCE WITH ASTM 2855 AND ASTM F402
- THE GRACE PREPRUFE 300R VAPOR BARRIER MEMBRANE WILL EXTEND AT LEAST 1' UP THE BASEMENT WALLS (ABOVE THE TOP OF THE BASEMENT SLAB).
- THE VENT RISER PIPE (DESIGNED BY OTHERS) SHALL BE 4-INCH Ø METAL PIPE OR OTHER MATERIAL THAT COMPLIES WITH APPLICABLE BUILDING CODE.
- THE VOID BELOW THE CUPOLEX FLOOR SLAB IS SEALED AT ALL LOCATIONS, TO PREVENT OR MINIMIZE THE LEAKAGE OF AIR BETWEEN THE VOID SPACE AND THE INDOOR AIR SPACE OF THE BUILDING. ALL PIPE AND CONDUIT PENETRATIONS THROUGH THE SLAB (INCLUDING MECHANICAL, ELECTRICAL, PLUMBING, OR OTHER) SHALL BE SEALED WITH A HIGH ADHESIVE SEALANT (GE POLYURETHANE SEALANT, MODEL GE39495 12C, OR APPROVED EQUIVALENT) ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE FIRE CODES.
- THE RISER PIPE MUST BE CLEARLY LABELED "CAUTION: DO NOT ALTER SUB-SLAB VAPOR VENT PIPE" IN EACH ACCESSIBLE AREA (A MINIMUM OF EVERY 10 LINEAR FEET OF RISER PIPE RUN).
- SYSTEM INSTALLATION SHALL ADHERE TO: FINAL GUIDANCE FOR EVALUATING SOIL VAPOR INTRUSION IN THE STATE OF NEW YORK PREPARED BY NEW YORK STATE DEPARTMENT OF HEALTH (NYSDOH), DATED OCTOBER 2006 AND 2008 NEW YORK CITY MECHANICAL CODE, CHAPTER 5, SECTION MC 512-SUBSLAB EXHAUST SYSTEMS. POINT OF EXHAUST (DESIGNED BY OTHERS) SHALL BE
 - ABOVE THE EAVE OF THE ROOF (PREFERABLY, ABOVE THE HIGHEST EAVE OF THE BUILDING AND AT LEAST 12-INCHES ABOVE THE SURFACE OF THE ROOF).
 - AT LEAST 10 FEET ABOVE GROUND LEVEL.
 - AT LEAST 10 FEET AWAY FROM ANY OPENING THAT IS LESS THAN 2 FEET BELOW THE EXHAUST POINT, AND
 - 10 FEET FROM ANY ADJOINING OR ADJACENT BUILDINGS, OR HVAC INTAKES OR SUPPLY REGISTERS.
- ALL EXTERNAL PIPES SHALL BE PAINTED WITH A CORROSION RESISTANT COATING, DEPENDING ON PIPE MATERIAL.
- THE INTEGRITY OF THE CUPOLEX FLOOR SLAB SEALS SHALL BE TESTED BY A QUALIFIED MITIGATION PROFESSIONAL AFTER THE CONCRETE HAS BEEN POURED AND SET, BY PLACING THE VOID SPACE BELOW THE FLOOR UNDER A TEMPORARY VACUUM (APPROXIMATELY 0.5 TO 1.5" WATER COLUMN) AND CHECKING FOR DETECTABLE AIR LEAKS AT ALL JOINTS, CRACKS, AND OTHER PENETRATIONS IN THE OVERLYING SLAB. VACUUM LEVELS SHOULD BE RELATIVELY UNIFORM ACROSS THE SLAB IN THE ABSENCE OF SIGNIFICANT AIR LEAKS. THE CONTRACTOR INSTALLING THE CUPOLEX FLOOR SLAB SHALL BE RESPONSIBLE FOR SEALING ANY LEAKS IN THE SLAB DETECTED AND IDENTIFIED BY THIS TEST ACCORDING TO THE SEALING PROCEDURES DESCRIBED AND SHOWN ON PLANS. IT SHOULD BE NOTED THAT NO SLAB OR MITIGATION SYSTEM CAN BE COMPLETELY FREE OF AIR LEAKS AND THAT THE VENTING SYSTEM DESIGN SHOULD TAKE THIS INTO ACCOUNT BY ENSURING ADEQUATE DEPRESSURIZATION AND/OR DILUTION (VENTING) OF VAPORS BELOW THE SLAB AND BY POST-CONSTRUCTION PERFORMANCE TESTING AND MONITORING.
- CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS OF COMPLETE SMD SYSTEM TO ENGINEER FOLLOWING INSTALLATION.

WATERPROOFING/VAPOR BARRIER NOTES:

- THE VAPOR BARRIER SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MANUFACTURER GUIDELINES AND DETAILS.
- THE VAPOR BARRIER SHALL BE INSTALLED BY A MANUFACTURER-CERTIFIED INSTALLER.
- THE VAPOR BARRIER SHALL BE INSPECTED IMMEDIATELY BEFORE CONCRETE IS PLACED. ALL PENETRATIONS, HOLES, OR TEARS SHALL BE SEALED BEFORE CONCRETE IS PLACED.



DETAIL 4: MAT-ON-GRADE WALL INTERFACE CONSTRUCTION
AND VENT RISER PIPE WITH ELECTRIC FAN
NOT TO SCALE



DRAFT- NOT FOR
CONSTRUCTION

WARNING:
IT IS A VIOLATION OF THE NYS EDUCATION LAW
ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING
UNDER THE DIRECTION OF A LICENSED
PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN
ANY WAY.

Date	Description	No.
REVISIONS		
SIGNATURE _____ DATE _____ PROFESSIONAL XXXXXXXXXX STATE LIC. No. XXXXX		
LANGAN 21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, NY 10001 T: 212 479 5400 F: 212 479 5444 www.langan.com NEW JERSEY NEW YORK VIRGINIA CALIFORNIA PENNSYLVANIA CONNECTICUT FLORIDA ARIZONA ALABAMA ALASKA Langan Engineering, Environmental, Surveying and Landscape Architecture, P.C. Langan Engineering and Environmental Services, Inc. Langan International LLC Consulting Engineer and Designer		
Project 1676 THIRD AVENUE BLOCK No. 1522, LOT No. 40 NEW YORK NEW YORK COUNTY NEW YORK Drawing Title SUB-MEMBRANE DEPRESSUREIZATION SYSTEM - DETAILS		
Project No. 170206301	H-002.00	
Date 2013/05/08		
Scale NTS		
Drawn By RW		
Submission Date	Sheet 2 of 2	