

**Tighe&Bond**

**APPENDIX B**

# TASK 210: SURFICIAL SITE INVESTIGATION

**Union Station Parking Garage – Parcel B  
Union Avenue  
New Haven, Connecticut**

ConnDOT Assignment No. 200-3733  
ConnDOT Project No. 301-0049

Prepared for:



State of Connecticut  
Department of Transportation  
Newington, Connecticut 06131

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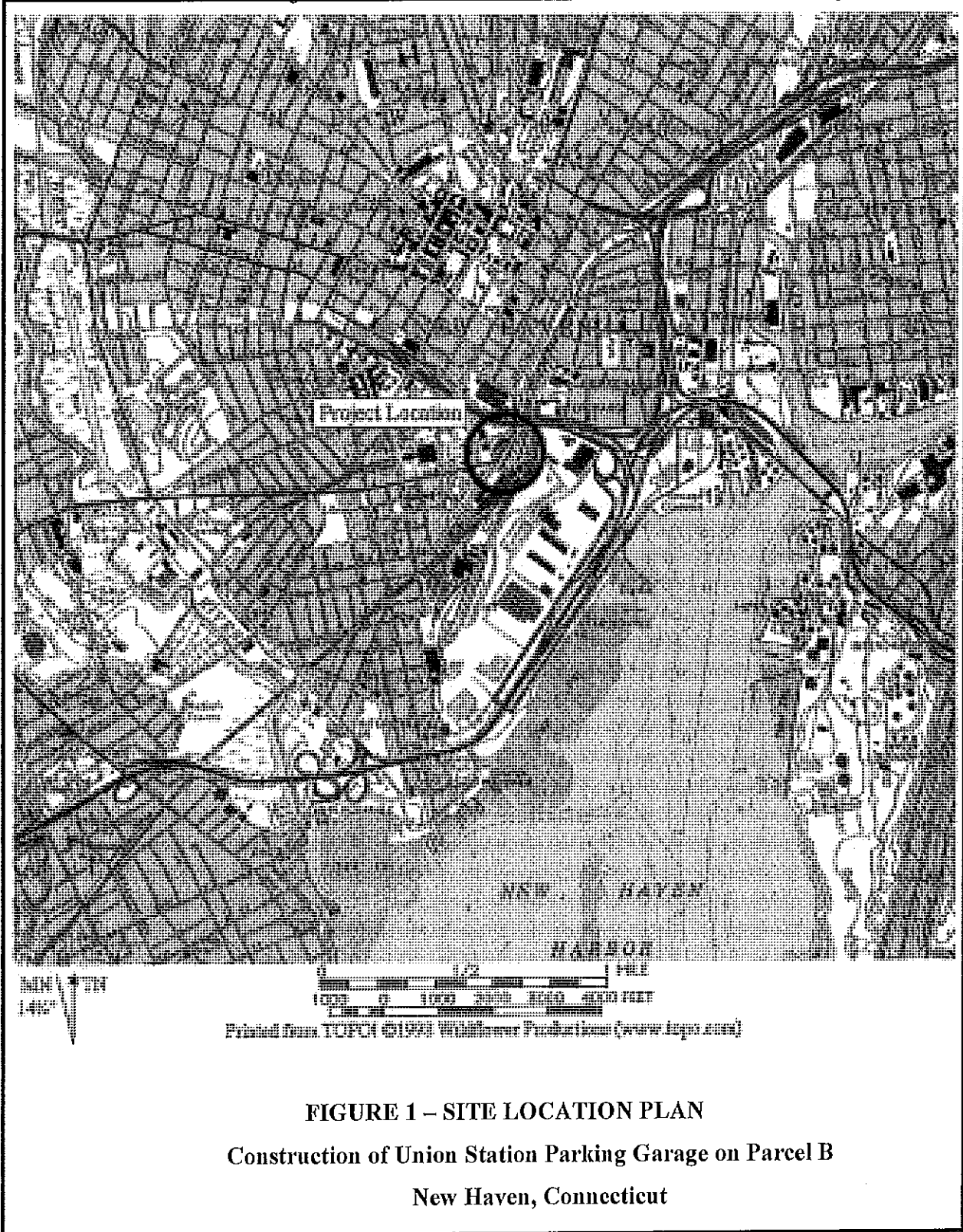
## 1.0 INTRODUCTION

On behalf of the Connecticut Department of Transportation (ConnDOT), Maguire Group Inc. has conducted a Task 210 - Surficial Site Investigation in association with the Construction of the Union Station Parking Garage on Parcel B in New Haven, Connecticut (State Project No. 301-0049). The proposed construction project will involve the construction of a new parking garage structure, located to the north of the existing parking garage and New Haven Railroad Station buildings. Figure 1 - Site Location Plan, depicts the project site. The purpose of the Task 210 - Surficial Site Investigation is to verify the absence or presence and location of subsurface contamination, and to assess the potential pollutant impacts to be encountered during construction.

## 2.0 SITE DESCRIPTION

The Task 210 - Surficial Site Investigation was conducted on Parcel B, which is an approximate 0.7 hectare (1.7 acre) asphalt-paved lot on Union Avenue, that consists of a parking area associated with the New Haven Railroad Station. Parcel B was identified as having a moderate risk designation in MGI's June 23, 1999 Task 110 - Corridor Land Use Evaluation report. The property formerly contained several structures during the late 1800's. The structures included rag sorting and rag storage buildings, kerosene storage buildings, a molasses storage building, and a salt packing house.

The site area is depicted in the attached Figure 2 - Task 210 Project Area & Sampling Locations.



**FIGURE 1 – SITE LOCATION PLAN**  
**Construction of Union Station Parking Garage on Parcel B**  
**New Haven, Connecticut**

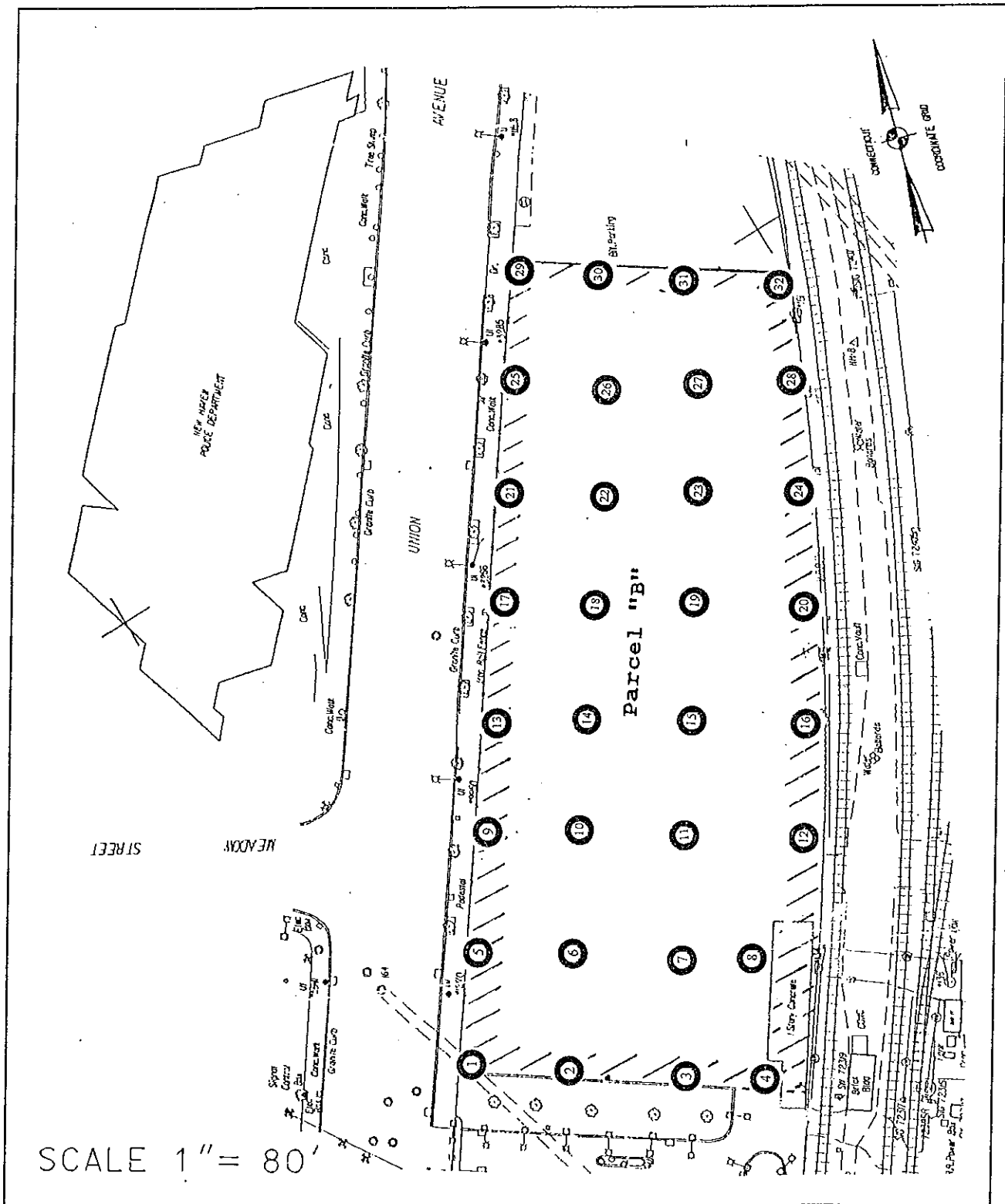


FIGURE 2 - Task 210 Project Area & Sampling Locations  
 Construction of the Union Station Parking Garage on Parcel B, Union Avenue  
 New Haven, Connecticut

### 3.0 LOCAL ENVIRONMENT & RECEPTORS

#### 3.1 Hydrogeology & Topography

According to the Connecticut Department of Environmental Protection (CTDEP) 1993 Adopted Water Quality Classifications for the South Central Coast Basin, the groundwater classification for the area is "GB". A "GB" groundwater classification indicates that groundwater is not suitable for direct human consumption without the need for treatment due to waste discharges, spills or leaks of chemicals, or land use impacts.

The project area is located within the South Central Shoreline Regional Basin, within the South Central Coast Major Drainage Basin. The New Haven Harbor is located approximately 305 meters (1,000 feet) to the southeast of Parcel B. Surficial topography of the area slopes downward very gently to the south/southeast. Based upon this, it is estimated that surface water runoff flows to the south/southeast, towards the New Haven Harbor.

Groundwater was encountered in all of the borings, at depths ranging from 1.2 to 2.1 meters (4 to 7 feet) below grade.

#### 3.2 Geology

The United States Department of Agriculture Soil Conservation Service's 1978 "Surficial Materials Map of Connecticut" indicates that the soil in the vicinity of the Task 210 project area consists of the Penwood-Manchester formation. This formation is described as a reddish, excessively-drained sandy soil with a sandy and gravelly substratum. This Task 210 investigation indicated that the soil underlying the site consists of fill, consisting of sand, ash, cinders, brick, and gravel, underlain by reddish brown sand.

The Bedrock Geological Map of Connecticut, compiled by John Rodgers in 1985, indicates that the bedrock unit underlying the Site area is the New Haven Arkose, which is a red-brown, poorly-sorted arkosic sandstone. Bedrock was not encountered in any of the soil borings during this investigation.

## 4.0 SUBSURFACE INVESTIGATION

### 4.1 Geoprobe® Soil Borings & Soil Sample Analyses

On October 15 and 16, a total of thirty-two (32) soil borings (GP-1 to GP-32) were advanced in a grid throughout the Parcel B property. The Geoprobe® borings were advanced by Logical Environmental Solutions, under the direction of Maguire Group Inc. The locations of the Geoprobe soil borings are depicted on Figure 2 - Site Plan & Sampling Locations.

The Geoprobe® soil borings were advanced to a depth of 3.7 meters (12 feet) below grade, or refusal. Continuous soil samples were collected utilizing a 1.2 meter (4-foot) long, 5 centimeter (2-inch) diameter Macro Core Sampler with dedicated acetate liners. The soil samples were visually inspected in the field for staining, and described as to physical characteristics and soil type. In addition, the soil samples were screened in the field for total volatile organic compounds utilizing a Photovac photoionization detector (PID). Soil boring logs were generated in the field by Maguire field personnel. The boring logs denote the types of soil encountered, the depth to groundwater and/or bedrock, the total depth reached in each boring, and the highest observed PID reading. Copies of the boring logs are included at the end of this report in Appendix A.

Based upon field screening results and visual observations, one soil sample from each boring was placed in glassware supplied by Con-Test Analytical Laboratory, and stored in an ice-filled cooler. The analyses for each soil sample included volatile organic compounds (VOCs) utilizing EPA Method 8260, total petroleum hydrocarbons (TPH) utilizing EPA Method 418.1, polynuclear aromatic hydrocarbons (PAHs) utilizing EPA Method 8270, pesticides and polychlorinated biphenyls (PCBs) utilizing EPA Method 8080, total RCRA 8 metals, and SPLP RCRA 8 metals.



All Geoprobe® soil borings were back-filled and patched upon completion utilizing clean sand and/or hydrated bentonite. All down-hole sampling equipment was decontaminated in accordance with Maguire's September, 1999 Task 210 Surficial Site Investigation Work Plan.

#### **4.2 Groundwater Sample Collection & Groundwater Analyses**

Five (5) groundwater grab samples (GP-2, GP-4, GP-15, GP-28, GP-29) were collected from selected boring locations. The groundwater grab samples were collected by placing dedicated PVC screen and riser casing into the borehole. Dedicated polyethylene tubing was inserted into the casing and groundwater was drawn through the tubing using a low-flow peristaltic pump. After approximately three well volumes were evacuated from the well, the groundwater sample was placed in glassware supplied by Con-Test Laboratory, and stored in an ice-filled cooler. The groundwater samples were analyzed for VOCs utilizing EPA Method 8260, TPH utilizing EPA Method 418.1, PAHs utilizing EPA Method 8270, PCBs and pesticides, and total RCRA 8 metals.

#### **4.3 Project Quality Assurance/Quality Control Practices**

To assess the collection of samples in the field in terms of the sampling techniques and decontamination procedures followed, quality control and quality assurance samples were collected. Two field blank water samples were collected during the field investigation. The field blank samples were prepared by pouring laboratory supplied de-ionized water through an acetate liner and macro core cutting shoe, and collecting the resulting rinsate in appropriate sample containers. In addition, two trip blanks were prepared by Con-Test Laboratory. The trip blank and field blank samples were stored with the daily samples in the sample cooler until subsequent delivery to the laboratory for analysis. The field blanks were analyzed for the same parameters specified for the daily samples. The trip blanks were analyzed for volatile organic compounds.

All samples collected in the field were stored in a manner that preserved the integrity of the sample chemistry. Samples intended for organic analyses were stored in an ice-filled cooler until delivery to the laboratory. Chain-of-Custody (COC) forms were filled out and accompanied all samples collected as a legal record of possession of the sample. The COC was initiated in the field and accompanied the containers during sample collection, transportation to the lab, analysis, and final disposal of the sample. All sampling equipment was either dedicated to a specific sample or was decontaminated prior to and between each use. Sampling equipment was not placed near solvents, gasoline, or other materials that may have impacted the integrity of the samples.

## 5.0 DISCUSSION OF SAMPLE RESULTS

### 5.1 Regulatory Criteria

The CTDEP adopted Remediation Standard Regulations (Regulations of Connecticut State Agencies, Section 22a-133k-1 to 3 and 22a-133q-1) as of January 31, 1996. The Remediation Standard Regulations (RSRs) apply to any site undergoing voluntary remediation under Public Acts 95-183 or 95-190, a transfer of an "establishment" under Public Act 95-183, or any site as ordered by the CTDEP Commissioner. The Regulations also outline the processes for establishing alternative site-specific numerical standards for certain sites, upon approval by the CTDEP.

The RSRs criteria applicable to the soil, sediment, and groundwater sampled during this investigation are summarized below. The application of these RSRs to the results of the laboratory analyses from this investigation is discussed in subsection 5.2, 5.3, and 5.4 of this section.

**Soils Criteria:** The RSRs are organized into two sets of criteria: the Direct Exposure Criteria (DEC) and the Pollutant Mobility Criteria (PMC). The DEC and PMC are briefly explained in the following sub-sections, in relation to how they would be applicable to the types of analyses conducted on the soil samples collected for this investigation. Please refer to the RSRs for a complete explanation of the Regulations.

#### Direct Exposure Criteria

The purpose of the Direct Exposure Criteria (DEC) is to protect human health from risks associated with the direct contact with or ingestion of various common soil contaminants. The DEC are applicable to soil within approximately 4.6 meters (15 feet) of the ground surface. Concentrations of contaminants are evaluated based upon mass-based analyses and different criteria are established for residential and commercial/industrial properties. The use of the less stringent commercial/industrial standards requires the placement of a land use restriction on the property. The DEC is not applicable to inaccessible soils, including soil more than 1.2 meters (4 feet) below the ground surface, 0.6 meters (2 feet) below pavement greater than 7.6 centimeters (3 inches) thick, or below an existing building, provided that an Environmental Land Use Restriction (ELUR) is placed in effect for the property.

#### Pollutant Mobility Criteria

The purpose of the Pollutant Mobility Criteria (PMC) is to evaluate the potential for contaminants to leach from the soil in concentrations that may degrade groundwater quality. Different numerical criteria are established for GA and GAA groundwater areas, versus GB groundwater areas. Since the site is located in a GB groundwater area, the least stringent criteria are applied for contaminants detected in the soil.

**Groundwater Criteria.** Contaminants in the groundwater are compared either to background quality or the Groundwater Protection Criteria (GWPC), the Volatilization Criteria, as well as the Surface Water Protection Criteria (SWPC). The GWPC, Volatilization Criteria, and SWPC are briefly explained in the following sub-sections, in relation to how they would be applicable to the types of analyses conducted on the soil samples collected for this investigation.

#### Groundwater Protection Criteria

The purpose of the Groundwater Protection Criteria is to protect the groundwater quality in areas that have the potential to use groundwater as a drinking water resource (GA & GAA groundwater classification areas). Since the project area is located within a GB groundwater area, the GWPC do not apply.

#### Volatilization Criteria

The purpose of the Volatilization Criteria standard is to ensure that volatile organic compounds (VOCs) in groundwater do not pose an unacceptable risk to human health due to the inhalation of VOCs that may enter into a structure on the property. The Volatilization Criteria only apply when impacted groundwater is located within 4.6 meters (15 feet) of the ground surface or any structure. Different criteria exist for residential and commercial/industrial properties. The use of the less stringent commercial/industrial standards requires the placement of an ELUR on the property. Since groundwater was located within 4.6 meters (15 feet) of the ground surface, the Volatilization Criteria apply to this Site.

#### Surface Water Protection Criteria

The purpose of the Surface Water Protection Criteria (SWPC) standards are to ensure that groundwater discharging to a surface water body will not adversely effect surface water quality. Since groundwater within the corridor likely discharges to the nearby New Haven Harbor, the SWPC apply to contaminants detected in the groundwater.

## 5.2 Results of Soil Sample Analyses

Soil samples collected during the advancement of the Geoprobe® borings were sent to Con-Test Analytical Laboratory of East Longmeadow, Massachusetts for laboratory analyses. A summary of the laboratory results from the soil samples is presented in Table 1(a) to Table 1(h), which are located at the end of this report, and copies of the soil sample analytical results are included in Appendix B. The following summarizes the results of the analyses conducted on the soil samples.

Volatile organic compounds (VOCs), pesticides, and PCBs were not detected in any of the soil samples. Varying concentrations of petroleum hydrocarbons were detected in all of the borings from Below Detection Limits (BDL) to 149 parts per million (ppm). None of the samples contained petroleum hydrocarbons at concentrations that exceeded CTDEP RSRs.

The soil samples collected from borings GP-1, GP-4, GP-8, GP-13, GP-17, GP-18, GP-20, GP-22, GP-23, GP-26, GP-28, GP-29 and GP-32 contained several polynuclear aromatic hydrocarbon (PAH) compounds. The sample from GP-1 contained the compounds anthracene (0.57 parts per million [ppm]), benzo(a)anthracene (0.94 ppm), benzo(a)pyrene (0.88 ppm), benzo(b)fluoranthene (0.84 ppm), benzo(k)fluoranthene (0.68 ppm), chrysene (1.06 ppm), fluoranthene (2.19 ppm), indeno(1,2,3-cd)pyrene (0.4 ppm), phenanthrene (2.37 ppm), and pyrene (1.94 ppm).

The sample from GP-4 contained the compounds benzo(b)fluoranthene (0.39 ppm) and fluoranthene (0.58 ppm). The sample from GP-8 contained the compounds benzo(a)anthracene (2.06 ppm), benzo(a)pyrene (1.8 ppm), benzo(b)fluoranthene (1.86 ppm), benzo(k)fluoranthene (1.79 ppm), chrysene (2.47 ppm), fluoranthene (2.95 ppm), indeno(1,2,3-cd)pyrene (0.91 ppm), phenanthrene (0.64 ppm), and pyrene (3.03 ppm). The sample from GP-13 contained the compound fluoranthene (0.39 ppm). The soil sample from GP-17 contained the compounds benzo(b)fluoranthene (0.4 ppm) and fluoranthene (0.49 ppm).

The sample from GP-18 contained the compounds benzo(a)anthracene (5.85 ppm), benzo(a)pyrene (5.32 ppm), benzo(b)fluoranthene (6.47 ppm), benzo(g,h,i)perylene (2.81 ppm), benzo(k)fluoranthene (3.7 ppm), chrysene (7.12 ppm), fluoranthene (7.23 ppm), indeno(1,2,3-cd)pyrene (2.71 ppm), phenanthrene (1.39 ppm), and pyrene (8.16 ppm).

The sample from GP-20 contained the compounds acenaphthene (0.77 ppm), acenaphthylene (0.36 ppm), anthracene (1.66 ppm), benzo(a)anthracene (3.47 ppm), benzo(a)pyrene (3.11 ppm), benzo(b)fluoranthene (3.91 ppm), benzo(g,h,i)perylene (1.58 ppm), benzo(k)fluoranthene (2.35 ppm), chrysene (4.54 ppm), dibenz(a,h)anthracene (0.75 ppm), fluoranthene (4.01 ppm), fluorene (0.73 ppm), indeno(1,2,3-cd)pyrene (1.61 ppm), phenanthrene (5.93 ppm), and pyrene (6.93 ppm).

The sample from GP-22 contained the compounds benzo(a)anthracene (14.0 ppm), benzo(a)pyrene (10.2 ppm), benzo(b)fluoranthene (13.6 ppm), benzo(k)fluoranthene (12.4 ppm), chrysene (14.5 ppm), fluoranthene (20.1 ppm), indeno(1,2,3-cd)pyrene (4.67 ppm), phenanthrene (4.77 ppm), and pyrene (21.4 ppm).

The sample from GP-23 contained the compounds acenaphthylene (0.79 ppm), benzo(a)anthracene (2.15 ppm), benzo(a)pyrene (2.63 ppm), benzo(b)fluoranthene (2.9 ppm), benzo(k)fluoranthene (2.5 ppm), chrysene (2.67 ppm), fluoranthene (2.77 ppm), indeno(1,2,3-cd)pyrene (1.47 ppm), phenanthrene (1.11 ppm), and pyrene (2.63 ppm).

The sample from GP-26 contained the compounds anthracene (0.34 ppm), benzo(b)fluoranthene (0.77 ppm), benzo(k)fluoranthene (0.71 ppm), and phenanthrene (0.41 ppm).

The sample from GP-28 contained the compounds benzo(a)anthracene (0.7 ppm), benzo(a)pyrene (0.79 ppm), benzo(b)fluoranthene (1.59 ppm), benzo(k)fluoranthene (0.77 ppm), chrysene (0.92 ppm), fluoranthene (1.16 ppm), phenanthrene (0.68 ppm), and pyrene (1.28 ppm).

The sample from GP-29 contained the compounds benzo(b)fluoranthene (0.39 ppm) and fluoranthene (0.41 ppm). The sample from GP-32 contained the compounds benzo(a)anthracene (0.78 ppm), benzo(a)pyrene (0.86 ppm), benzo(b)fluoranthene (0.9 ppm), benzo(k)fluoranthene (0.8 ppm), chrysene (1 ppm), fluoranthene (1.34 ppm), indeno(1,2,3-cd)pyrene (0.43 ppm) and phenanthrene (0.44 ppm).

The soil samples from borings GP-1, GP-8, GP-18, GP-20, GP-22, GP-23, and GP-28 contained several PAH compounds at concentrations that exceed their respective RSRs. The GP-1 (1.2 to 1.8 meter/4 to 6 feet) soil sample contained the compound chrysene at a concentration that exceed its respective GB PMC. The GP-8 (0.6 to 1.2 meter/2 to 4 feet) soil sample contained the compounds benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene at concentrations that exceed their respective GB PMC. In addition, the compounds benzo(a)anthracene, benzo(a)pyrene and benzo(b)fluoranthene were detected at concentrations that exceed their respective Residential DEC. The compound benzo(a)pyrene was also detected at a concentration that exceeds its respective Commercial/Industrial DEC.

The GP-18, GP-20, and GP-23 (0.6 to 1.2 meter/2 to 4 feet) soil samples contained the compounds benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene at concentrations that exceed their respective GB PMC. In addition, the compounds benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene were detected at concentrations that exceed their respective Residential DEC. The compound benzo(a)pyrene was also detected at a concentration that exceeds its respective Commercial/Industrial DEC.

The GP-22 (0.6 to 1.2 meter/2 to 4 feet) soil sample contained the compounds benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene at concentrations that exceed their respective GB PMC. In addition, the compounds benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene were detected at concentrations that exceed their respective Residential DEC. The compounds benzo(a)anthracene, benzo(a)pyrene and benzo(b)fluoranthene were also detected at a concentrations that exceed their respective Commercial/Industrial DEC.

The GP-28 (0.6 to 1.2 meter/2 to 4 feet) soil sample contained the compound benzo(b)fluoranthene at a concentrations that exceeds its respective GB PMC and Residential DEC.

Total concentrations of arsenic, barium, cadmium, chromium, lead, and mercury were detected in varying concentrations throughout the property. Total lead was detected at concentrations that exceed the Residential DEC of 500 ppm in the 0.6 to 1.2 meter/2 to 4 foot samples collected from GP-4 (711 ppm), GP-18 (746 ppm), GP-20 (616 ppm), GP-22 (822 ppm), and GP-29 (805 ppm). In addition, total arsenic was detected at concentrations that exceed the Residential and Commercial/Industrial DEC of 10 ppm in the samples collected from GP-18 (11.1 ppm) and GP-20 (17.2 ppm). Leachable (via SPLP) concentrations of barium, lead and mercury were detected varying concentrations throughout the property. However, the concentrations detected did not exceed any applicable CTDEP RSRs.



### 5.3 Results of Groundwater Sample Analyses

Groundwater samples collected from borings GP-2, GP-4, GP-15, GP-28 and GP-29 were sent to Con-Test Analytical Laboratory of East Longmeadow, Massachusetts for laboratory analyses. A summary of the laboratory results from the groundwater samples is presented in Table 2, which is located at the end of this report, and copies of the groundwater sample analytical results are included in Appendix C. The following summarizes the results of the analyses conducted on the groundwater samples.

Petroleum hydrocarbons, PAHs, PCBs, and pesticides were not detected in any of the groundwater samples. The GP-4 groundwater sample contained the VOC 1,2,4-trichlorobenzene at a concentration of 0.9 parts per billion (ppb). The GP-15 groundwater sample contained the VOC 1,1,1-trichloroethane at a concentration of 1 ppb. The concentrations of the VOCs detected in the GP-4 and GP-15 samples do not exceed any applicable CTDEP RSR criteria.

Total arsenic, barium, cadmium, chromium, lead, and mercury were detected in varying concentrations in the groundwater samples. Total lead was detected in the GP-28 (0.13 ppm) and GP-29 (0.03 ppm) samples at concentrations that exceed the Surface Water Protection Criteria (SWPC). In addition, the GP-28 sample contained total arsenic (0.06 ppm) and mercury (0.003 ppm) at concentrations that exceed the SWPC.

### 5.4 Quality Assurance/Quality Control Samples

The field blank water samples were collected each day of sampling activities. The field blank samples were analyzed for VOCs, TPH, PAHs, PCBs, pesticides, and total RCRA 8 metals. In addition, two trip blank samples were analyzed for VOCs. The field blank sample FB-1 contained the trace concentrations of the compounds methyl tertiary butyl ether (1.4 ppb) and

toluene (1.2 ppb). In addition, both trip blank samples contained the compound methylene chloride at concentrations of 6 ppb and 6.1 ppb. The compounds detected in the blank samples were not detected in any of the soil or groundwater samples submitted for analysis. The presence of these compounds in the blank samples is likely due to laboratory contamination.

No other compounds were detected in any of the blank samples. Copies of the analytical reports associated with the quality assurance/quality control samples are included in Appendix D.

## 6.0 DISCUSSION OF AFFECTED RESOURCES

Based upon the results of laboratory analyses performed on soil and groundwater samples for this Task 210 investigation, the following summarizes the contaminants present in soils that may be potentially impacted by the Construction of the Union Station Parking Garage on Parcel B project.

Analytical results of shallow (0.6 to 1.2 meter/2 to 4 foot) soil samples collected from borings GP-8, GP-18, GP-20, GP-22, GP-23, and GP-28, indicate the presence of PAHs that exceed the CTDEP Remediation Standard Regulations (RSRs). PAH contamination in deeper soil (1.2 to 1.8 meter/4 to 6 foot) in the vicinity of GP-1 was also detected at concentrations that exceed the CTDEP RSRs. Total lead and arsenic were detected in shallow (0.6 to 1.2 meter/2 to 4 foot) soil samples collected from borings GP-4, GP-18, GP-20, GP-22, and GP-29 at concentrations that exceed the CTDEP RSRs.

Analytical results from two groundwater samples collected from borings GP-28 and GP-29 indicate the presence of total arsenic, lead, and mercury contamination that exceed the CTDEP Surface Water Protection Criteria.

## 7.0 RECOMMENDATIONS

Based upon the results of the Task 210 Subsurface Investigation of the Parcel B property, it is recommended that the entire project area be considered an Area of Environmental Concern (AOEC) due to the widespread existence of soil contaminated with PAHs, lead, and arsenic. Special considerations for treatment/disposal and worker health and safety must be given to these areas in order to ensure compliance with all local, State and Federal laws. In addition, groundwater in the northern portion of the property is contaminated with lead, arsenic, and mercury. Based upon the depth to groundwater observed during the Task 210 investigation, excavation de-watering may be required. The de-watering fluids will require collection and disposal at a ConnDOT-approved disposal facility. A Task 310 Remedial Management Plan is therefore recommended for all areas of construction associated with the Construction of the Union Station Parking Garage on Parcel B project.

## 8.0 LIMITATIONS

All work product and reports provided by Maguire Group Inc. (MGI) in connection with the performance of this Task 210 - Surficial Site Investigation are subject to the following limitations:

1. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services provided to ConnDOT.
2. In preparing this report, MGI has relied on certain information provided by State and local officials and information and representations made by other parties referenced therein, and on information contained in the files of State and/or local agencies made available to MGI at the time of this investigation. To the extent that such files are missing, incomplete or not provided to MGI, MGI is not responsible. Although there may have been some degree of overlap in the information provided by these various sources, MGI did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this investigation.
3. The conclusions and recommendations contained in this report are based in part upon the data from subsurface explorations. The nature and extent of variations between these explorations may not become evident until further explorations are completed. If variations or other latent conditions become evident, it will be necessary to re-evaluate the conclusions and recommendations of this report.
4. The water level readings made for this investigation were made at the times and conditions stated on the boring logs. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, passage of time and other factors.

Should additional data become available in the future, these data should be reviewed by MGI, and the conclusions and recommendations presented herein modified accordingly.

5. Where quantitative laboratory analyses have been conducted by an outside certified laboratory, MGI has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these tests.
6. If the conclusions and recommendations contained in this report are based, in part, upon various types of chemical data then the conclusions and recommendations are contingent upon the validity of such data. These data have been reviewed and interpretations made in the report. It should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by MGI and the conclusions and recommendations presented herein modified accordingly.
7. Chemical analyses were performed for specific parameters during the course of this investigation, as described in the text. However, it should be noted that testing for all known chemical constituents was not performed. The conclusions and recommendations contained in this report are based only upon the chemical constituents for which testing was accomplished.

The following qualifications apply to the undersigned's opinion:

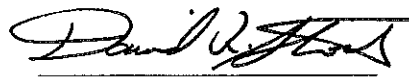
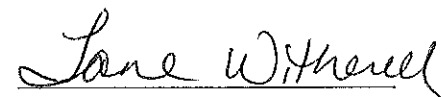
The activities described and opinions included herein are based on information gathered during this exploratory site investigation, which was limited in scope in adherence to the terms of our agreement. The professional opinion provided herein is based on the information described in this report.

The information contained herein was prepared for the use of ConnDOT solely in conjunction with the task descriptions for this assignment. The conclusions and recommendations set forth in this report are based on site conditions at the time of the investigation. Future studies and findings could change the contents of this report. The professional opinions presented in this report have been developed by using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental engineering consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional opinions included in this report.

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# TABLES

TABLE 1(a) - Results of Soil Sample Analyses  
Parcel B – Union Station Parking Garage  
New Haven, Connecticut

Boring I.D.:	GP-1	GP-2	GP-3	GP-4	CTDEP Pollutant Mobility Criteria – GB Groundwater Area	CTDEP Direct Exposure Criteria – Residential/Commercial & Industrial
Sample Depth:	1.2-1.8m 4'-6'	0.6-1.2m 2'-4'	1.2-2.4m 4'-8'	0.6-1.2m 2'-4'		
TPH - EPA Method 418.1 (ppm)	24.0	BDL	BDL	BDL	2,500 ppm	500/2,500 ppm
VOCs - EPA Method 8260 (ppb)	ND	ND	ND	ND		
PAHs - EPA Method 8270 (ppm)						
Anthracene	0.57	ND	ND	ND	400 ppm	1,000/2,500 ppm
Benzo(a)anthracene	0.94	ND	ND	BDL	1 ppm	1/7.8 ppm
Benzo(a)pyrene	0.88	ND	ND	BDL	1 ppm	1/1 ppm
Benzo(b)fluoranthene	0.84	ND	ND	0.39	1 ppm	1/7.8 ppm
Benzo(k)fluoranthene	0.68	ND	ND	BDL	1 ppm	8.4/78 ppm
Chrysene	1.06	ND	ND	ND	1 ppm	84/780 ppm
Fluoranthene	2.19	BDL	ND	0.58	56 ppm	1,000/2,500 ppm
Indeno(1,2,3-cd)pyrene	0.4	ND	ND	BDL	1 ppm	1/7.8 ppm
Phenanthrene	2.37	ND	ND	BDL	40 ppm	1,000/2,500 ppm
Pyrene	1.94	ND	ND	BDL	40 ppm	1,000/2,500 ppm
PCBs & Pesticides – EPA Method 8080 (ppm)	ND	ND	ND	ND		
Total RCRA 8 Metals - ppm						
Arsenic	BDL	ND	ND	8.34		10/10 ppm
Barium	22.4	26.2	19.2	42.2		4,700/140,000 ppm
Cadmium	ND	0.08	0.06	ND		34/1,000 ppm
Chromium	3.82	5.13	3.12	4.21		100/100 ppm
Lead	11.4	11.3	10.4	711		500/1,000 ppm
Mercury	0.185	0.028	0.054	0.889		20/610 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.14	0.23	0.16	0.18	10 ppm	
Lead	ND	ND	ND	0.04	0.15 ppm	
Mercury	ND	ND	ND	0.00007	0.02 ppm	

ND – Not Detected

BDL - Below Detectable Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.



**TABLE 1(b) - Results of Soil Sample Analyses  
Parcel B -- Union Station Parking Garage  
New Haven, Connecticut**

Boring I.D.:	GP-5	GP-6	GP-7	GP-8	CTDEP Pollutant Mobility Criteria -- GB Groundwater Area	CTDEP Direct Exposure Criteria -- Residential/Commercial & Industrial
Sample Depth:	0.6-1.2m 2'-4'	1.2-2.4m 4'-8'	1.2-2.4m 4'-8'	0.6-1.2m 2'-4'		
TPH - EPA Method 418.1 (ppm)	29.8	BDL	20.9	BDL	2,500 ppm	500/2,500 ppm
VOCs - EPA Method 8260 (ppb)	ND	ND	ND	ND		
PAHs - EPA Method 8270 (ppm)						
Benzo(a)anthracene	ND	ND	ND	2.06	1 ppm	1/7.8 ppm
Benzo(a)pyrene	ND	ND	ND	1.8	1 ppm	1/1 ppm
Benzo(b)fluoranthene	ND	ND	ND	1.86	1 ppm	1/7.8 ppm
Benzo(k)fluoranthene	ND	ND	ND	1.79	1 ppm	8.4/78 ppm
Chrysene	ND	ND	ND	2.47	1 ppm	84/780 ppm
Fluoranthene	ND	ND	ND	2.95	56 ppm	1,000/2,500 ppm
Indeno(1,2,3-cd)pyrene	ND	ND	ND	0.91	1 ppm	1/7.8 ppm
Phenanthrene	ND	ND	ND	0.64	40 ppm	1,000/2,500 ppm
Pyrene	ND	ND	ND	3.03	40 ppm	1,000/2,500 ppm
PCBs & Pesticides -- EPA Method 8080 (ppm)	ND	ND	ND	ND		
Total RCRA 8 Metals - ppm						
Arsenic	ND	ND	ND	7.52		10/10 ppm
Barium	20.9	18.1	22.3	211		4,700/140,000 ppm
Cadmium	ND	0.05	ND	0.16		34/1,000 ppm
Chromium	4.88	4.38	4.84	6.36		100/100 ppm
Lead	2.98	2.94	26.0	467		500/1,000 ppm
Mercury	ND	ND	0.018	1.37		20/610 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.14	0.11	0.41	0.18	10 ppm	
Mercury	ND	ND	ND	0.00006	0.02 ppm	

ND -- Not Detected

BDL - Below Detectable Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(c) - Results of Soil Sample Analyses  
Parcel B – Union Station Parking Garage  
New Haven, Connecticut**

Boring I.D.:	GP-9	GP-10	GP-11	GP-12	CTDEP Pollutant Mobility Criteria – GB Groundwater Area	CTDEP Direct Exposure Criteria – Residential/Commercial & Industrial
Sample Depth:	1.2-2.4m 4'-8'	0.6-1.2m 2'-4'	1.2-2.4m 4'-8'	1.2-2.4m 4'-8'		
TPH - EPA Method 418.1 (ppm)	BDL	BDL	30.0	78.6	2,500 ppm	500/2,500 ppm
VOCs - EPA Method 8260 (ppb)	ND	ND	ND	ND		
PAHs - EPA Method 8270 (ppm)	ND	ND	ND	ND		
PCBs & Pesticides – EPA Method 8080 (ppm)	ND	ND	ND	ND		
Total RCRA 8 Metals - ppm						
Arsenic	ND	6.42	ND	ND		10/10 ppm
Barium	18.8	32.5	21.6	35.1		4,700/140,000 ppm
Cadmium	ND	0.04	ND	0.08		34/1,000 ppm
Chromium	3.78	7.66	3.5	4.08		100/100 ppm
Lead	3.6	28.2	10.6	44.0		500/1,000 ppm
Mercury	ND	0.088	0.02	0.071		20/610 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.15	0.24	0.1	0.46	10 ppm	
Mercury	ND	0.00005	ND	ND	0.02 ppm	

ND – Not Detected

BDL - Below Detectable Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(d) - Results of Soil Sample Analyses  
Parcel B – Union Station Parking Garage  
New Haven, Connecticut**

Boring I.D.:	GP-13	GP-14	GP-15	GP-16	CTDEP Pollutant Mobility Criteria – GB Groundwater Area	CTDEP Direct Exposure Criteria -- Residential/Commercial & Industrial
Sample Depth:	1.2-2.4m 4'-8'	0.6-1.2m 2'-4'	0.6-1.2m 2'-4'	1.2-2.4m 4'-8'		
TPH - EPA Method 418.1 (ppm)	25.9	21.9	38.3	21.5	2,500 ppm	500/2,500 ppm
VOCs - EPA Method 8260 (ppb)	ND	ND	ND	ND		
PAHs - EPA Method 8270 (ppm)						
Fluoranthene	0.39	BDL	BDL	BDL	56 ppm	1,000/2,500 ppm
PCBs & Pesticides – EPA Method 8080 (ppm)	ND	ND	ND	ND		
Total RCRA 8 Metals - ppm						
Arsenic	ND	BDL	7.48	ND		10/10 ppm
Barium	15.9	39.3	98.2	16.9		4,700/140,000 ppm
Cadmium	0.12	ND	0.22	0.08		34/1,000 ppm
Chromium	3.14	6.0	5.8	6.14		100/100 ppm
Lead	7.28	86.1	118	4.02		500/1,000 ppm
Mercury	0.108	0.045	1.59	ND		20/610 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.5	0.5	0.73	0.3	10 ppm	
Lead	ND	0.002	0.1	ND	0.15 ppm	
Mercury	ND	ND	0.00034	ND	0.02 ppm	

ND – Not Detected

BDL - Below Detectable Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(e) - Results of Soil Sample Analyses  
Parcel B – Union Station Parking Garage  
New Haven, Connecticut**

Boring I.D.:	GP-17	GP-18	GP-19	GP-20	CTDEP Pollutant Mobility Criteria – GB Groundwater Area	CTDEP Direct Exposure Criteria – Residential/Commercial & Industrial
Sample Depth:	0.6-1.2m 2'-4'	0.6-1.2m 2'-4'	1.2-2.4m 4'-8'	0.6-1.2m 2'-4'		
TPH - EPA Method 418.1 (ppm)	30.1	26.1	22.4	36.0	2,500 ppm	500/2,500 ppm
VOCs - EPA Method 8260 (ppb)	ND	ND	ND	ND		
PAHs - EPA Method 8270 (ppm)						
Acenaphthene	ND	ND	ND	0.77	84 ppm	1,000/2,500 ppm
Acenaphthylene	ND	ND	ND	0.36	84 ppm	1,000/2,500 ppm
Anthracene	ND	BDL	ND	1.66	400 ppm	1,000/2,500 ppm
Benzo(a)anthracene	BDL	5.85	ND	3.47	1 ppm	1/7.8 ppm
Benzo(a)pyrene	BDL	5.32	ND	3.11	1 ppm	1/1 ppm
Benzo(b)fluoranthene	0.4	6.47	ND	3.91	1 ppm	1/7.8 ppm
Benzo(g,h,i)perylene	ND	2.81	ND	1.58	42 ppm	1,000/2,500 ppm
Benzo(k)fluoranthene	ND	3.7	ND	2.35	1 ppm	8.4/78 ppm
Chrysene	ND	7.12	ND	4.54	1 ppm	84/780 ppm
Dibenz(a,h)anthracene	ND	BDL	ND	0.75	1 ppm	1 ppm
Fluoranthene	0.49	7.23	ND	4.01	56 ppm	1,000/2,500 ppm
Fluorene	ND	ND	ND	0.73	56 ppm	1,000/2,500 ppm
Indeno(1,2,3-cd)pyrene	ND	2.71	ND	1.61	1 ppm	1/7.8 ppm
Phenanthrene	ND	1.39	ND	5.93	40 ppm	1,000/2,500 ppm
Pyrene	ND	8.16	ND	6.93	40 ppm	1,000/2,500 ppm
PCBs & Pesticides – EPA Method 8080 (ppm)	ND	ND	ND	ND		
Total RCRA 8 Metals - ppm						
Arsenic	ND	11.1	ND	17.2		10/10 ppm
Barium	77.6	783	19.9	87.6		4,700/140,000 ppm
Cadmium	0.26	0.14	0.18	0.98		34/1,000 ppm
Chromium	7.96	12.1	5.02	12.2		100/100 ppm
Lead	198	746	7.34	616		500/1,000 ppm
Mercury	1.11	1.22	0.414	0.667		20/610 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.41	0.31	0.64	0.23	10 ppm	
Lead	0.02	0.05	ND	0.04	0.15 ppm	
Mercury	0.00008	0.00012	0.00022	0.00006	0.02 ppm	

ND – Not Detected

BDL - Below Detectable Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(f) - Results of Soil Sample Analyses  
Parcel B – Union Station Parking Garage  
New Haven, Connecticut**

Boring I.D.:	GP-21	GP-22	GP-23	GP-24	CTDEP Pollutant Mobility Criteria – GB Groundwater Area	CTDEP Direct Exposure Criteria – Residential/Commercial & Industrial
Sample Depth:	1.2-2.4m 4'-8'	0.6-1.2m 2'-4'	0.6-1.2m 2'-4'	1.2-2.4m 4'-8'		
TPH - EPA Method 418.1 (ppm)	18.8	50.8	149	45	2,500 ppm	500/2,500 ppm
VOCs - EPA Method 8260 (ppb)	ND	ND	ND	ND		
PAHs - EPA Method 8270 (ppm)						
Acenaphthylene	ND	ND	0.79	ND	420 ppm	1,000/2,500 ppm
Benzo(a)anthracene	ND	14.0	2.15	ND	1 ppm	1/7.8 ppm
Benzo(a)pyrene	ND	10.2	2.63	ND	1 ppm	1/1 ppm
Benzo(b)fluoranthene	ND	13.6	2.9	ND	1 ppm	1/7.8 ppm
Benzo(k)fluoranthene	ND	12.4	2.5	ND	1 ppm	8.4/78 ppm
Chrysene	ND	14.5	2.67	ND	1 ppm	84/780 ppm
Fluoranthene	ND	20.1	2.77	ND	56 ppm	1,000/2,500 ppm
Indeno(1,2,3-cd)pyrene	ND	4.67	1.47	ND	1 ppm	1/7.8 ppm
Phenanthrene	ND	4.77	1.11	ND	40 ppm	1,000/2,500 ppm
Pyrene	ND	21.4	2.63	ND	40 ppm	1,000/2,500 ppm
PCBs & Pesticides – EPA Method 8080 (ppm)	ND	ND	ND	ND		
Total RCRA 8 Metals - ppm						
Arsenic	ND	6.62	8.82	ND		10/10 ppm
Barium	15.4	160	72.1	15.3		4,700/140,000 ppm
Cadmium	0.04	0.26	0.26	ND		34/1,000 ppm
Chromium	3.71	9.16	9.66	3.09		100/100 ppm
Lead	3.66	822	96.0	3.86		500/1,000 ppm
Mercury	ND	1.06	0.11	0.011		20/610 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.7	0.25	0.16	0.17	10 ppm	
Lead	ND	0.06	ND	ND	0.15 ppm	
Mercury	ND	0.00014	ND	ND	0.02 ppm	

ND – Not Detected

BDL - Below Detectable Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(g) - Results of Soil Sample Analyses  
Parcel B -- Union Station Parking Garage  
New Haven, Connecticut**

Boring I.D.:	GP-25	GP-26	GP-27	GP-28	CTDEP Pollutant Mobility Criteria -- GB Groundwater Area	CTDEP Direct Exposure Criteria -- Residential/Commercial & Industrial
Sample Depth:	1.2-2.4m 4'-8'	0.6-1.2m 2'-4'	1.2-2.4m 4'-8'	0.6-1.2m 2'-4'		
TPH - EPA Method 418.1 (ppm)	BDL	59.7	26.6	56.4	2,500 ppm	500/2,500 ppm
VOCs - EPA Method 8260 (ppb)	ND	ND	ND	ND		
PAHs - EPA Method 8270 (ppm)						
Anthracene	ND	0.34	ND	ND	400 ppm	1,000/2,500 ppm
Benzo(a)anthracene	ND	BDL	ND	0.7	1 ppm	1/7.8 ppm
Benzo(a)pyrene	ND	BDL	ND	0.79	1 ppm	1/1 ppm
Benzo(b)fluoranthene	ND	0.77	ND	1.59	1 ppm	1/7.8 ppm
Benzo(k)fluoranthene	ND	0.71	ND	0.77	1 ppm	8.4/78 ppm
Chrysene	ND	BDL	ND	0.92	1 ppm	84/780 ppm
Fluoranthene	ND	BDL	ND	1.16	56 ppm	1,000/2,500 ppm
Phenanthrene	ND	0.41	ND	0.68	40 ppm	1,000/2,500 ppm
Pyrene	ND	BDL	ND	1.28	40 ppm	1,000/2,500 ppm
PCBs & Pesticides -- EPA Method 8080 (ppm)	ND	ND	ND	ND		
Total RCRA 8 Metals - ppm						
Arsenic	7.51	10.8	ND	9.74		10/10 ppm
Barium	39.5	125	20.9	65.8		4,700/140,000 ppm
Cadmium	0.26	0.08	0.14	1.02		34/1,000 ppm
Chromium	5.98	7.38	4.62	15.6		100/100 ppm
Lead	401	343	46.7	280		500/1,000 ppm
Mercury	0.022	0.267	ND	1.1		20/610 ppm
Selenium	ND	6.44	ND	ND		340/10,000 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.32	0.35	0.51	0.27	10 ppm	
Lead	0.03	ND	0.02	ND	0.15 ppm	
Mercury	ND	ND	ND	0.00004	0.02 ppm	

ND -- Not Detected

BDL - Below Detectable Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(h) - Results of Soil Sample Analyses  
Parcel B – Union Station Parking Garage  
New Haven, Connecticut**

Boring I.D.:	GP-29	GP-30	GP-31	GP-32	CTDEP Pollutant Mobility Criteria – GB Groundwater Area	CTDEP Direct Exposure Criteria – Residential/Commercial & Industrial
Sample Depth:	0.6-1.2m 2'-4'	1.2-2.4m 4'-8'	1.2-2.4m 4'-8'	0.6-1.2m 2'-4'		
TPH - EPA Method 418.1 (ppm)	29.4	25.8	25	23.6	2,500 ppm	500/2,500 ppm
VOCs - EPA Method 8260 (ppb)	ND	ND	ND	ND		
PAHs - EPA Method 8270 (ppm)						
Benzo(a)anthracene	BDL	ND	ND	0.78	1 ppm	1/7.8 ppm
Benzo(a)pyrene	BDL	ND	ND	0.86	1 ppm	1/1 ppm
Benzo(b)fluoranthene	0.39	ND	ND	0.9	1 ppm	1/7.8 ppm
Benzo(k)fluoranthene	BDL	ND	ND	0.8	1 ppm	8.4/78 ppm
Chrysene	BDL	ND	ND	1.0	1 ppm	84/780 ppm
Fluoranthene	0.41	ND	ND	1.34	56 ppm	1,000/2,500 ppm
Indeno(1,2,3-cd)pyrene	ND	ND	ND	0.43	1 ppm	1/7.8 ppm
Phenanthrene	BDL	ND	ND	0.44	40 ppm	1,000/2,500 ppm
PCBs & Pesticides – EPA Method 8080 (ppm)	ND	ND	ND	ND		
Total RCRA 8 Metals - ppm						
Arsenic	12.3	ND	ND	7.66		10/10 ppm
Barium	158	62.8	16.4	40.2		4,700/140,000 ppm
Cadmium	0.12	0.22	ND	0.31		34/1,000 ppm
Chromium	6.44	3.4	3.44	6.12		100/100 ppm
Lead	805	11.9	2.8	138		500/1,000 ppm
Mercury	1.24	0.054	0.014	0.571		20/610 ppm
Selenium	ND	ND	ND	6.3		340/10,000 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.27	0.28	0.3	0.22	10 ppm	
Lead	0.05	ND	ND	0.04	0.15 ppm	
Mercury	0.00018	ND	ND	0.00009	0.02 ppm	

ND – Not Detected

BDL - Below Detectable Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 2 - Results of Groundwater Sample Analyses  
Parcel B – Union Station Parking Garage  
New Haven, Connecticut**

Boring I.D.:	GP-2	GP-4	GP-15	GP-28	GP-29	CTDEP Surface Water Protection Criteria	CTDEP Volatilization Criteria – Residential/ Commercial & Industrial
TPH - EPA Method 418.1 (ppm)	BDL	BDL	BDL	BDL	BDL		
VOCs - EPA Method 8260 (ppb)							
1,1,1-Trichloroethane	ND	ND	1	ND	ND	62,000 ppb	20,400/50,000 ppb
1,2,4-Trichlorobenzene	ND	0.9	ND	ND	ND	None Established	None Established
PAHs - EPA Method 8270 (ppb)	ND	ND	ND	ND	ND		
PCBs & Pesticides – EPA Method 8080 (ppb)	ND	ND	ND	ND	ND		
Total RCRA 8 Metals - ppm							
Arsenic	ND	ND	ND	<i>0.06</i>	ND	<b>0.004</b>	
Barium	0.0424	0.116	0.056	0.488	0.311	No Standard	
Cadmium	ND	0.0006	0.0003	0.0005	0.0004	0.006 ppm	
Chromium	0.002	ND	0.002	0.085	0.006	0.11 ppm	
Lead	ND	ND	ND	<i>0.13</i>	<i>0.03</i>	<b>0.013 ppm</b>	
Mercury	ND	ND	0.00043	<i>0.003</i>	0.00021	<b>0.0004 ppm</b>	

ND – Not Detected

BDL - Below Detectable Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.



# **APPENDIX A**

## **Boring Logs**

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-1
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	ft	Description	Comments
		ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'):
		Black fine SAND, little fine to coarse Gravel, trace fine Sand	PID = 0 ppm
0.3	1'		
0.6	2'		Macro Core Sample 0.6 - 1.2m (2' - 4'):
0.9	3'		PID = 0.6 ppm
1.2	4'	Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	
1.5	5'		Macro Core Sample 1.2 - 1.8m (4' - 6'):
1.8	6'		PID = 2.1 ppm
2.1	7'		
2.4	8'		
2.74	9'	Refusal on CONCRETE at 1.8 meters (6')	
3	10'		
3.4	11'		
3.7	12'		
4	13'		
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation Trace = 0-10% Little = 10-20% Some = 20-35% And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-2
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	Depth ft	Description	Comments
		ASPHALT = 7.6 cm (3")	
		Black fine SAND, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.3	1'		
0.6	2'		Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 2.6 ppm
0.9	3'		
1.2	4'	Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	
1.5	5'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 1.5 ppm
1.8	6'		
2.1	7'	Groundwater at 2.1 m (7')	
2.4	8'		
2.74	9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3	10'		
3.4	11'		
3.7	12'		
4	13'	End of Boring at 3.7 meters (12')	
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation    Trace = 0-10%    Little = 10-20%    Some = 20-35%    And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-3
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	Depth ft	Description	Comments
0.3	1'	ASPHALT = 7.6 cm (3") Black fine SAND, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6	2'		Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 0.2 ppm
0.9	3'		
1.2	4'	Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 1.5 ppm
1.5	5'		
1.8	6'	Groundwater at 1.8 m (6')	
2.1	7'		
2.4	8'		
2.74	9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3	10'		
3.4	11'		
3.7	12'	End of Boring at 3.7 meters (12')	
4	13'		
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation    Trace = 0-10%    Little = 10-20%    Some = 20-35%    And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-4
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	Depth ft	Description	Comments
0.3	1'	ASPHALT = 7.6 cm (3") Black fine SAND, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6	2'		Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 1.7 ppm
0.9	3'		
1.2	4'	Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 0.2 ppm
1.5	5'		
1.8	6'	Groundwater at 1.8 m (6')	
2.1	7'		
2.4	8'		
2.74	9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3	10'		
3.4	11'		
3.7	12'	End of Boring at 3.7 meters (12')	
4	13'		
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation    Trace = 0-10%    Little = 10-20%    Some = 20-35%    And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-5
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m ft	Description	Comments
0.3 1'	ASPHALT = 7.6 cm (3") Black fine SAND, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6 2'		Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 1.8 ppm
0.9 3'		
1.2 4'	Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	
1.5 5'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 0.1 ppm
1.8 6'		
2.1 7'	Groundwater at 2.1 m (7')	
2.4 8'		
2.74 9'		Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3 10'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	
3.4 11'		
3.7 12'	End of Boring at 3.7 meters (12')	
4 13'		
4.3 14'		
4.6 15'		
4.9 16'		

Soil Description Explanation    Trace = 0-10%    Little = 10-20%    Some = 20-35%    And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-6
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m ft	Description	Comments
0.3 1'	ASPHALT = 7.6 cm (3") Black fine SAND, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6 2'		Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 1.2 ppm
0.9 3'		
1.2 4'	Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	
1.5 5'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 2.2 ppm
1.8 6'		
2.1 7'	Groundwater at 2.1 m (7')	
2.4 8'		
2.74 9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3 10'		
3.4 11'		
3.7 12'	End of Boring at 3.7 meters (12')	
4 13'		
4.3 14'		
4.6 15'		
4.9 16'		

Soil Description Explanation Trace = 0-10% Little = 10-20% Some = 20-35% And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-7
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m ft	Description	Comments
0.3 1'	ASPHALT = 7.6 cm (3") Black fine SAND, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6 2'		Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 0 ppm
0.9 3'		
1.2 4'	Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	
1.5 5'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 0.3 ppm
1.8 6'	Groundwater at 1.8 m (6')	
2.1 7'		
2.4 8'		
2.74 9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3 10'		
3.4 11'		
3.7 12'		
4 13'	End of Boring at 3.7 meters (12')	
4.3 14'		
4.6 15'		
4.9 16'		

Soil Description Explanation    Trace = 0-10%    Little = 10-20%    Some = 20-35%    And = 35-50%



Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-8
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	ft	Description	Comments
0.3	1'	ASPHALT ≈ 7.6 cm (3") Black fine SAND, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6	2'		Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 1 ppm
0.9	3'		
1.2	4'	Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 0 ppm
1.5	5'		
1.8	6'	Groundwater at 1.8 m (6')	
2.1	7'		
2.4	8'		
2.74	9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3	10'		
3.4	11'		
3.7	12'	End of Boring at 3.7 meters (12')	
4	13'		
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation Trace = 0-10% Little = 10-20% Some = 20-35% And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-10
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m ft	Description	Comments
0.3 1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6 2'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 1.3 ppm
0.9 3'		
1.2 4'		
1.5 5'	Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 0 ppm
1.8 6'		
2.1 7'	Groundwater at 2.1 m (7')	
2.4 8'		
2.74 9'		Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3 10'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	
3.4 11'		
3.7 12'		
4 13'	End of Boring at 3.7 meters (12')	
4.3 14'		
4.6 15'		
4.9 16'		

Soil Description Explanation    Trace = 0-10%            Little = 10-20%            Some = 20-35%            And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-11
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m ft	Description	Comments
0.3 1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6 2'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 0.4 ppm
0.9 3'		
1.2 4'		
1.5 5'	Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 1.4 ppm
1.8 6'		
2.1 7'	Groundwater at 2.1 m (7')	
2.4 8'		
2.74 9'		Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3 10'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	
3.4 11'		
3.7 12'		
4 13'	End of Boring at 3.7 meters (12')	
4.3 14'		
4.6 15'		
4.9 16'		

Soil Description Explanation Trace = 0-10% Little = 10-20% Some = 20-35% And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-12
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m ft	Description	Comments
0.3 1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6 2'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	
0.9 3'		Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 0.2 ppm
1.2 4'		
1.5 5'	Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 1.1 ppm
1.8 6'		
2.1 7'	Groundwater at 2.1 m (7')	
2.4 8'		
2.74 9'		Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3 10'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	
3.4 11'		
3.7 12'		
4 13'	End of Boring at 3.7 meters (12')	
4.3 14'		
4.6 15'		
4.9 16'		

Soil Description Explanation Trace = 0-10% Little = 10-20% Some = 20-35% And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-13
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	Depth ft	Description	Comments
		ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0.3 ppm
0.3	1'		
0.6	2'		Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 0.7 ppm
0.9	3'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	
1.2	4'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 2.1 ppm
1.5	5'		
1.8	6'		
2.1	7'	Groundwater at 2.1 m (7')	
2.4	8'		Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
2.74	9'		
3	10'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	
3.4	11'		
3.7	12'		
4	13'	End of Boring at 3.7 meters (12')	
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation Trace = 0-10% Little = 10-20% Some = 20-35% And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-14
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	Depth ft	Description	Comments
		ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0.3 ppm
0.3	1'		
		Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	
0.6	2'		Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 1.7 ppm
0.9	3'		
		-----	
1.2	4'		
		Red-Brown fine to medium SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 0 ppm
1.5	5'		
1.8	6'		
2.1	7'	Groundwater at 2.1 m (7')	
		-----	
2.4	8'		
		Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
2.74	9'		
3	10'		
3.4	11'		
3.7	12'		
		-----	
4	13'	End of Boring at 3.7 meters (12')	
4.3	14'		
4.6	15'		
4.9	16'		
m	ft		

Soil Description Explanation    Trace = 0-10%            Little = 10-20%            Some = 20-35%            And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-15
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	ft	Description	Comments
0.3	1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6	2'		
0.9	3'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 0.2 ppm
1.2	4'		
1.5	5'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 1 ppm
1.8	6'	Groundwater at 1.8 m (6')	
2.1	7'		
2.4	8'		
2.74	9'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3	10'		
3.4	11'		
3.7	12'		
4	13'	End of Boring at 3.7 meters (12')	
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation    Trace = 0-10%    Little = 10-20%    Some = 20-35%    And = 35-50%

Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-16
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	ft	Description	Comments
0.3	1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6	2'		
0.9	3'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 0 ppm
1.2	4'		
1.5	5'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 0.8 ppm
1.8	6'	Groundwater at 1.8 m (6')	
2.1	7'		
2.4	8'		
2.74	9'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3	10'		
3.4	11'		
3.7	12'		
4	13'	End of Boring at 3.7 meters (12')	
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation    Trace = 0-10%    Little = 10-20%    Some = 20-35%    And = 35-50%



Date Started: 10/16/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-17
Date Finished: 10/16/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	ft	Description	Comments
0.3	1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0.3 ppm
0.6	2'		
0.9	3'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 1.7 ppm
1.2	4'		
1.5	5'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 0 ppm
1.8	6'		
2.1	7'	Groundwater at 2.1 m (7')	
2.4	8'		
2.74	9'		Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3	10'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	
3.4	11'		
3.7	12'		
4	13'	End of Boring at 3.7 meters (12')	
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation	Trace = 0-10%	Little = 10-20%	Some = 20-35%	And = 35-50%
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Date Started: 10/15/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-18
Date Finished: 10/15/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	Description	Comments
0.3 1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0.3 ppm
0.6 2'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 1.1 ppm
0.9 3'		
1.2 4'		
1.5 5'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 0 ppm
1.8 6'	Groundwater at 1.8 m (6')	
2.1 7'		
2.4 8'		
2.74 9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3 10'		
3.4 11'		
3.7 12'		
4 13'	End of Boring at 3.7 meters (12')	
4.3 14'		
4.6 15'		
4.9 16'		

Soil Description Explanation    Trace = 0-10%    Little = 10-20%    Some = 20-35%    And = 35-50%

Date Started: 10/15/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-24
Date Finished: 10/15/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	ft	Description	Comments
0.3	1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6	2'		Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 0 ppm
0.9	3'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	
1.2	4'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 1 ppm
1.5	5'		
1.8	6'	Groundwater at 1.8 m (6')	
2.1	7'		
2.4	8'		Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
2.74	9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	
3	10'		
3.4	11'		
3.7	12'	End of Boring at 3.7 meters (12')	
4	13'		
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation    Trace = 0-10%    Little = 10-20%    Some = 20-35%    And = 35-50%

Date Started: 10/15/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-25
Date Finished: 10/15/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	ft	Description	Comments
0.3	1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6	2'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 0 ppm
0.9	3'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 0.5 ppm
1.2	4'		Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
1.5	5'		
1.8	6'	Groundwater at 1.8 m (6')	
2.1	7'		
2.4	8'		
2.74	9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	
3	10'		
3.4	11'		
3.7	12'	End of Boring at 3.7 meters (12')	
4	13'		
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation Trace = 0-10% Little = 10-20% Some = 20-35% And = 35-50%

Date Started: 10/15/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-26
Date Finished: 10/15/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m ft	Description	Comments
0.3 1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6 2'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 2 ppm
0.9 3'		
1.2 4'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 0 ppm
1.5 5'		
1.8 6'	Groundwater at 1.8 m (6')	
2.1 7'		
2.4 8'		
2.74 9'		Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3 10'		
3.4 11'		
3.7 12'		
4 13'		End of Boring at 3.7 meters (12')
4.3 14'		
4.6 15'		
4.9 16'		

Soil Description Explanation Trace = 0-10% Little = 10-20% Some = 20-35% And = 35-50%

Date Started: 10/15/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-27
Date Finished: 10/15/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	Description	Comments
0.3	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 0 ppm
0.9		
1.2		
1.5		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 1 ppm
1.8	Groundwater at 1.8 m (6')	
2.1		
2.4		
2.74	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3		
3.4		
3.7	End of Boring at 3.7 meters (12')	
4		
4.3		
4.6		
4.9		

Soil Description Explanation    Trace = 0-10%            Little = 10-20%            Some = 20-35%            And = 35-50%

Date Started: 10/15/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-28
Date Finished: 10/15/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	ft	Description	Comments
0.3	1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'); PID = 0 ppm
0.6	2'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'); PID = 0.6 ppm
0.9	3'		
1.2	4'	Groundwater at 1.2 m (4')	
1.5	5'		Macro Core Sample 1.2 - 2.4m (4' - 8'); PID = 0 ppm
1.8	6'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	
2.1	7'		
2.4	8'		
2.74	9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'); PID = 0 ppm
3	10'		
3.4	11'		
3.7	12'		
4	13'	End of Boring at 3.7 meters (12')	
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation    Trace = 0-10%    Little = 10-20%    Some = 20-35%    And = 35-50%

Date Started: 10/15/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-29
Date Finished: 10/15/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m ft	Description	Comments
0.3 1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'); PID = 0 ppm
0.6 2'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'); PID = 1.7 ppm
0.9 3'		
1.2 4'		
1.5 5'		Macro Core Sample 1.2 - 2.4m (4' - 8'); PID = 0 ppm
1.8 6'	Groundwater at 1.8 m (6')	
2.1 7'		
2.4 8'		
2.74 9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'); PID = 0 ppm
3 10'		
3.4 11'		
3.7 12'	End of Boring at 3.7 meters (12')	
4 13'		
4.3 14'		
4.6 15'		
4.9 16'		

Soil Description Explanation Trace = 0-10% Little = 10-20% Some = 20-35% And = 35-50%



Date Started: 10/15/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-30
Date Finished: 10/15/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	ft	Description	Comments
0.3	1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6	2'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 0.1 ppm
0.9	3'		
1.2	4'		
1.5	5'		Macro Core Sample 1.2 - 2.4m (4' - 8'): PID = 1.1 ppm
1.8	6'	Groundwater at 1.8 m (6')	
2.1	7'		
2.4	8'		
2.74	9'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	Macro Core Sample 2.4 - 3.7m (8' - 12'): PID = 0 ppm
3	10'		
3.4	11'		
3.7	12'		
4	13'	End of Boring at 3.7 meters (12')	
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation    Trace = 0-10%            Little = 10-20%            Some = 20-35%            And = 35-50%

Date Started: 10/15/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-31
Date Finished: 10/15/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m ft	Description	Comments
0.3 1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'); PID = 0 ppm
0.6 2'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'); PID = 0 ppm
0.9 3'		
1.2 4'	Groundwater at 1.2 m (4')	
1.5 5'		Macro Core Sample 1.2 - 2.4m (4' - 8'); PID = 0.6 ppm
1.8 6'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	
2.1 7'		
2.4 8'		
2.74 9'		Macro Core Sample 2.4 - 3.7m (8' - 12'); PID = 0 ppm
3 10'	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt	
3.4 11'		
3.7 12'		
4 13'	End of Boring at 3.7 meters (12')	
4.3 14'		
4.6 15'		
4.9 16'		

Soil Description Explanation Trace = 0-10% Little = 10-20% Some = 20-35% And = 35-50%

Date Started: 10/15/99	<b>Logical Environmental Solutions Geoprobe Boring Log</b>	Boring No.: GP-32
Date Finished: 10/15/99		Client: Maguire Group Inc.
Driller: Wayne Lineberry	Project Location: Parcel B - Union Avenue New Haven, Connecticut	Inspector: Cindy Knight

Depth m	ft	Description	Comments
0.3	1'	ASPHALT = 7.6 cm (3")	Macro Core Sample 0 - 0.6m (0' - 2'): PID = 0 ppm
0.6	2'	Black ASH & CINDERS, little fine to coarse Gravel, trace fine Sand	Macro Core Sample 0.6 - 1.2m (2' - 4'): PID = 1 ppm
0.9	3'		
1.2	4'		
1.5	5'		
1.8	6'	Refusal on CONCRETE at 1.2 meters (4')	
2.1	7'		
2.4	8'		
2.74	9'		
3	10'		
3.4	11'		
3.7	12'		
4	13'		
4.3	14'		
4.6	15'		
4.9	16'		

Soil Description Explanation    Trace = 0-10%    Little = 10-20%    Some = 20-35%    And = 35-50%

**APPENDIX B**  
**Soil Sample**  
**Laboratory Reports**

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SDIL

 Sampled: 10/16/99  
 4'-6'  
 GP-01

	Units	99823173	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/26/99	WSD	0.250		
Acrolein	mg/kg	ND	10/26/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/26/99	WSD	0.038		
Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/26/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/26/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/26/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/26/99	WSD	0.006		
Bromoform	mg/kg	ND	10/26/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/26/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/26/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/26/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/26/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/26/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/26/99	WSD	0.048		
Chloroform	mg/kg	ND	10/26/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/26/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/26/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/26/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/26/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/26/99	WSD	0.005		

 MDL = Method Detection Limit  
 ND = Not Detected  
 BDL = Below Detection Limit  
 NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-6'  
GP-01

	Units	99B23173	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/26/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/26/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/26/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/26/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/26/99	WSD	0.004		
MTBE	mg/kg	ND	10/26/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/26/99	WSD	0.075		
MIBK	mg/kg	ND	10/26/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/26/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Styrene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
Toluene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		

MDL = Method Detection Limit  
ND = Not Detected  
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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4' - 6'  
GP-01

	Units	99823173	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/26/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/26/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/26/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/26/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/26/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/26/99	WSD	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-02

	Units	99B23174	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/26/99	WSD	0.250		
Acrolein	mg/kg	ND	10/26/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/26/99	WSD	0.038		
Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/26/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/26/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/26/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/26/99	WSD	0.006		
Bromoform	mg/kg	ND	10/26/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/26/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/26/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/26/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/26/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/26/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/26/99	WSD	0.048		
Chloroform	mg/kg	ND	10/26/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/26/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/26/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/26/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/26/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/26/99	WSD	0.005		

MDL = Method Detection Limit  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-02

	Units	99B23174	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/26/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/26/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/26/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/26/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/26/99	WSD	0.004		
MTBE	mg/kg	ND	10/26/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/26/99	WSD	0.075		
MIBK	mg/kg	ND	10/26/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/26/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Styrene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
Toluene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/16/99  
 2'-4'  
 GP-02

	Units	99823174	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/26/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/26/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/26/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/26/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/26/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/26/99	WSD	0.002		

 MDL = Method Detection Limit  
 ND = Not Detected  
 BDL = Below Detection Limit  
 NM = Not Measured

 SPEC LIMIT = a client specified, recommended, or  
 regulatory level for comparison with data to  
 determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-03

	Units	99B23175	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/26/99	WSD	0.250		
Acrolein	mg/kg	ND	10/26/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/26/99	WSD	0.038		
Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/26/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/26/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/26/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/26/99	WSD	0.006		
Bromoform	mg/kg	ND	10/26/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/26/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/26/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/26/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/26/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/26/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/26/99	WSD	0.048		
Chloroform	mg/kg	ND	10/26/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/26/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/26/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/26/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/26/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/26/99	WSD	0.005		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SDIL

Sampled: 10/16/99  
4' - 8'  
GP-03

	Units	99B23175	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/26/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/26/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/26/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/26/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/26/99	WSD	0.004		
MTBE	mg/kg	ND	10/26/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/26/99	WSD	0.075		
MIBK	mg/kg	ND	10/26/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/26/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Styrene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
Toluene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		

MDL = Method Detection Limit  
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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-03

	Units	99823175	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/26/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/26/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/26/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/26/99	WSD	0.002		
m-Xylene,	mg/kg	ND	10/26/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/26/99	WSD	0.002		

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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/16/99  
 2' -4'  
 GP-04

	Units	99B23176	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/26/99	WSD	0.250		
Acrolein	mg/kg	ND	10/26/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/26/99	WSD	0.038		
Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/26/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/26/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/26/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/26/99	WSD	0.006		
Bromoform	mg/kg	ND	10/26/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/26/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/26/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/26/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/26/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/26/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/26/99	WSD	0.048		
Chloroform	mg/kg	ND	10/26/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/26/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/26/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/26/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/26/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/26/99	WSD	0.005		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2' - 4'  
GP-04

	Units	99B23176	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Ethyl Methyl Ketone	mg/kg	ND	10/26/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/26/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/26/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/26/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/26/99	WSD	0.004		
MTBE	mg/kg	ND	10/26/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/26/99	WSD	0.075		
MIBK	mg/kg	ND	10/26/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/26/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Styrene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
Toluene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/16/99  
 2' - 4'  
 GP-04

	Units	99823176	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/26/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/26/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.005		
Vinyl Acetate	mg/kg	NO	10/26/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/26/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/26/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/26/99	WSD	0.002		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-05

	Units	99B23177	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/26/99	WSD	0.250		
Acrolein	mg/kg	ND	10/26/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/26/99	WSD	0.038		
Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/26/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/26/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/26/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/26/99	WSD	0.006		
Bromoform	mg/kg	ND	10/26/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/26/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/26/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/26/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/26/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/26/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/26/99	WSD	0.048		
Chloroform	mg/kg	ND	10/26/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/26/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/26/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/26/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/26/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/26/99	WSD	0.005		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-05

	Units	99B23177	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/26/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/26/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/26/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/26/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/26/99	WSD	0.004		
MTBE	mg/kg	ND	10/26/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/26/99	WSD	0.075		
MIBK	mg/kg	ND	10/26/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/26/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Styrene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
Toluene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/16/99  
 2'-4'  
 GP-05

	Units	99823177	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/26/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/26/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/26/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/26/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/26/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/26/99	WSD	0.002		

 MDL = Method Detection Limit  
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 NM = Not Measured

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-06

	Units	99B23178	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/26/99	WSD	0.250		
Acrolein	mg/kg	ND	10/26/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/26/99	WSD	0.038		
Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/26/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/26/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/26/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/26/99	WSD	0.006		
Bromoform	mg/kg	ND	10/26/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/26/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/26/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/26/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/26/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/26/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/26/99	WSD	0.048		
Chloroform	mg/kg	ND	10/26/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/26/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/26/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/26/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/26/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/26/99	WSD	0.005		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4' - 8'  
GP-06

	Units	99B23178	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/26/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/26/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/26/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/26/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/26/99	WSD	0.004		
MTBE	mg/kg	ND	10/26/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/26/99	WSD	0.075		
MIBK	mg/kg	ND	10/26/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/26/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Styrene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
Toluene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-06

	Units	99B23178	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/26/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/26/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/26/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/26/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/26/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/26/99	WSD	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-07

	Units	99B23179	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/26/99	WSD	0.250		
Acrolein	mg/kg	ND	10/26/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/26/99	WSD	0.038		
Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/26/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/26/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/26/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/26/99	WSD	0.006		
Bromoform	mg/kg	ND	10/26/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/26/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/26/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/26/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/26/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/26/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/26/99	WSD	0.048		
Chloroform	mg/kg	ND	10/26/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/26/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/26/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/26/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/26/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/26/99	WSD	0.005		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SDIL

Sampled: 10/16/99  
4'-8'  
GP-07

	Units	99B23179	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/26/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/26/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/26/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/26/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/26/99	WSD	0.004		
MTBE	mg/kg	ND	10/26/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/26/99	WSD	0.075		
MIBK	mg/kg	ND	10/26/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/26/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Styrene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
Toluene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-07

	Units	99B23179	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/26/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/26/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/26/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/26/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/26/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/26/99	WSD	0.002		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2' -4'  
GP-08

	Units	99B23180	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/26/99	WSD	0.250		
Acrolein	mg/kg	ND	10/26/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/26/99	WSD	0.038		
Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/26/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/26/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/26/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/26/99	WSD	0.006		
Bromoform	mg/kg	ND	10/26/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/26/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/26/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/26/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/26/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/26/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/26/99	WSD	0.048		
Chloroform	mg/kg	ND	10/26/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/26/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/26/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/26/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/26/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/26/99	WSD	0.005		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-08

	Units	99B23180	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/26/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/26/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/26/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/26/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/26/99	WSD	0.004		
MTBE	mg/kg	ND	10/26/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/26/99	WSD	0.075		
MIBK	mg/kg	ND	10/26/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/26/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Styrene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
Toluene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SDIL

Sampled: 10/16/99  
2' - 4'  
GP-08

	Units	99823180	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/26/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/26/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/26/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/26/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/26/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/26/99	WSD	0.002		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4' - 8'  
GP-09

	Units	99B23181	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/26/99	WSD	0.250		
Acrolein	mg/kg	ND	10/26/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/26/99	WSD	0.038		
Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/26/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/26/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/26/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/26/99	WSD	0.006		
Bromoform	mg/kg	ND	10/26/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/26/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/26/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/26/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/26/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/26/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/26/99	WSD	0.048		
Chloroform	mg/kg	ND	10/26/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/26/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/26/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/26/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/26/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/26/99	WSD	0.005		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-09

	Units	99823181	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/26/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/26/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/26/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/26/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/26/99	WSD	0.004		
MTBE	mg/kg	ND	10/26/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/26/99	WSD	0.075		
MIBK	mg/kg	ND	10/26/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/26/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Styrene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
Toluene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773

Job Number: 301-49

Sample Matrix: SOIL

Sampled: 10/16/99

41-81

GP-09

	Units	99B23181	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/26/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/26/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/26/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/26/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/26/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/26/99	WSD	0.002		

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BDL = Below Detection Limit

NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-10

	Units	99B23182	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/26/99	WSD	0.250		
Acrolein	mg/kg	ND	10/26/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/26/99	WSD	0.038		
Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/26/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/26/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/26/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/26/99	WSD	0.006		
Bromoform	mg/kg	ND	10/26/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/26/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/26/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/26/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/26/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/26/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/26/99	WSD	0.048		
Chloroform	mg/kg	ND	10/26/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/26/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/26/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/26/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/26/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/26/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/26/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/26/99	WSD	0.005		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2' -4'  
GP-10

	Units	99B23182	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/26/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/26/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/26/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/26/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/26/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/26/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/26/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/26/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/26/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/26/99	WSD	0.004		
MTBE	mg/kg	ND	10/26/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/26/99	WSD	0.075		
MIBK	mg/kg	ND	10/26/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/26/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
Styrene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/26/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/26/99	WSD	0.002		
Toluene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/26/99	WSD	0.004		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-10

	Units	99823182	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/26/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/26/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/26/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/26/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/26/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/26/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/26/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/26/99	WSD	0.002		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-11

	Units	99B23183	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/25/99	WSD	0.250		
Acrolein	mg/kg	ND	10/25/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/25/99	WSD	0.038		
Benzene	mg/kg	ND	10/25/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/25/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/25/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/25/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/25/99	WSD	0.006		
Bromoform	mg/kg	ND	10/25/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/25/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/25/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/25/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/25/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/25/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/25/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/25/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/25/99	WSD	0.048		
Chloroform	mg/kg	ND	10/25/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/25/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/25/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/25/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/25/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/25/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/25/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/25/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/25/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/25/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/25/99	WSD	0.005		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-11

	Units	99B23183	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/25/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/25/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/25/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/25/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/25/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/25/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/25/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/25/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/25/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/25/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/25/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/25/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/25/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/25/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/25/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/25/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/25/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/25/99	WSD	0.004		
MTBE	mg/kg	ND	10/25/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/25/99	WSD	0.075		
MIBK	mg/kg	ND	10/25/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/25/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
Styrene	mg/kg	ND	10/25/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/25/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/25/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/25/99	WSD	0.002		
Toluene	mg/kg	ND	10/25/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/25/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/25/99	WSD	0.004		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773

Job Number: 301-49

Sample Matrix: SOIL

Sampled: 10/16/99

4'-8'

GP-11

	Units	99B23183	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/25/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/25/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/25/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/25/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/25/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/25/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/25/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/25/99	WSD	0.002		

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/16/99  
 4' - 8'  
 GP-12

	Units	99B23184	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/25/99	WSD	0.250		
Acrolein	mg/kg	ND	10/25/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/25/99	WSD	0.038		
Benzene	mg/kg	ND	10/25/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/25/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/25/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/25/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/25/99	WSD	0.006		
Bromoform	mg/kg	ND	10/25/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/25/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/25/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/25/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/25/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/25/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/25/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/25/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/25/99	WSD	0.048		
Chloroform	mg/kg	ND	10/25/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/25/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/25/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/25/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/25/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/25/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/25/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/25/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/25/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/25/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/25/99	WSD	0.005		

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 regulatory level for comparison with data to  
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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773

Job Number: 301-49

Sample Matrix: SOIL

Sampled: 10/16/99

4' - 8'

GP-12

	Units	99B23184	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/25/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/25/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/25/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/25/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/25/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/25/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/25/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/25/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/25/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/25/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/25/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/25/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/25/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/25/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/25/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/25/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/25/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/25/99	WSD	0.004		
MTBE	mg/kg	ND	10/25/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/25/99	WSD	0.075		
MIBK	mg/kg	ND	10/25/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/25/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
Styrene	mg/kg	ND	10/25/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/25/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/25/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/25/99	WSD	0.002		
Toluene	mg/kg	ND	10/25/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/25/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/25/99	WSD	0.004		

MDL = Method Detection Limit

ND = Not Detected

BDL = Below Detection Limit

NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-12

	Units	99B23184	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/25/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/25/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/25/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/25/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/25/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/25/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/25/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/25/99	WSD	0.002		

MDL = Method Detection Limit  
 ND = Not Detected  
 BDL = Below Detection Limit  
 NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773

Job Number: 301-49

Sample Matrix: SOIL

Sampled: 10/16/99

4'-8'

GP-13

	Units	99823185	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/25/99	WSD	0.250		
Acrolein	mg/kg	ND	10/25/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/25/99	WSD	0.038		
Benzene	mg/kg	ND	10/25/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/25/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/25/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/25/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/25/99	WSD	0.006		
Bromoform	mg/kg	ND	10/25/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/25/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/25/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/25/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/25/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/25/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/25/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/25/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/25/99	WSD	0.048		
Chloroform	mg/kg	ND	10/25/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/25/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/25/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/25/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/25/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/25/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/25/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/25/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/25/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/25/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/25/99	WSD	0.005		

MDL = Method Detection Limit  
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 NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4' - 8'  
GP-13

	Units	99B23185	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/25/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/25/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/25/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/25/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/25/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/25/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/25/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/25/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/25/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/25/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/25/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/25/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/25/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/25/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/25/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/25/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/25/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/25/99	WSD	0.004		
MTBE	mg/kg	ND	10/25/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/25/99	WSD	0.075		
MIBK	mg/kg	ND	10/25/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/25/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
Styrene	mg/kg	ND	10/25/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/25/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/25/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/25/99	WSD	0.002		
Toluene	mg/kg	ND	10/25/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/25/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/25/99	WSD	0.004		

MDL = Method Detection Limit  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773

Job Number: 301-49

Sample Matrix: SOIL

Sampled: 10/16/99

4'-8'

GP-13

	Units	99B23185	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/25/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/25/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/25/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/25/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/25/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/25/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/25/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/25/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/25/99	WSD	0.002		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2' - 4'  
GP-14

	Units	99B23186	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/22/99	WSD	0.250		
Acrolein	mg/kg	ND	10/22/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/22/99	WSD	0.038		
Benzene	mg/kg	ND	10/22/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/22/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/22/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/22/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/22/99	WSD	0.006		
Bromoform	mg/kg	ND	10/22/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/22/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/22/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/22/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/22/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/22/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/22/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/22/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/22/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/22/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/22/99	WSD	0.048		
Chloroform	mg/kg	ND	10/22/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/22/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/22/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/22/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/22/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/22/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/22/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/22/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/22/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/22/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/22/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/22/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/22/99	WSD	0.005		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-14

	Units	99B23186	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/22/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/22/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/22/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/22/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/22/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/22/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/22/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/22/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/22/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/22/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/22/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/22/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/22/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/22/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/22/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/22/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/22/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/22/99	WSD	0.004		
MTBE	mg/kg	ND	10/22/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/22/99	WSD	0.075		
MIBK	mg/kg	ND	10/22/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/22/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/22/99	WSD	0.004		
Styrene	mg/kg	ND	10/22/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/22/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/22/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/22/99	WSD	0.002		
Toluene	mg/kg	ND	10/22/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/22/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/22/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/22/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/22/99	WSD	0.004		

MDL = Method Detection Limit  
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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-14

	Units	99B23186	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/22/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/22/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/22/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/22/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/22/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/22/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/22/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/22/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/22/99	WSD	0.002		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-15

	Units	99823187	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-15

	Units	99823187	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

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ND = Not Detected  
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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2' - 4'  
GP-15

	Units	99B23187	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/16/99  
 4'-8'  
 GP-16

	Units	99823188	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

 MDL = Method Detection Limit  
 ND = Not Detected  
 BDL = Below Detection Limit  
 NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-16

	Units	99823188	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-16

	Units	99823188	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773

Job Number: 301-49

Sample Matrix: SOIL

Sampled: 10/16/99

2'-4'

GP-17

	Units	99823189	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

MDL = Method Detection Limit

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99

2'-4'

GP-17

	Units	99B23189	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	NO	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	NO	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	NO	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-17

	Units	99823189	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-18

	Units	99B23190	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/15/99  
 2'-4'  
 GP-18

	Units	99823190	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

 MDL = Method Detection Limit  
 ND = Not Detected  
 BDL = Below Detection Limit  
 NM = Not Measured

 SPEC LIMIT = a client specified, recommended, or  
 regulatory level for comparison with data to  
 determine PASS (P) or FAIL (F) condition of results.

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page 62 of 246

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2' - 4'  
GP-18

	Units	99823190	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-19

	Units	99B23191	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-19

	Units	99B23191	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	D.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	D.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	D.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/15/99  
 4'-8'  
 GP-19

	Units	99B23191	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

 MDL = Method Detection Limit  
 ND = Not Detected  
 BDL = Below Detection Limit  
 NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2' - 4'  
GP-20

	Units	99B23192	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773

Job Number: 301-49

Sample Matrix: SOIL

Sampled: 10/15/99

2' - 4'

GP-20

	Units	99B23192	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

MDL = Method Detection Limit

ND = Not Detected

BDL = Below Detection Limit

NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-20

	Units	99823192	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-21

	Units	99B23193	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-B'  
GP-21

	Units	99B23193	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-21

	Units	99823193	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

10/28/99  
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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-22

	Units	99823194	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-22

	Units	99823194	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-22

	Units	99823194	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

MDL = Method Detection Limit  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773

Job Number: 301-49

Sample Matrix: SOIL

Sampled: 10/15/99

2'-4'

GP-23

	Units	99B23195	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-23

	Units	99B23195	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

MDL = Method Detection Limit  
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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2' - 4'  
GP-23

	Units	99B23195	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-24

	Units	99B23196	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-24

	Units	99823196	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-24

	Units	99B23196	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

MDL = Method Detection Limit  
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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773

Job Number: 301-49

Sample Matrix: SOIL

Sampled: 10/15/99

4'-8'

GP-25

	Units	99B23197	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

MDL = Method Detection Limit

ND = Not Detected

BDL = Below Detection Limit

NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4' - 8'  
GP-25

	Units	99823197	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-25

	Units	99823197	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase order 962

SMILES  
-4  
-2:

Chemical Name	Unit	Result
Acetone	mg/l	
Acrolein	mg/l	
Acrylonitrile	mg/l	
Benzene	mg/l	
Bromobenzene	mg/l	
Bromochloromethane	mg/l	ne
Bromodichloromethane	mg/l	thane
Bromomethane	mg/l	
Bromoform	mg/l	
2-Butanone (MEK)	mg/l	
n-Butylbenzene	mg/l	
sec-Butylbenzene	mg/l	
tert-Butylbenzene	mg/l	
Carbon Disulfide	mg/l	
Carbon Tetrachloride	mg/l	ide-
Chlorobenzene	mg/l	
Chlorodibromomethane	mg/l	thane
Chloroethane	mg/l	
2-Chloroethylvinylether	mg/l	nyless
Chloroform	mg/l	
Chloromethane	mg/l	
2-Chlorotoluene	mg/l	
4-Chlorotoluene	mg/l	
1,2-Dibromo-3-Chloropropane	mg/l	loroc
1,2-Dibromoethane	mg/l	ne
Dibromomethane	mg/l	
1,2-Dichlorobenzene	mg/l	zene
1,3-Dichlorobenzene	mg/l	zene
1,4-Dichlorobenzene	mg/l	zene
cis-1,4-Dichloro-2-Butene	mg/l	ro-2-
trans-1,4-Dichloro-2-Butene	mg/l	ro-2-
Dichlorodifluoromethane	mg/l	ometha

MDL = Method Detection Limit  
 ND = Not Detected  
 BDL = Below Detection Limit  
 NM = Not Measured

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10/28/99  
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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-26

	Units	99823198	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.003		
1,1-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.007		
1,2-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
1,1,3-Trichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
1,2,3-Trichloropropene	mg/kg	ND	10/23/99	WSD	0.003		
Benzene	mg/kg	ND	10/23/99	WSD	0.004		
Methacrylate	mg/kg	ND	10/23/99	WSD	0.006		
Chlorobutadiene	mg/kg	ND	10/23/99	WSD	0.048		
Acetone	mg/kg	ND	10/23/99	WSD	0.004		
Hexane	mg/kg	ND	10/23/99	WSD	0.003		
Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.075		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.044		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.005		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

= Method Detection Limit  
Not Detected  
Below Detection Limit  
Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 3D1-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-27

	Units	99B23199	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	NO	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	NO	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

73

Sampled: 10/15/99  
4' - 8'  
GP-27

Units	99B23199	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F	SPEC LIMIT	P/F
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.003				
mg/kg	ND	10/23/99	WSD	0.002				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.003				
mg/kg	ND	10/23/99	WSD	0.002				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.007				
mg/kg	ND	10/23/99	WSD	0.002				
mg/kg	ND	10/23/99	WSD	0.002				
mg/kg	ND	10/23/99	WSD	0.003				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.006				
mg/kg	ND	10/23/99	WSD	0.048				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.003				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.075				
mg/kg	ND	10/23/99	WSD	0.044				
mg/kg	ND	10/23/99	WSD	0.005				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.007				
mg/kg	ND	10/23/99	WSD	0.002				
mg/kg	ND	10/23/99	WSD	0.007				
mg/kg	ND	10/23/99	WSD	0.002				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.004				
mg/kg	ND	10/23/99	WSD	0.004				

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-28

	Units	99823200	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-28

	Units	99823200	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2' -4'  
GP-29

	Units	99823201	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773

Job Number: 301-49

Sample Matrix: SOIL

Sampled: 10/15/99

2'-4'

GP-29

	Units	99B23201	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

MDL = Method Detection Limit

ND = Not Detected

BDL = Below Detection Limit

NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-29

	Units	99B23201	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/15/99  
 4'-8'  
 GP-30

	Units	99823202	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

 MDL = Method Detection Limit  
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 SPEC LIMIT = a client specified, recommended, or  
 regulatory level for comparison with data to  
 determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-30

	Units	99823202	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-30

	Units	99823202	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4' - 8'  
GP-31

	Units	99823203	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

MDL = Method Detection Limit  
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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Analytical Method(s):

SW846 8270

SAMPLES ARE EXTRACTED IN METHYLENE CHLORIDE/ACETONE AND  
FOLLOWED BY GC/MS TARGET COMPOUND ANALYSIS.

MDL = Method Detection Limit  
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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-6'  
GP-01

	Units	99B23173	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIHS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-02

	Units	99B23174	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-03

	Units	99B23175	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
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BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-04

	Units	99B23176	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-05

	Units	99823177	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-06

	Units	99823178	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-07

	Units	99823179	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.025		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.125		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.075		
Endrin	mg/kg	ND	10/21/99	MFF	0.125		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.275		
Methoxychlor	mg/kg	ND	10/21/99	MFF			
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF	0.025		
PCB's	mg/kg	ND	10/21/99	MFF	0.100		
Toxaphene	mg/kg	ND	10/21/99	MFF			

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-08

	Units	99823180	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.250		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.250		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.500		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.500		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.250		
Chlordane	mg/kg	ND	10/21/99	MFF	1.00		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	1.00		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.500		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.250		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.250		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.250		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.750		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	1.25		
Endrin	mg/kg	ND	10/21/99	MFF	0.750		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	1.25		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.250		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.250		
Methoxychlor	mg/kg	ND	10/21/99	MFF	2.75		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.250		
Toxaphene	mg/kg	ND	10/21/99	MFF	1.00		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 3D1-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-09

	Units	99B23181	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-10

	Units	99823182	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-11

	Units	99B23183	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-12

	Units	99B23184	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-B'  
GP-13

	Units	99B23185	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.250		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.250		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.500		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.500		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.250		
Chlordane	mg/kg	ND	10/21/99	MFF	1.00		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	1.00		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.500		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.250		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.250		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.250		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.750		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	1.25		
Endrin	mg/kg	ND	10/21/99	MFF	0.750		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	1.25		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.250		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.250		
Methoxychlor	mg/kg	ND	10/21/99	MFF	2.75		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.250		
Toxaphene	mg/kg	ND	10/21/99	MFF	1.00		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-14

	Units	99B23186	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-31

	Units	99B23203	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-31

	Units	99B23203	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-32

	Units	99B23204	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	mg/kg	ND	10/23/99	WSD	0.250		
Acrolein	mg/kg	ND	10/23/99	WSD	0.100		
Acrylonitrile	mg/kg	ND	10/23/99	WSD	0.038		
Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Bromobenzene	mg/kg	ND	10/23/99	WSD	0.002		
Bromochloromethane	mg/kg	ND	10/23/99	WSD	0.004		
Bromodichloromethane	mg/kg	ND	10/23/99	WSD	0.002		
Bromomethane	mg/kg	ND	10/23/99	WSD	0.006		
Bromoform	mg/kg	ND	10/23/99	WSD	0.006		
2-Butanone (MEK)	mg/kg	ND	10/23/99	WSD	0.060		
n-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
sec-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
tert-Butylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Carbon Disulfide	mg/kg	ND	10/23/99	WSD	0.015		
Carbon Tetrachloride	mg/kg	ND	10/23/99	WSD	0.002		
Chlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
Chlorodibromomethane	mg/kg	ND	10/23/99	WSD	0.002		
Chloroethane	mg/kg	ND	10/23/99	WSD	0.004		
2-Chloroethylvinylether	mg/kg	ND	10/23/99	WSD	0.048		
Chloroform	mg/kg	ND	10/23/99	WSD	0.004		
Chloromethane	mg/kg	ND	10/23/99	WSD	0.006		
2-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
4-Chlorotoluene	mg/kg	ND	10/23/99	WSD	0.003		
1,2-Dibromo-3-Chloropropane	mg/kg	ND	10/23/99	WSD	0.008		
1,2-Dibromoethane	mg/kg	ND	10/23/99	WSD	0.004		
Dibromomethane	mg/kg	ND	10/23/99	WSD	0.006		
1,2-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,3-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.003		
1,4-Dichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
cis-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.012		
trans-1,4-Dichloro-2-Butene	mg/kg	ND	10/23/99	WSD	0.010		
Dichlorodifluoromethane	mg/kg	ND	10/23/99	WSD	0.005		

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/15/99  
 2'-4'  
 GP-32

	Units	99B23204	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.003		
cis-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,2-Dichloroethylene	mg/kg	ND	10/23/99	WSD	0.004		
1,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.003		
1,3-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.002		
2,2-Dichloropropane	mg/kg	ND	10/23/99	WSD	0.004		
1,1-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.007		
cis-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
trans-1,3-Dichloropropene	mg/kg	ND	10/23/99	WSD	0.002		
Ethyl Benzene	mg/kg	ND	10/23/99	WSD	0.003		
Ethyl Methacrylate	mg/kg	ND	10/23/99	WSD	0.004		
Hexachlorobutadiene	mg/kg	ND	10/23/99	WSD	0.006		
2-Hexanone	mg/kg	ND	10/23/99	WSD	0.048		
Iodomethane	mg/kg	ND	10/23/99	WSD	0.004		
Isopropylbenzene	mg/kg	ND	10/23/99	WSD	0.003		
p-Isopropyltoluene	mg/kg	ND	10/23/99	WSD	0.004		
MTBE	mg/kg	ND	10/23/99	WSD	0.004		
Methylene Chloride	mg/kg	ND	10/23/99	WSD	0.075		
MIBK	mg/kg	ND	10/23/99	WSD	0.044		
Naphthalene	mg/kg	ND	10/23/99	WSD	0.005		
n-Propylbenzene	mg/kg	ND	10/23/99	WSD	0.004		
Styrene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.002		
1,1,2,2-Tetrachloroethane	mg/kg	ND	10/23/99	WSD	0.007		
Tetrachloroethylene	mg/kg	ND	10/23/99	WSD	0.002		
Toluene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,2,4-Trichlorobenzene	mg/kg	ND	10/23/99	WSD	0.004		
1,1,1-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		
1,1,2-Trichloroethane	mg/kg	ND	10/23/99	WSD	0.004		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2' - 4'  
GP-32

	Units	99B23204	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	mg/kg	ND	10/23/99	WSD	0.005		
Trichlorofluoromethane	mg/kg	ND	10/23/99	WSD	0.004		
1,2,3-Trichloropropane	mg/kg	ND	10/23/99	WSD	0.006		
1,2,4-Trimethylbenzene	mg/kg	NO	10/23/99	WSD	0.004		
1,3,5-Trimethylbenzene	mg/kg	ND	10/23/99	WSD	0.005		
Vinyl Acetate	mg/kg	ND	10/23/99	WSD	0.082		
Vinyl Chloride	mg/kg	ND	10/23/99	WSD	0.002		
m-Xylene	mg/kg	ND	10/23/99	WSD	0.006		
o + p Xylene	mg/kg	ND	10/23/99	WSD	0.002		

Analytical Method(s):

SW846 8260

SAMPLES ARE CONCENTRATED BY PURGE & TRAP, FOLLOWED BY GC/MS TARGET COMPOUND ANALYSIS.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-6'  
GP-01

	Units	99B23173	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	BDL	10/21/99	PM	5.00		
Barium	mg/kg	22.4	10/21/99	PM	0.10		
Cadmium	mg/kg	ND	10/21/99	PM	0.05		
Chromium	mg/kg	3.82	10/21/99	PM	0.35		
Lead	mg/kg	11.4	10/21/99	PM	2.50		
Mercury	mg/kg	0.185	10/21/99	JER	0.009		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/16/99  
2'-4'  
GP-02

	Units	99B23174	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	26.2	10/21/99	PM	0.10		
Cadmium	mg/kg	0.08	10/21/99	PM	0.05		
Chromium	mg/kg	5.13	10/21/99	PM	0.35		
Lead	mg/kg	11.3	10/21/99	PM	2.50		
Mercury	mg/kg	0.028	10/21/99	JER	0.008		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-03

	Units	99B23175	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	19.2	10/21/99	PM	0.10		
Cadmium	mg/kg	0.06	10/21/99	PM	0.05		
Chromium	mg/kg	3.12	10/21/99	PM	0.35		
Lead	mg/kg	10.4	10/21/99	PM	2.50		
Mercury	mg/kg	0.054	10/21/99	JER	0.010		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/16/99  
2'-4'  
GP-04

	Units	99B23176	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	8.34	10/21/99	PM	5.00		
Barium	mg/kg	42.2	10/21/99	PM	0.10		
Cadmium	mg/kg	ND	10/21/99	PM	0.05		
Chromium	mg/kg	4.21	10/21/99	PM	0.35		
Lead	mg/kg	711	10/21/99	PM	2.50		
Mercury	mg/kg	0.889	10/21/99	JER	0.009		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-05

	Units	99B23177	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	ND	10/21/99	PH	5.00		
Barium	mg/kg	20.9	10/21/99	PH	0.10		
Cadmium	mg/kg	ND	10/21/99	PH	0.05		
Chromium	mg/kg	4.88	10/21/99	PH	0.35		
Lead	mg/kg	2.98	10/21/99	PH	2.50		
Mercury	mg/kg	ND	10/21/99	JER	0.009		
Selenium	mg/kg	ND	10/21/99	PH	5.00		
Silver	mg/kg	ND	10/21/99	PH	0.50		

Sampled: 10/16/99  
4'-8'  
GP-06

	Units	99B23178	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	ND	10/21/99	PH	5.00		
Barium	mg/kg	18.1	10/21/99	PH	0.10		
Cadmium	mg/kg	0.05	10/21/99	PH	0.05		
Chromium	mg/kg	4.38	10/21/99	PH	0.35		
Lead	mg/kg	2.94	10/21/99	PH	2.50		
Mercury	mg/kg	ND	10/21/99	JER	0.011		
Selenium	mg/kg	ND	10/21/99	PH	5.00		
Silver	mg/kg	ND	10/21/99	PH	0.50		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-07

	Units	99823179	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	22.3	10/21/99	PM	0.10		
Cadmium	mg/kg	ND	10/21/99	PM	0.05		
Chromium	mg/kg	4.84	10/21/99	PM	0.35		
Lead	mg/kg	26.0	10/21/99	PM	2.50		
Mercury	mg/kg	0.018	10/21/99	JER	0.009		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/16/99  
2'-4'  
GP-08

	Units	99823180	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	7.52	10/21/99	PM	5.00		
Barium	mg/kg	211	10/21/99	PM	0.10		
Cadmium	mg/kg	0.16	10/21/99	PM	0.05		
Chromium	mg/kg	6.36	10/21/99	PM	0.35		
Lead	mg/kg	467	10/21/99	PM	2.50		
Mercury	mg/kg	1.37	10/21/99	JER	0.010		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 3D1-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-09

	Units	99B23181	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	-----	-----	-----
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	18.8	10/21/99	PM	0.10		
Cadmium	mg/kg	ND	10/21/99	PM	0.05		
Chromium	mg/kg	3.78	10/21/99	PM	0.35		
Lead	mg/kg	3.60	10/21/99	PM	2.50		
Mercury	mg/kg	ND	10/21/99	JER	0.010		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/16/99  
2'-4'  
GP-10

	Units	99B23182	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	-----	-----	-----
Arsenic	mg/kg	6.42	10/21/99	PM	5.00		
Barium	mg/kg	32.5	10/21/99	PM	0.10		
Cadmium	mg/kg	0.04	10/21/99	PM	0.05		
Chromium	mg/kg	7.66	10/21/99	PM	0.35		
Lead	mg/kg	28.2	10/21/99	PM	2.50		
Mercury	mg/kg	0.088	10/21/99	JER	0.009		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4' - 8'  
GP-11

	Units.	99B23183	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	21.6	10/21/99	PM	0.10		
Cadmium	mg/kg	ND	10/21/99	PM	0.05		
Chromium	mg/kg	3.50	10/21/99	PM	0.35		
Lead	mg/kg	10.6	10/21/99	PM	2.50		
Mercury	mg/kg	0.020	10/21/99	JER	0.010		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/16/99  
4' - 8'  
GP-12

	Units	99B23183	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	35.1	10/21/99	PM	0.10		
Cadmium	mg/kg	0.08	10/21/99	PM	0.05		
Chromium	mg/kg	4.08	10/21/99	PM	0.35		
Lead	mg/kg	44.0	10/21/99	PM	2.50		
Mercury	mg/kg	0.071	10/21/99	JER	0.010		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-13

	Units	99B23185	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	15.9	10/21/99	PM	0.10		
Cadmium	mg/kg	0.12	10/21/99	PM	0.05		
Chromium	mg/kg	3.14	10/21/99	PM	0.35		
Lead	mg/kg	7.28	10/21/99	PM	2.50		
Mercury	mg/kg	0.108	10/21/99	JER	0.007		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/16/99  
2'-4'  
GP-14

	Units	99B23186	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	BDL	10/21/99	PM	5.00		
Barium	mg/kg	39.3	10/21/99	PM	0.10		
Cadmium	mg/kg	ND	10/21/99	PM	0.05		
Chromium	mg/kg	6.00	10/21/99	PM	0.35		
Lead	mg/kg	86.1	10/21/99	PM	2.50		
Mercury	mg/kg	0.045	10/21/99	JER	0.009		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2' - 4'  
GP-15

	Units	99B23187	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	-----	-----	-----
Arsenic	mg/kg	7.48	10/21/99	PM	5.00		
Barium	mg/kg	98.2	10/21/99	PM	0.10		
Cadmium	mg/kg	0.22	10/21/99	PM	0.05		
Chromium	mg/kg	5.80	10/21/99	PM	0.35		
Lead	mg/kg	118	10/21/99	PM	2.50		
Mercury	mg/kg	1.59	10/21/99	JER	0.020		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/16/99  
4' - 8'  
GP-16

	Units	99B23188	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	-----	-----	-----
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	16.9	10/21/99	PM	0.10		
Cadmium	mg/kg	0.08	10/21/99	PM	0.05		
Chromium	mg/kg	6.14	10/21/99	PM	0.35		
Lead	mg/kg	4.02	10/21/99	PM	2.50		
Mercury	mg/kg	ND	10/21/99	JER	0.009		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

MDL = Method Detection Limit  
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NM = Not Measured

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SDIL

Sampled: 10/16/99  
2'-4'  
GP-17

	Units	99823189	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	77.6	10/21/99	PM	0.10		
Cadmium	mg/kg	0.26	10/21/99	PM	0.05		
Chromium	mg/kg	7.96	10/21/99	PM	0.35		
Lead	mg/kg	198	10/21/99	PM	2.50		
Mercury	mg/kg	1.11	10/21/99	JER	0.010		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/15/99  
2'-4'  
GP-18

	Units	99823190	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	11.1	10/21/99	PM	5.00		
Barium	mg/kg	783	10/21/99	PM	0.10		
Cadmium	mg/kg	0.14	10/21/99	PM	0.05		
Chromium	mg/kg	12.1	10/21/99	PM	0.35		
Lead	mg/kg	746	10/21/99	PM	2.50		
Mercury	mg/kg	1.22	10/21/99	JER	0.009		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

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NM = Not Measured

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-19

	Units	99B23191	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	19.9	10/21/99	PM	0.10		
Cadmium	mg/kg	0.18	10/21/99	PM	0.05		
Chromium	mg/kg	5.02	10/21/99	PM	0.35		
Lead	mg/kg	7.34	10/21/99	PM	2.50		
Mercury	mg/kg	0.414	10/21/99	JER	0.010		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/15/99  
2'-4'  
GP-20

	Units	99B23192	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	17.2	10/21/99	PM	5.00		
Barium	mg/kg	87.6	10/21/99	PM	0.10		
Cadmium	mg/kg	0.98	10/21/99	PM	0.05		
Chromium	mg/kg	12.2	10/21/99	PM	0.35		
Lead	mg/kg	616	10/21/99	PM	2.50		
Mercury	mg/kg	0.667	10/21/99	JER	0.009		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-21

	Units	99823193	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	15.4	10/21/99	PM	0.10		
Cadmium	mg/kg	0.04	10/21/99	PM	0.05		
Chromium	mg/kg	3.71	10/21/99	PM	0.35		
Lead	mg/kg	3.66	10/21/99	PM	2.50		
Mercury	mg/kg	ND	10/21/99	JER	0.008		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/15/99  
2'-4'  
GP-22

	Units	99823194	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	6.62	10/21/99	PM	5.00		
Barium	mg/kg	160	10/21/99	PM	0.10		
Cadmium	mg/kg	0.26	10/21/99	PM	0.05		
Chromium	mg/kg	9.16	10/21/99	PM	0.35		
Lead	mg/kg	822	10/21/99	PM	2.50		
Mercury	mg/kg	1.06	10/21/99	JER	0.010		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-23

	Units	99823195	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	8.82	10/21/99	PM	5.00		
Barium	mg/kg	72.1	10/21/99	PM	0.10		
Cadmium	mg/kg	0.26	10/21/99	PM	0.05		
Chromium	mg/kg	9.66	10/21/99	PM	0.35		
Lead	mg/kg	96.0	10/21/99	PM	2.50		
Mercury	mg/kg	0.110	10/21/99	JER	0.010		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/15/99  
4'-8'  
GP-24

	Units	99823196	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	15.3	10/21/99	PM	0.10		
Cadmium	mg/kg	ND	10/21/99	PM	0.05		
Chromium	mg/kg	3.09	10/21/99	PM	0.35		
Lead	mg/kg	3.86	10/21/99	PM	2.50		
Mercury	mg/kg	0.011	10/21/99	JER	0.008		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-25

	Units	99823197	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	7.51	10/21/99	PM	5.00		
Barium	mg/kg	39.5	10/21/99	PM	0.10		
Cadmium	mg/kg	0.26	10/21/99	PM	0.05		
Chromium	mg/kg	5.98	10/21/99	PM	0.35		
Lead	mg/kg	401	10/21/99	PM	2.50		
Mercury	mg/kg	0.022	10/21/99	JER	0.009		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/15/99  
2'-4'  
GP-26

	Units	99823198	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	10.8	10/21/99	PH	5.00		
Barium	mg/kg	125	10/21/99	PH	0.10		
Cadmium	mg/kg	0.08	10/21/99	PH	0.05		
Chromium	mg/kg	7.38	10/21/99	PH	0.35		
Lead	mg/kg	343	10/21/99	PH	2.50		
Mercury	mg/kg	0.267	10/21/99	JER	0.008		
Selenium	mg/kg	6.44	10/21/99	PH	5.00		
Silver	mg/kg	ND	10/21/99	PH	0.50		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-27

	Units	99823199	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	20.9	10/21/99	PM	0.10		
Cadmium	mg/kg	0.14	10/21/99	PM	0.05		
Chromium	mg/kg	4.62	10/21/99	PM	0.35		
Lead	mg/kg	46.7	10/21/99	PM	2.50		
Mercury	mg/kg	ND	10/21/99	JER	0.009		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/15/99  
2'-4'  
GP-28

	Units	99823200	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	9.74	10/21/99	PM	5.00		
Barium	mg/kg	65.8	10/21/99	PM	0.10		
Cadmium	mg/kg	1.02	10/21/99	PM	0.05		
Chromium	mg/kg	15.6	10/21/99	PM	0.35		
Lead	mg/kg	280	10/21/99	PM	2.50		
Mercury	mg/kg	1.10	10/21/99	JER	0.010		
Selenium	mg/kg	BDL	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SDIL

Sampled: 10/15/99  
2'-4'  
GP-29

	Units	99B23201	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	12.3	10/21/99	PM	5.00		
Barium	mg/kg	158	10/21/99	PM	0.10		
Cadmium	mg/kg	0.12	10/21/99	PM	0.05		
Chromium	mg/kg	6.44	10/21/99	PM	0.35		
Lead	mg/kg	805	10/21/99	PM	2.50		
Mercury	mg/kg	1.24	10/21/99	JER	0.010		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

Sampled: 10/15/99  
4'-8'  
GP-30

	Units	99B23202	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/kg	ND	10/21/99	PM	5.00		
Barium	mg/kg	62.8	10/21/99	PM	0.10		
Cadmium	mg/kg	0.22	10/21/99	PM	0.05		
Chromium	mg/kg	3.40	10/21/99	PM	0.35		
Lead	mg/kg	11.9	10/21/99	PM	2.50		
Mercury	mg/kg	0.054	10/21/99	JER	0.008		
Selenium	mg/kg	ND	10/21/99	PM	5.00		
Silver	mg/kg	ND	10/21/99	PM	0.50		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-31

	Units	99B23203	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	ND	10/22/99	PM	5.00		
Barium	mg/kg	16.4	10/22/99	PM	0.10		
Cadmium	mg/kg	ND	10/22/99	PM	0.05		
Chromium	mg/kg	3.44	10/22/99	PM	0.35		
Lead	mg/kg	2.80	10/22/99	PM	2.50		
Mercury	mg/kg	0.014	10/21/99	JER	0.008		
Selenium	mg/kg	ND	10/22/99	PM	5.00		
Silver	mg/kg	ND	10/22/99	PM	0.50		

Sampled: 10/15/99  
2'-4'  
GP-32

	Units	99B23204	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/kg	7.66	10/22/99	PM	5.00		
Barium	mg/kg	40.2	10/22/99	PM	0.10		
Cadmium	mg/kg	0.31	10/22/99	PM	0.05		
Chromium	mg/kg	6.12	10/22/99	PM	0.35		
Lead	mg/kg	138	10/22/99	PM	2.50		
Mercury	mg/kg	0.571	10/21/99	JER	0.009		
Selenium	mg/kg	6.30	10/22/99	PM	5.00		
Silver	mg/kg	ND	10/22/99	PM	0.50		

Analytical Method(s):

Arsenic  
SW846 3050/6010

SAMPLES ARE DIGESTED WITH NITRIC ACID AND THEN ANALYZED BY

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INDUCTIVELY COUPLED PLASMA EMISSION SPECTROSCOPY.

Barium

SW846 3050/6010

SAMPLES ARE DIGESTED WITH NITRIC ACID AND THEN ANALYZED BY  
INDUCTIVELY COUPLED PLASMA EMISSION SPECTROSCOPY.

Cadmium

SW846 3050/6010

SAMPLES ARE DIGESTED WITH NITRIC ACID AND THEN ANALYZED BY  
INDUCTIVELY COUPLED PLASMA EMISSION SPECTROSCOPY.

Chromium

SW846 3050/6010

SAMPLES ARE DIGESTED WITH NITRIC ACID AND THEN ANALYZED BY  
INDUCTIVELY COUPLED PLASMA EMISSION SPECTROSCOPY.

Lead

SW846 3050/6010

SAMPLES ARE DIGESTED WITH NITRIC ACID AND THEN ANALYZED BY  
INDUCTIVELY COUPLED PLASMA EMISSION SPECTROSCOPY.

Mercury

SW846 3050/7471

SAMPLES ARE DIGESTED WITH ACIDS AND THEN ANALYZED BY  
COLD VAPOR (FLAMELESS) ATOMIC ABSORPTION SPECTROPHOTOMETRY

Selenium

MDL = Method Detection Limit

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SW846 3050/6010

SAMPLES ARE DIGESTED WITH NITRIC ACID AND THEN ANALYZED BY  
INDUCTIVELY COUPLED PLASMA EMISSION SPECTROSCOPY.

Silver

SW846 3050/6010

SAMPLES ARE DIGESTED WITH NITRIC ACID AND THEN ANALYZED BY  
INDUCTIVELY COUPLED PLASMA EMISSION SPECTROSCOPY.

MDL = Method Detection Limit  
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SPEC LIMIT = a client specified, recommended, or  
regulatory level for comparison with data to  
determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4' - 6'  
GP-01

	Units	99B23173	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	BDL	10/21/99	WSD	0.33		
Anthracene	mg/kg	0.57	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	0.94	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	0.88	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	0.84	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	BDL	10/21/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	0.68	10/21/99	WSD	0.67		
Chrysene	mg/kg	1.06	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	2.19	10/21/99	WSD	0.33		
Fluorene	mg/kg	BDL	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	0.40	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Naphthalene	mg/kg	BDL	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	2.37	10/21/99	WSD	0.33		
Pyrene	mg/kg	1.94	10/21/99	WSD	1.00		

Sampled: 10/16/99  
2' - 4'  
GP-02

	Units	99B23174	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/21/99	WSD	1.00		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-02

	Units	99B23174	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Benzo(k)fluoranthene	mg/kg	ND	10/21/99	WSD	0.67		
Chrysene	mg/kg	ND	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	BDL	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/21/99	WSD	0.33		
Pyrene	mg/kg	ND	10/21/99	WSD	1.00		

Sampled: 10/16/99  
4'-8'  
GP-03

	Units	99B23175	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/21/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/21/99	WSD	0.67		
Chrysene	mg/kg	ND	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-03

	Units	99B23175	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/21/99	WSD	0.33		
Pyrene	mg/kg	ND	10/21/99	WSD	1.00		

Sampled: 10/16/99  
2'-4'  
GP-04

	Units	99B23176	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	BDL	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	BDL	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	0.39	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	BDL	10/21/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	BDL	10/21/99	WSD	0.67		
Chrysene	mg/kg	BDL	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	0.58	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	BDL	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	BDL	10/21/99	WSD	0.33		
Pyrene	mg/kg	BDL	10/21/99	WSD	1.00		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2' - 4'  
GP-05

	Units	99B23177	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/21/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/21/99	WSD	0.67		
Chrysene	mg/kg	ND	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/21/99	WSD	0.33		
Pyrene	mg/kg	ND	10/21/99	WSD	1.00		

Sampled: 10/16/99  
4' - 8'  
GP-06

	Units	99B23178	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/21/99	WSD	1.00		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-06

	Units	99B23178	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Benzo(k)fluoranthene	mg/kg	ND	10/21/99	WSD	0.67		
Chrysene	mg/kg	ND	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/21/99	WSD	0.33		
Pyrene	mg/kg	ND	10/21/99	WSD	1.00		

Sampled: 10/16/99  
4'-8'  
GP-07

	Units	99B23179	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/21/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/21/99	WSD	0.67		
Chrysene	mg/kg	ND	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-07

	Units	99823179	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/21/99	WSD	0.33		
Pyrene	mg/kg	ND	10/21/99	WSD	1.00		

Sampled: 10/16/99  
2'-4'  
GP-08

	Units	99823180	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	2.06	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	1.80	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	1.86	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	BDL	10/21/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	1.79	10/21/99	WSD	0.67		
Chrysene	mg/kg	2.47	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	BDL	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	2.95	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	0.91	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	0.64	10/21/99	WSD	0.33		
Pyrene	mg/kg	3.03	10/21/99	WSD	1.00		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-09

	Units	99823181	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/21/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/21/99	WSD	0.67		
Chrysene	mg/kg	ND	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/21/99	WSD	0.33		
Pyrene	mg/kg	ND	10/21/99	WSD	1.00		

Sampled: 10/16/99  
2'-4'  
GP-10

	Units	99823182	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/21/99	WSD	1.00		

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/16/99  
 2'-4'  
 GP-10

	Units	99823182	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Benzo(k)fluoranthene	mg/kg	ND	10/21/99	WSD	0.67		
Chrysene	mg/kg	ND	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	BDL	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/21/99	WSD	0.33		
Pyrene	mg/kg	BDL	10/21/99	WSD	1.00		

 Sampled: 10/16/99  
 4'-8'  
 GP-11

	Units	99823183	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/21/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/21/99	WSD	0.67		
Chrysene	mg/kg	ND	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		

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 NM = Not Measured

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-11

	Units	99B23183	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/21/99	WSD	0.33		
Pyrene	mg/kg	ND	10/21/99	WSD	1.00		

Sampled: 10/16/99  
4'-8'  
GP-12

	Units	99B23184	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/21/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/21/99	WSD	0.67		
Chrysene	mg/kg	ND	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/21/99	WSD	0.33		
Pyrene	mg/kg	ND	10/21/99	WSD	1.00		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-13

	Units	99823185	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/21/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/21/99	WSD	0.33		
Anthracene	mg/kg	ND	10/21/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	BDL	10/21/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	BDL	10/21/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	BDL	10/21/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/21/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	BDL	10/21/99	WSD	0.67		
Chrysene	mg/kg	BDL	10/21/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/21/99	WSD	0.67		
Fluoranthene	mg/kg	0.39	10/21/99	WSD	0.33		
Fluorene	mg/kg	ND	10/21/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/21/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/21/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/21/99	WSD	0.33		
Pyrene	mg/kg	BDL	10/21/99	WSD	1.00		

Sampled: 10/16/99  
2'-4'  
GP-14

	Units	99823186	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/22/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/22/99	WSD	0.33		
Anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/22/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/22/99	WSD	1.00		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-14

	Units	99823186	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Benzo(k)fluoranthene	mg/kg	ND	10/22/99	WSD	0.67		
Chrysene	mg/kg	ND	10/22/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/22/99	WSD	0.67		
Fluoranthene	mg/kg	BDL	10/22/99	WSD	0.33		
Fluorene	mg/kg	ND	10/22/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/22/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/22/99	WSD	0.33		
Pyrene	mg/kg	BDL	10/22/99	WSD	1.00		

Sampled: 10/16/99  
2'-4'  
GP-15

	Units	99823187	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/22/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/22/99	WSD	0.33		
Anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/22/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/22/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/22/99	WSD	0.67		
Chrysene	mg/kg	ND	10/22/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/22/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/22/99	WSD	0.33		
Fluorene	mg/kg	ND	10/22/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/22/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/22/99	WSD	0.33		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-15

	Units	99823187	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Naphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/22/99	WSD	0.33		
Pyrene	mg/kg	ND	10/22/99	WSD	1.00		

Sampled: 10/16/99  
4'-8'  
GP-16

	Units	99823188	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/22/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/22/99	WSD	0.33		
Anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/22/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/22/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/22/99	WSD	0.67		
Chrysene	mg/kg	ND	10/22/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/22/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/22/99	WSD	0.33		
Fluorene	mg/kg	ND	10/22/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/22/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/22/99	WSD	0.33		
Pyrene	mg/kg	ND	10/22/99	WSD	1.00		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2' - 4'  
GP-17

	Units	99B23189	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/22/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/22/99	WSD	0.33		
Anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	BDL	10/22/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	BDL	10/22/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	0.40	10/22/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	BDL	10/22/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	BDL	10/22/99	WSD	0.67		
Chrysene	mg/kg	BDL	10/22/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/22/99	WSD	0.67		
Fluoranthene	mg/kg	0.49	10/22/99	WSD	0.33		
Fluorene	mg/kg	ND	10/22/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	BDL	10/22/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Phenanthrene	mg/kg	BDL	10/22/99	WSD	0.33		
Pyrene	mg/kg	BDL	10/22/99	WSD	1.00		

Sampled: 10/15/99  
2' - 4'  
GP-18

	Units	99B23190	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/22/99	WSD	0.67		
Acenaphthylene	mg/kg	ND	10/22/99	WSD	0.67		
Anthracene	mg/kg	BDL	10/22/99	WSD	0.67		
Benzo(a)anthracene	mg/kg	5.85	10/22/99	WSD	0.67		
Benzo(a)pyrene	mg/kg	5.32	10/22/99	WSD	1.33		
Benzo(b)fluoranthene	mg/kg	6.47	10/22/99	WSD	0.67		
Benzo(g,h,i)perylene	mg/kg	2.81	10/22/99	WSD	2.00		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/15/99  
 2'-4'  
 GP-18

	Units	99B23190	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Benzo(k)fluoranthene	mg/kg	3.70	10/22/99	WSD	1.33		
Chrysene	mg/kg	7.12	10/22/99	WSD	1.33		
Dibenz(a,h)anthracene	mg/kg	BDL	10/22/99	WSD	1.33		
Fluoranthene	mg/kg	7.23	10/22/99	WSD	0.67		
Fluorene	mg/kg	ND	10/22/99	WSD	0.67		
Indeno(1,2,3-cd)pyrene	mg/kg	2.71	10/22/99	WSD	0.67		
2-Methylnaphthalene	mg/kg	ND	10/22/99	WSD	0.67		
Naphthalene	mg/kg	ND	10/22/99	WSD	0.67		
Phenanthrene	mg/kg	1.39	10/22/99	WSD	0.67		
Pyrene	mg/kg	8.16	10/22/99	WSD	2.00		

 Sampled: 10/15/99  
 4'-8'  
 GP-19

	Units	99B23191	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/22/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/22/99	WSD	0.33		
Anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/22/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/22/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/22/99	WSD	0.67		
Chrysene	mg/kg	ND	10/22/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/22/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/22/99	WSD	0.33		
Fluorene	mg/kg	ND	10/22/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/22/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/22/99	WSD	0.33		

 MDL = Method Detection Limit  
 ND = Not Detected  
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 NM = Not Measured

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-19

	Units	99823191	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Naphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/22/99	WSD	0.33		
Pyrene	mg/kg	ND	10/22/99	WSD	1.00		

Sampled: 10/15/99  
2'-4'  
GP-20

	Units	99823192	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	0.77	10/22/99	WSD	0.33		
Acenaphthylene	mg/kg	0.36	10/22/99	WSD	0.33		
Anthracene	mg/kg	1.66	10/22/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	3.47	10/22/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	3.11	10/22/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	3.91	10/22/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	1.58	10/22/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	2.35	10/22/99	WSD	0.67		
Chrysene	mg/kg	4.54	10/22/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	0.75	10/22/99	WSD	0.67		
Fluoranthene	mg/kg	4.01	10/22/99	WSD	0.33		
Fluorene	mg/kg	0.73	10/22/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	1.61	10/22/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	BDL	10/22/99	WSD	0.33		
Naphthalene	mg/kg	BDL	10/22/99	WSD	0.33		
Phenanthrene	mg/kg	5.93	10/22/99	WSD	0.33		
Pyrene	mg/kg	6.93	10/22/99	WSD	1.00		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-21

	Units	99823193	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/22/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/22/99	WSD	0.33		
Anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/22/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/22/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/22/99	WSD	0.67		
Chrysene	mg/kg	ND	10/22/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/22/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/22/99	WSD	0.33		
Fluorene	mg/kg	ND	10/22/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/22/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/22/99	WSD	0.33		
Pyrene	mg/kg	ND	10/22/99	WSD	1.00		

Sampled: 10/15/99  
2'-4'  
GP-22

	Units	99823194	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/22/99	WSD	3.33		
Acenaphthylene	mg/kg	ND	10/22/99	WSD	3.33		
Anthracene	mg/kg	ND	10/22/99	WSD	3.33		
Benzo(a)anthracene	mg/kg	14.0	10/22/99	WSD	3.33		
Benzo(a)pyrene	mg/kg	10.2	10/22/99	WSD	6.67		
Benzo(b)fluoranthene	mg/kg	13.6	10/22/99	WSD	3.33		
Benzo(g,h,i)perylene	mg/kg	BDL	10/22/99	WSD	10.0		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-22

	Units	99B23194	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Benzo(k)fluoranthene	mg/kg	12.4	10/22/99	WSD	6.67		
Chrysene	mg/kg	14.5	10/22/99	WSD	6.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/22/99	WSD	6.67		
Fluoranthene	mg/kg	20.1	10/22/99	WSD	3.33		
Fluorene	mg/kg	ND	10/22/99	WSD	3.33		
Indeno(1,2,3-cd)pyrene	mg/kg	4.67	10/22/99	WSD	3.33		
2-Methylnaphthalene	mg/kg	ND	10/22/99	WSD	3.33		
Naphthalene	mg/kg	ND	10/22/99	WSD	3.33		
Phenanthrene	mg/kg	4.77	10/22/99	WSD	3.33		
Pyrene	mg/kg	21.4	10/22/99	WSD	10.0		

Sampled: 10/15/99  
2'-4'  
GP-23

	Units	99B23195	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/22/99	WSD	0.67		
Acenaphthylene	mg/kg	0.79	10/22/99	WSD	0.67		
Anthracene	mg/kg	BDL	10/22/99	WSD	0.67		
Benzo(a)anthracene	mg/kg	2.15	10/22/99	WSD	0.67		
Benzo(a)pyrene	mg/kg	2.63	10/22/99	WSD	1.33		
Benzo(b)fluoranthene	mg/kg	2.90	10/22/99	WSD	0.67		
Benzo(g,h,i)perylene	mg/kg	BDL	10/22/99	WSD	2.00		
Benzo(k)fluoranthene	mg/kg	2.50	10/22/99	WSD	1.33		
Chrysene	mg/kg	2.67	10/22/99	WSD	1.33		
Dibenz(a,h)anthracene	mg/kg	BDL	10/22/99	WSD	1.33		
Fluoranthene	mg/kg	2.77	10/22/99	WSD	0.67		
Fluorene	mg/kg	ND	10/22/99	WSD	0.67		
Indeno(1,2,3-cd)pyrene	mg/kg	1.47	10/22/99	WSD	0.67		
2-Methylnaphthalene	mg/kg	BDL	10/22/99	WSD	0.67		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-23

	Units	99B23195	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Naphthalene	mg/kg	BDL	10/22/99	WSD	0.67		
Phenanthrene	mg/kg	1.11	10/22/99	WSD	0.67		
Pyrene	mg/kg	2.63	10/22/99	WSD	2.00		

Sampled: 10/15/99  
4'-8'  
GP-24

	Units	99B23196	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/22/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/22/99	WSD	0.33		
Anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/22/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/22/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/22/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/22/99	WSD	0.67		
Chrysene	mg/kg	ND	10/22/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/22/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/22/99	WSD	0.33		
Fluorene	mg/kg	ND	10/22/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/22/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/22/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/22/99	WSD	0.33		
Pyrene	mg/kg	ND	10/22/99	WSD	1.00		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4' - 8'  
GP-25

	Units	99823197	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/24/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/24/99	WSD	0.33		
Anthracene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/24/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/24/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/24/99	WSD	0.67		
Chrysene	mg/kg	ND	10/24/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/24/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/24/99	WSD	0.33		
Fluorene	mg/kg	ND	10/24/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/24/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/24/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/24/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/24/99	WSD	0.33		
Pyrene	mg/kg	ND	10/24/99	WSD	1.00		

Sampled: 10/15/99  
2' - 4'  
GP-26

	Units	99823198	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/24/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/24/99	WSD	0.33		
Anthracene	mg/kg	0.34	10/24/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	BDL	10/24/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	BDL	10/24/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	0.77	10/24/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/24/99	WSD	1.00		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-26

	Units	99B23198	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Benzo(k)fluoranthene	mg/kg	0.71	10/24/99	WSD	0.67		
Chrysene	mg/kg	BDL	10/24/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/24/99	WSD	0.67		
Fluoranthene	mg/kg	BDL	10/24/99	WSD	0.33		
Fluorene	mg/kg	ND	10/24/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/24/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/24/99	WSD	0.33		
Naphthalene	mg/kg	BDL	10/24/99	WSD	0.33		
Phenanthrene	mg/kg	0.41	10/24/99	WSD	0.33		
Pyrene	mg/kg	BDL	10/24/99	WSD	1.00		

Sampled: 10/15/99  
4'-8'  
GP-27

	Units	99B23199	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/24/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/24/99	WSD	0.33		
Anthracene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/24/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/24/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/24/99	WSD	0.67		
Chrysene	mg/kg	ND	10/24/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/24/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/24/99	WSD	0.33		
Fluorene	mg/kg	ND	10/24/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/24/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/24/99	WSD	0.33		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SDIL

Sampled: 10/15/99  
4'-8'  
GP-27

	Units	99823199	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Naphthalene	mg/kg	ND	10/24/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/24/99	WSD	0.33		
Pyrene	mg/kg	ND	10/24/99	WSD	1.00		

Sampled: 10/15/99  
2'-4'  
GP-28

	Units	99823200	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/24/99	WSD	0.33		
Acenaphthylene	mg/kg	BDL	10/24/99	WSD	0.33		
Anthracene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	0.70	10/24/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	0.79	10/24/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	1.59	10/24/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	BDL	10/24/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	0.77	10/24/99	WSD	0.67		
Chrysene	mg/kg	0.92	10/24/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/24/99	WSD	0.67		
Fluoranthene	mg/kg	1.16	10/24/99	WSD	0.33		
Fluorene	mg/kg	ND	10/24/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	BDL	10/24/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	BDL	10/24/99	WSD	0.33		
Naphthalene	mg/kg	BDL	10/24/99	WSD	0.33		
Phenanthrene	mg/kg	0.68	10/24/99	WSD	0.33		
Pyrene	mg/kg	1.28	10/24/99	WSD	1.00		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2' -4'  
GP-29

	Units	99823201	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/24/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/24/99	WSD	0.33		
Anthracene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	BDL	10/24/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	BDL	10/24/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	0.39	10/24/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/24/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	BDL	10/24/99	WSD	0.67		
Chrysene	mg/kg	BDL	10/24/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/24/99	WSD	0.67		
Fluoranthene	mg/kg	0.41	10/24/99	WSD	0.33		
Fluorene	mg/kg	ND	10/24/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/24/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/24/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/24/99	WSD	0.33		
Phenanthrene	mg/kg	BDL	10/24/99	WSD	0.33		
Pyrene	mg/kg	BDL	10/24/99	WSD	1.00		

Sampled: 10/15/99  
4' -8'  
GP-30

	Units	99823202	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/24/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/24/99	WSD	0.33		
Anthracene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/24/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/24/99	WSD	1.00		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-30

	Units	99B23202	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Benzo(k)fluoranthene	mg/kg	ND	10/24/99	WSD	0.67		
Chrysene	mg/kg	ND	10/24/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/24/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/24/99	WSD	0.33		
Fluorene	mg/kg	ND	10/24/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/24/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/24/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/24/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/24/99	WSD	0.33		
Pyrene	mg/kg	ND	10/24/99	WSD	1.00		

Sampled: 10/15/99  
4'-8'  
GP-31

	Units	99B23203	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/24/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/24/99	WSD	0.33		
Anthracene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	ND	10/24/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	ND	10/24/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	ND	10/24/99	WSD	0.67		
Chrysene	mg/kg	ND	10/24/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/24/99	WSD	0.67		
Fluoranthene	mg/kg	ND	10/24/99	WSD	0.33		
Fluorene	mg/kg	ND	10/24/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	10/24/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/24/99	WSD	0.33		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-31

	Units	99B23203	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Naphthalene	mg/kg	ND	10/24/99	WSD	0.33		
Phenanthrene	mg/kg	ND	10/24/99	WSD	0.33		
Pyrene	mg/kg	ND	10/24/99	WSD	1.00		

Sampled: 10/15/99  
2'-4'  
GP-32

	Units	99B23204	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	mg/kg	ND	10/24/99	WSD	0.33		
Acenaphthylene	mg/kg	ND	10/24/99	WSD	0.33		
Anthracene	mg/kg	ND	10/24/99	WSD	0.33		
Benzo(a)anthracene	mg/kg	0.78	10/24/99	WSD	0.33		
Benzo(a)pyrene	mg/kg	0.86	10/24/99	WSD	0.67		
Benzo(b)fluoranthene	mg/kg	0.90	10/24/99	WSD	0.33		
Benzo(g,h,i)perylene	mg/kg	BDL	10/24/99	WSD	1.00		
Benzo(k)fluoranthene	mg/kg	0.80	10/24/99	WSD	0.67		
Chrysene	mg/kg	1.00	10/24/99	WSD	0.67		
Dibenz(a,h)anthracene	mg/kg	ND	10/24/99	WSD	0.67		
Fluoranthene	mg/kg	1.34	10/24/99	WSD	0.33		
Fluorene	mg/kg	ND	10/24/99	WSD	0.33		
Indeno(1,2,3-cd)pyrene	mg/kg	0.43	10/24/99	WSD	0.33		
2-Methylnaphthalene	mg/kg	ND	10/24/99	WSD	0.33		
Naphthalene	mg/kg	ND	10/24/99	WSD	0.33		
Phenanthrene	mg/kg	0.44	10/24/99	WSD	0.33		
Pyrene	mg/kg	BDL	10/24/99	WSD	1.00		

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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-15

	Units	99823187	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-16

	Units	99B23188	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-17

	Units	99823189	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-18

	Units	99B23190	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.250		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.250		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.500		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.500		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.250		
Chlordane	mg/kg	ND	10/21/99	MFF	1.00		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	1.00		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.500		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.250		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.250		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.250		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.750		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	1.25		
Endrin	mg/kg	ND	10/21/99	MFF	0.750		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	1.25		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.250		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.250		
Methoxychlor	mg/kg	ND	10/21/99	MFF	2.75		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.250		
Toxaphene	mg/kg	ND	10/21/99	MFF	1.00		

MDL = Method Detection Limit  
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BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-19

	Units	99B23191	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-20

	Units	99B23192	Date Analyzed	Analyst	MOL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-21

	Units	99B23193	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-22

	Units	99B23194	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2' - 4'  
GP-23

	Units	99B23195	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.250		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.250		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.500		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.500		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.250		
Chlordane	mg/kg	ND	10/21/99	MFF	1.00		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	1.00		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.500		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.250		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.250		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.250		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.750		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	1.25		
Endrin	mg/kg	ND	10/21/99	MFF	0.750		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	1.25		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.250		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.250		
Methoxychlor	mg/kg	ND	10/21/99	MFF	2.75		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.250		
Toxaphene	mg/kg	ND	10/21/99	MFF	1.00		

MDL = Method Detection Limit  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: SOIL

 Sampled: 10/15/99  
 4'-8'  
 GP-24

	Units	99823196	Date	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-126D	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

 MDL = Method Detection Limit  
 ND = Not Detected  
 BDL = Below Detection Limit  
 NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-25

	Units	99B23197	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-26

	Units	99823198	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-27

	Units	99823199	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2' -4'  
GP-28

	Units	99823200	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-29

	Units	99B23201	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-30

	Units	99823202	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-31

	Units	99B23203	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-32

	Units	99B23204	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	mg/kg	ND	10/21/99	MFF	0.025		
alpha-BHC	mg/kg	ND	10/21/99	MFF	0.025		
beta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
delta-BHC	mg/kg	ND	10/21/99	MFF	0.050		
gamma-BHC (Lindane)	mg/kg	ND	10/21/99	MFF	0.025		
Chlordane	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDD	mg/kg	ND	10/21/99	MFF	0.100		
4,4'-DDE	mg/kg	ND	10/21/99	MFF	0.050		
4,4'-DDT	mg/kg	ND	10/21/99	MFF	0.025		
Dieldrin	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan I	mg/kg	ND	10/21/99	MFF	0.025		
Endosulfan II	mg/kg	ND	10/21/99	MFF	0.075		
Endosulfan Sulfate	mg/kg	ND	10/21/99	MFF	0.125		
Endrin	mg/kg	ND	10/21/99	MFF	0.075		
Endrin Aldehyde	mg/kg	ND	10/21/99	MFF	0.125		
Heptachlor	mg/kg	ND	10/21/99	MFF	0.025		
Heptachlor Epoxide	mg/kg	ND	10/21/99	MFF	0.025		
Methoxychlor	mg/kg	ND	10/21/99	MFF	0.275		
PCB-1221	mg/kg	ND	10/21/99	MFF			
PCB-1232	mg/kg	ND	10/21/99	MFF			
PCB-1242	mg/kg	ND	10/21/99	MFF			
PCB-1248	mg/kg	ND	10/21/99	MFF			
PCB-1254	mg/kg	ND	10/21/99	MFF			
PCB-1260	mg/kg	ND	10/21/99	MFF			
PCB's	mg/kg	ND	10/21/99	MFF	0.025		
Toxaphene	mg/kg	ND	10/21/99	MFF	0.100		

Analytical Method(s):

SW846 3550/8080

SAMPLES ARE EXTRACTED WITH SONICATION, CONCENTRATED, AND ANALYZED BY GAS

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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CHROMATOGRAPHY WITH ELECTRON CAPTURE DETECTION.

MDL = Method Detection Limit  
ND = Not Detected  
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SPEC LIMIT = a client specified, recommended, or  
regulatory level for comparison with data to  
determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-6'  
GP-01

	Units	99823141	Date		MDL	SPEC	
			Analyzed	Analyst		LIMIT	P/F
-----	-----	-----	-----	-----	-----	-----	-----
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.14	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/16/99  
2'-4'  
GP-02

	Units	99823142	Date		MDL	SPEC	
			Analyzed	Analyst		LIMIT	P/F
-----	-----	-----	-----	-----	-----	-----	-----
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.23	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-03

	Units	99B23143	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.16	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	BDL	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/16/99  
2'-4'  
GP-04

	Units	99B23144	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.18	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	0.04	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00007	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-05

	Units	99823145	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.14	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/16/99  
4'-8'  
GP-05

	Units	99823146	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.11	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

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ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-07

	Units	99823147	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.41	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/16/99  
2'-4'  
GP-08

	Units	99823148	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.18	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	BDL	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00006	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

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BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-09

	Units	99823149	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.15	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/16/99  
2'-4'  
GP-10

	Units	99823150	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.24	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	BDL	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00005	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

MDL = Method Detection Limit  
ND = Not Detected  
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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-11

	Units	99B23151	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.10	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/16/99  
4'-8'  
GP-12

	Units	99B23152	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.46	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-13

	Units	99823153	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.50	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	BDL	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	BDL	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/16/99  
2'-4'  
GP-14

	Units	99823154	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.50	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	0.02	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-15

	Units	99B23155	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PH	0.02	5.00	P
Barium	MG/L LEACHATE	0.73	10/22/99	PH	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PH	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PH	0.01	5.00	P
Lead	MG/L LEACHATE	0.10	10/22/99	PH	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00034	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PH	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PH	0.01	5.00	P

Sampled: 10/16/99  
4'-8'  
GP-16

	Units	99B23156	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PH	0.02	5.00	P
Barium	MG/L LEACHATE	0.30	10/22/99	PH	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PH	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PH	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PH	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PH	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PH	0.01	5.00	P

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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-17

	Units	99B23157	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.41	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	0.02	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00008	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/15/99  
2'-4'  
GP-18

	Units	99B23158	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.31	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	0.05	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00012	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-19

	Units	99B23159	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.64	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00022	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/15/99  
2'-4'  
GP-20

	Units	99B23160	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.23	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	0.04	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00006	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-21

	Units	99823161	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.70	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/15/99  
2'-4'  
GP-22

	Units	99823162	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.25	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	0.06	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00014	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-23

	Units	99823163	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.16	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/15/99  
4'-8'  
GP-24

	Units	99823164	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.17	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

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NM = Not Measured

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-25

	Units	99823165	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.32	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	0.03	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/15/99  
2'-4'  
GP-26

	Units	99823166	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.35	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

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NM = Not Measured

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-27

	Units	99823167	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.51	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	0.02	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/15/99  
2'-4'  
GP-28

	Units	99823168	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.27	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	BDL	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00004	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-29

	Units	99823169	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.27	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	0.05	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00018	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/15/99  
4'-8'  
GP-30

	Units	99823170	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.28	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

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ND = Not Detected  
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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-31

	Units	99823171	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.30	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	ND	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Sampled: 10/15/99  
2'-4'  
GP-32

	Units	99823172	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	MG/L LEACHATE	ND	10/22/99	PM	0.02	5.00	P
Barium	MG/L LEACHATE	0.22	10/22/99	PM	0.01	100	P
Cadmium	MG/L LEACHATE	ND	10/22/99	PM	0.01	1.00	P
Chromium	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P
Lead	MG/L LEACHATE	0.04	10/22/99	PM	0.01	5.00	P
Mercury	MG/L LEACHATE	0.00009	10/21/99	JER	0.00004	0.20	P
Selenium	MG/L LEACHATE	ND	10/22/99	PM	0.02	1.00	P
Silver	MG/L LEACHATE	ND	10/22/99	PM	0.01	5.00	P

Analytical Method(s):

SW846 1312/6010/7470

SW846 1312 SYNTHETIC PRECIPITATION LEACHING PROCEDURE (SPLP). SAMPLES ARE LEACHED FOR 16-20 HOURS IN THE APPROPRIATE LEACHING SOLUTION ACCORDING TO SPLP.

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SW846 6010 ALL METALS OTHER THAN MERCURY ARE ANALYZED BY INDUCTIVELY  
COUPLED PLASMA EMISSION SPECTROMETRY.

SW846 7470 MERCURY LEACHATE IS ANALYZED BY COLD VAPOR (FLAMELESS) ATOMIC  
ABSORPTION SPECTROPHOTOMETRY.

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ND = Not Detected  
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regulatory level for comparison with data to  
determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-6'  
GP-01

	Units	99B23173	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	24.0	10/22/99	LL	18.4		

Sampled: 10/16/99  
2'-4'  
GP-02

	Units	99B23174	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	BDL	10/22/99	LL	19.0		

Sampled: 10/16/99  
4'-8'  
GP-03

	Units	99B23175	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	BDL	10/22/99	LL	18.5		

Sampled: 10/16/99  
2'-4'  
GP-04

	Units	99B23176	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	BDL	10/22/99	LL	18.8		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-05

	Units	99B23177	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	29.8	10/22/99	LL	18.9		

Sampled: 10/16/99  
4'-8'  
GP-06

	Units	99B23178	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	BDL	10/22/99	LL	18.8		

Sampled: 10/16/99  
4'-8'  
GP-07

	Units	99B23179	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	20.9	10/22/99	LL	18.6		

Sampled: 10/16/99  
2'-4'  
GP-08

	Units	99B23180	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	BDL	10/22/99	LL	20.0		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-09

	Units	99823181	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	BDL	10/22/99	LL	18.8		

Sampled: 10/16/99  
2'-4'  
GP-10

	Units	99823182	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	BDL	10/22/99	LL	19.0		

Sampled: 10/16/99  
4'-8'  
GP-11

	Units	99823183	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	30.0	10/22/99	LL	18.8		

Sampled: 10/16/99  
4'-8'  
GP-12

	Units	99823184	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	78.6	10/22/99	LL	18.6		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
4'-8'  
GP-13

	Units	99823185	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	25.9	10/22/99	LL	18.8		

Sampled: 10/16/99  
2'-4'  
GP-14

	Units	99823186	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	21.9	10/22/99	LL	18.3		

Sampled: 10/16/99  
2'-4'  
GP-15

	Units	99823187	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	38.3	10/22/99	LL	19.2		

Sampled: 10/16/99  
4'-8'  
GP-16

	Units	99823188	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	21.5	10/22/99	LL	18.7		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/16/99  
2'-4'  
GP-17

	Units	99B23189	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	30.1	10/22/99	LL	18.5	-----	---

Sampled: 10/15/99  
2'-4'  
GP-18

	Units	99B23190	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	26.1	10/22/99	LL	18.6	-----	---

Sampled: 10/15/99  
4'-8'  
GP-19

	Units	99B23191	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	22.4	10/22/99	LL	19.0	-----	---

Sampled: 10/15/99  
2'-4'  
GP-20

	Units	99B23192	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	36.0	10/22/99	LL	19.0	-----	---

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-21

	Units	99B23193	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	18.8	10/22/99	LL	18.8		

Sampled: 10/15/99  
2'-4'  
GP-22

	Units	99B23194	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	50.8	10/22/99	LL	18.3		

Sampled: 10/15/99  
2'-4'  
GP-23

	Units	99B23195	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	149	10/22/99	LL	18.8		

Sampled: 10/15/99  
4'-8'  
GP-24

	Units	99B23196	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	45.0	10/22/99	LL	19.4		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
4'-8'  
GP-25

	Units	99823197	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	BDL	10/22/99	LL	18.9		

Sampled: 10/15/99  
2'-4'  
GP-26

	Units	99823198	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	59.7	10/22/99	LL	21.3		

Sampled: 10/15/99  
4'-8'  
GP-27

	Units	99823199	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	26.6	10/22/99	LL	19.3		

Sampled: 10/15/99  
2'-4'  
GP-28

	Units	99823200	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Total Petroleum Hydrocarbons	mg/kg	56.4	10/22/99	LL	21.1		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: SOIL

Sampled: 10/15/99  
2'-4'  
GP-29

	Units	99B23201	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	29.4	10/22/99	LL	21.4		

Sampled: 10/15/99  
4'-8'  
GP-30

	Units	99B23202	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	25.8	10/22/99	LL	22.0		

Sampled: 10/15/99  
4'-8'  
GP-31

	Units	99B23203	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	25.0	10/22/99	LL	19.2		

Sampled: 10/15/99  
2'-4'  
GP-32

	Units	99B23204	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/kg	23.6	10/22/99	LL	18.5		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Analytical Method(s):

MODIFIED EPA 418.1

INFRA-RED DETERMINATION FOLLOWING EXTRACTION OF HYDROCARBONS INTO  
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE (FREON 113)

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or  
regulatory level for comparison with data to  
determine PASS (P) or FAIL (F) condition of results.





**APPENDIX C**  
**Groundwater Sample**  
**Laboratory Reports**

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-02

	Units	99B23205	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	ug/l	ND	10/20/99	CJW	50.0		
Acrolein	ug/l	ND	10/20/99	CJW	20.0		
Acrylonitrile	ug/l	ND	10/20/99	CJW	7.6		
Benzene	ug/l	ND	10/20/99	CJW	0.6		
Bromobenzene	ug/l	ND	10/20/99	CJW	0.5		
Bromochloromethane	ug/l	ND	10/20/99	CJW	0.7		
Bromodichloromethane	ug/l	ND	10/20/99	CJW	0.4		
Bromomethane	ug/l	ND	10/20/99	CJW	1.2		
Bromoform	ug/l	ND	10/20/99	CJW	1.2		
2-Butanone (MEK)	ug/l	ND	10/20/99	CJW	12.0		
n-Butylbenzene	ug/l	ND	10/20/99	CJW	0.7		
sec-Butylbenzene	ug/l	ND	10/20/99	CJW	0.6		
tert-Butylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Carbon Disulfide	ug/l	ND	10/20/99	CJW	3.0		
Carbon Tetrachloride	ug/l	ND	10/20/99	CJW	0.5		
Chlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
Chlorodibromomethane	ug/l	ND	10/20/99	CJW	0.5		
Chloroethane	ug/l	ND	10/20/99	CJW	0.8		
2-Chloroethylvinylether	ug/l	ND	10/20/99	CJW	9.6		
Chloroform	ug/l	ND	10/20/99	CJW	0.8		
Chloromethane	ug/l	ND	10/20/99	CJW	1.2		
2-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
4-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
1,2-Dibromo-3-Chloropropane	ug/l	ND	10/20/99	CJW	1.6		
1,2-Dibromoethane	ug/l	ND	10/20/99	CJW	0.7		
Dibromomethane	ug/l	ND	10/20/99	CJW	1.1		
1,2-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
1,3-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
1,4-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
cis-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.4		
trans-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.1		
Dichlorodifluoromethane	ug/l	ND	10/20/99	CJW	1.0		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-02

	Units	99823205	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	ug/l	ND	10/20/99	CJW	0.7		
1,2-Dichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.6		
cis-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.8		
1,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.6		
1,3-Dichloropropane	ug/l	ND	10/20/99	CJW	0.5		
2,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloropropene	ug/l	ND	10/20/99	CJW	1.4		
cis-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.4		
Ethyl Benzene	ug/l	ND	10/20/99	CJW	0.6		
Ethyl Methacrylate	ug/l	ND	10/20/99	CJW	0.8		
Hexachlorobutadiene	ug/l	ND	10/20/99	CJW	1.3		
2-Hexanone	ug/l	ND	10/20/99	CJW	9.7		
Iodomethane	ug/l	ND	10/20/99	CJW	0.8		
Isopropylbenzene	ug/l	ND	10/20/99	CJW	0.6		
p-Isopropyltoluene	ug/l	ND	10/20/99	CJW	0.7		
MTBE	ug/l	ND	10/20/99	CJW	0.8		
Methylene Chloride	ug/l	ND	10/20/99	CJW	3.0		
MIBK	ug/l	ND	10/20/99	CJW	8.8		
Naphthalene	ug/l	ND	10/20/99	CJW	1.0		
n-Propylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Styrene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	0.5		
1,1,1,2,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	1.4		
Tetrachloroethylene	ug/l	ND	10/20/99	CJW	0.4		
Toluene	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichlorobenzene	ug/l	BDL	10/20/99	CJW	0.7		
1,2,4-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1-Trichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1,2-Trichloroethane	ug/l	ND	10/20/99	CJW	0.7		

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NM = Not Measured

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-02

	Units	99B23205	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	ug/l	ND	10/20/99	CJW	1.0		
Trichlorofluoromethane	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichloropropane	ug/l	ND	10/20/99	CJW	1.3		
1,2,4-Trimethylbenzene	ug/l	ND	10/20/99	CJW	0.7		
1,3,5-Trimethylbenzene	ug/l	ND	10/20/99	CJW	1.0		
Vinyl Acetate	ug/l	ND	10/20/99	CJW	16.4		
Vinyl Chloride	ug/l	ND	10/20/99	CJW	0.3		
m-Xylene	ug/l	ND	10/20/99	CJW	1.3		
o + p Xylene	ug/l	ND	10/20/99	CJW	0.5		

MDL = Method Detection Limit  
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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-04

	Units	998232D6	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	ug/l	ND	10/20/99	CJW	50.0		
Acrolein	ug/l	ND	10/20/99	CJW	20.0		
Acrylonitrile	ug/l	ND	10/20/99	CJW	7.6		
Benzene	ug/l	ND	10/20/99	CJW	0.6		
Bromobenzene	ug/l	ND	10/20/99	CJW	0.5		
Bromochloromethane	ug/l	ND	10/20/99	CJW	0.7		
Bromodichloromethane	ug/l	ND	10/20/99	CJW	0.4		
Bromomethane	ug/l	ND	10/20/99	CJW	1.2		
Bromoform	ug/l	ND	10/20/99	CJW	1.2		
2-Butanone (MEK)	ug/l	ND	10/20/99	CJW	12.0		
n-Butylbenzene	ug/l	ND	10/20/99	CJW	0.7		
sec-Butylbenzene	ug/l	ND	10/20/99	CJW	0.6		
tert-Butylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Carbon Disulfide	ug/l	ND	10/20/99	CJW	3.0		
Carbon Tetrachloride	ug/l	ND	10/20/99	CJW	0.5		
Chlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
Chlorodibromomethane	ug/l	ND	10/20/99	CJW	0.5		
Chloroethane	ug/l	ND	10/20/99	CJW	0.8		
2-Chloroethylvinylether	ug/l	ND	10/20/99	CJW	9.6		
Chloroform	ug/l	ND	10/20/99	CJW	0.8		
Chloromethane	ug/l	ND	10/20/99	CJW	1.2		
2-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
4-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
1,2-Dibromo-3-Chloropropane	ug/l	ND	10/20/99	CJW	1.6		
1,2-Dibromoethane	ug/l	ND	10/20/99	CJW	0.7		
Dibromomethane	ug/l	ND	10/20/99	CJW	1.1		
1,2-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
1,3-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
1,4-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
cis-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.4		
trans-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.1		
Dichlorodifluoromethane	ug/l	ND	10/20/99	CJW	1.0		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-04

	Units	99823206	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	ug/l	ND	10/20/99	CJW	0.7		
1,2-Dichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.6		
cis-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.8		
1,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.6		
1,3-Dichloropropane	ug/l	ND	10/20/99	CJW	0.5		
2,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloropropene	ug/l	ND	10/20/99	CJW	1.4		
cis-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.4		
Ethyl Benzene	ug/l	ND	10/20/99	CJW	0.6		
Ethyl Methacrylate	ug/l	ND	10/20/99	CJW	0.8		
Hexachlorobutadiene	ug/l	ND	10/20/99	CJW	1.3		
2-Hexanone	ug/l	ND	10/20/99	CJW	9.7		
Iodomethane	ug/l	ND	10/20/99	CJW	0.8		
Isopropylbenzene	ug/l	ND	10/20/99	CJW	0.6		
p-Isopropyltoluene	ug/l	ND	10/20/99	CJW	0.7		
MTBE	ug/l	ND	10/20/99	CJW	0.8		
Methylene Chloride	ug/l	ND	10/20/99	CJW	3.0		
MIBK	ug/l	ND	10/20/99	CJW	8.8		
Naphthalene	ug/l	ND	10/20/99	CJW	1.0		
n-Propylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Styrene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	0.5		
1,1,1,2,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	1.4		
Tetrachloroethylene	ug/l	ND	10/20/99	CJW	0.4		
Toluene	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,2,4-Trichlorobenzene	ug/l	0.9	10/20/99	CJW	0.7		
1,1,1-Trichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1,2-Trichloroethane	ug/l	ND	10/20/99	CJW	0.7		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-04

	Units	99B23206	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	ug/l	ND	10/20/99	CJW	1.0		
Trichlorofluoromethane	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichloropropane	ug/l	ND	10/20/99	CJW	1.3		
1,2,4-Trimethylbenzene	ug/l	ND	10/20/99	CJW	0.7		
1,3,5-Trimethylbenzene	ug/l	ND	10/20/99	CJW	1.0		
Vinyl Acetate	ug/l	ND	10/20/99	CJW	16.4		
Vinyl Chloride	ug/l	ND	10/20/99	CJW	0.3		
m-Xylene	ug/l	ND	10/20/99	CJW	1.3		
o + p Xylene	ug/l	ND	10/20/99	CJW	0.5		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-15

	Units	99823207	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	ug/l	ND	10/20/99	CJW	50.0		
Acrolein	ug/l	ND	10/20/99	CJW	20.0		
Acrylonitrile	ug/l	ND	10/20/99	CJW	7.6		
Benzene	ug/l	ND	10/20/99	CJW	0.6		
Bromobenzene	ug/l	ND	10/20/99	CJW	0.5		
Bromochloromethane	ug/l	ND	10/20/99	CJW	0.7		
Bromodichloromethane	ug/l	ND	10/20/99	CJW	0.4		
Bromomethane	ug/l	ND	10/20/99	CJW	1.2		
Bromoform	ug/l	ND	10/20/99	CJW	1.2		
2-Butanone (MEK)	ug/l	ND	10/20/99	CJW	12.0		
n-Butylbenzene	ug/l	ND	10/20/99	CJW	0.7		
sec-Butylbenzene	ug/l	ND	10/20/99	CJW	0.6		
tert-Butylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Carbon Disulfide	ug/l	ND	10/20/99	CJW	3.0		
Carbon Tetrachloride	ug/l	ND	10/20/99	CJW	0.5		
Chlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
Chlorodibromomethane	ug/l	ND	10/20/99	CJW	0.5		
Chloroethane	ug/l	ND	10/20/99	CJW	0.8		
2-Chloroethylvinylether	ug/l	ND	10/20/99	CJW	9.6		
Chloroform	ug/l	ND	10/20/99	CJW	0.8		
Chloromethane	ug/l	ND	10/20/99	CJW	1.2		
2-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
4-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
1,2-Dibromo-3-Chloropropane	ug/l	ND	10/20/99	CJW	1.6		
1,2-Dibromoethane	ug/l	ND	10/20/99	CJW	0.7		
Dibromomethane	ug/l	ND	10/20/99	CJW	1.1		
1,2-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
1,3-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
1,4-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
cis-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.4		
trans-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.1		
Dichlorodifluoromethane	ug/l	ND	10/20/99	CJW	1.0		

MDL = Method Detection Limit  
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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: WATER OTHER

 Sampled: 10/16/99  
 GROUND WATER GRAB  
 GP-15

	Units	99B23207	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	ug/l	3.2	10/20/99	CJW	0.7		
1,2-Dichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.6		
cis-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.8		
1,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.6		
1,3-Dichloropropane	ug/l	ND	10/20/99	CJW	0.5		
2,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloropropene	ug/l	ND	10/20/99	CJW	1.4		
cis-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.4		
Ethyl Benzene	ug/l	ND	10/20/99	CJW	0.6		
Ethyl Methacrylate	ug/l	ND	10/20/99	CJW	0.8		
Hexachlorobutadiene	ug/l	ND	10/20/99	CJW	1.3		
2-Hexanone	ug/l	ND	10/20/99	CJW	9.7		
Iodomethane	ug/l	ND	10/20/99	CJW	0.8		
Isopropylbenzene	ug/l	ND	10/20/99	CJW	0.6		
p-Isopropyltoluene	ug/l	ND	10/20/99	CJW	0.7		
MTBE	ug/l	ND	10/20/99	CJW	0.8		
Methylene Chloride	ug/l	ND	10/20/99	CJW	3.0		
MIBK	ug/l	ND	10/20/99	CJW	8.8		
Naphthalene	ug/l	ND	10/20/99	CJW	1.0		
n-Propylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Styrene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	0.5		
1,1,2,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	1.4		
Tetrachloroethylene	ug/l	ND	10/20/99	CJW	0.4		
Toluene	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,2,4-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1-Trichloroethane	ug/l	1.0	10/20/99	CJW	0.9		
1,1,2-Trichloroethane	ug/l	ND	10/20/99	CJW	0.7		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-15

	Units	99B23207	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	ug/l	ND	10/20/99	CJW	1.0		
Trichlorofluoromethane	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichloropropane	ug/l	ND	10/20/99	CJW	1.3		
1,2,4-Trimethylbenzene	ug/l	ND	10/20/99	CJW	0.7		
1,3,5-Trimethylbenzene	ug/l	ND	10/20/99	CJW	1.0		
Vinyl Acetate	ug/l	ND	10/20/99	CJW	16.4		
Vinyl Chloride	ug/l	ND	10/20/99	CJW	0.3		
m-Xylene	ug/l	ND	10/20/99	CJW	1.3		
o + p Xylene	ug/l	ND	10/20/99	CJW	0.5		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-28

	Units	99B23208	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	ug/l	ND	10/20/99	CJW	50.0		
Acrolein	ug/l	ND	10/20/99	CJW	20.0		
Acrylonitrile	ug/l	ND	10/20/99	CJW	7.6		
Benzene	ug/l	ND	10/20/99	CJW	0.6		
Bromobenzene	ug/l	ND	10/20/99	CJW	0.5		
Bromochloromethane	ug/l	ND	10/20/99	CJW	0.7		
Bromodichloromethane	ug/l	ND	10/20/99	CJW	0.4		
Bromomethane	ug/l	ND	10/20/99	CJW	1.2		
Bromoform	ug/l	ND	10/20/99	CJW	1.2		
2-Butanone (MEK)	ug/l	ND	10/20/99	CJW	12.0		
n-Butylbenzene	ug/l	ND	10/20/99	CJW	0.7		
sec-Butylbenzene	ug/l	ND	10/20/99	CJW	0.6		
tert-Butylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Carbon Disulfide	ug/l	ND	10/20/99	CJW	3.0		
Carbon Tetrachloride	ug/l	ND	10/20/99	CJW	0.5		
Chlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
Chlorodibromomethane	ug/l	ND	10/20/99	CJW	0.5		
Chloroethane	ug/l	ND	10/20/99	CJW	0.8		
2-Chloroethylvinylether	ug/l	ND	10/20/99	CJW	9.6		
Chloroform	ug/l	ND	10/20/99	CJW	0.8		
Chloromethane	ug/l	ND	10/20/99	CJW	1.2		
2-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
4-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
1,2-Dibromo-3-Chloropropane	ug/l	ND	10/20/99	CJW	1.6		
1,2-Dibromoethane	ug/l	ND	10/20/99	CJW	0.7		
Dibromomethane	ug/l	ND	10/20/99	CJW	1.1		
1,2-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
1,3-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
1,4-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
cis-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.4		
trans-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.1		
Dichlorodifluoromethane	ug/l	ND	10/20/99	CJW	1.0		

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: WATER OTHER

 Sampled: 10/16/99  
 GROUND WATER GRAB  
 GP-28

	Units	99823208	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	ug/l	ND	10/20/99	CJW	0.7		
1,2-Dichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.6		
cis-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.8		
1,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.6		
1,3-Dichloropropane	ug/l	ND	10/20/99	CJW	0.5		
2,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloropropene	ug/l	ND	10/20/99	CJW	1.4		
cis-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.4		
Ethyl Benzene	ug/l	ND	10/20/99	CJW	0.6		
Ethyl Methacrylate	ug/l	ND	10/20/99	CJW	0.8		
Hexachlorobutadiene	ug/l	ND	10/20/99	CJW	1.3		
2-Hexanone	ug/l	ND	10/20/99	CJW	9.7		
Iodomethane	ug/l	ND	10/20/99	CJW	0.8		
Isopropylbenzene	ug/l	ND	10/20/99	CJW	0.6		
p-Isopropyltoluene	ug/l	ND	10/20/99	CJW	0.7		
MTBE	ug/l	ND	10/20/99	CJW	0.8		
Methylene Chloride	ug/l	ND	10/20/99	CJW	3.0		
MIBK	ug/l	ND	10/20/99	CJW	8.8		
Naphthalene	ug/l	ND	10/20/99	CJW	1.0		
n-Propylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Styrene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	0.5		
1,1,2,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	1.4		
Tetrachloroethylene	ug/l	ND	10/20/99	CJW	0.4		
Toluene	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,2,4-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1-Trichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1,2-Trichloroethane	ug/l	ND	10/20/99	CJW	0.7		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-28

	Units	99823208	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	ug/l	ND	10/20/99	CJW	1.0		
Trichlorofluoromethane	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichloropropane	ug/l	ND	10/20/99	CJW	1.3		
1,2,4-Trimethylbenzene	ug/l	ND	10/20/99	CJW	0.7		
1,3,5-Trimethylbenzene	ug/l	ND	10/20/99	CJW	1.0		
Vinyl Acetate	ug/l	ND	10/20/99	CJW	16.4		
Vinyl Chloride	ug/l	ND	10/20/99	CJW	0.3		
m-Xylene	ug/l	ND	10/20/99	CJW	1.3		
o + p Xylene	ug/l	ND	10/20/99	CJW	0.5		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-29

	Units	99B23209	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	ug/l	ND	10/20/99	CJW	50.0		
Acrolein	ug/l	ND	10/20/99	CJW	20.0		
Acrylonitrile	ug/l	ND	10/20/99	CJW	7.6		
Benzene	ug/l	ND	10/20/99	CJW	0.6		
Bromobenzene	ug/l	ND	10/20/99	CJW	0.5		
Bromochloromethane	ug/l	ND	10/20/99	CJW	0.7		
Bromodichloromethane	ug/l	ND	10/20/99	CJW	0.4		
Bromomethane	ug/l	ND	10/20/99	CJW	1.2		
Bromoform	ug/l	ND	10/20/99	CJW	1.2		
2-Butanone (MEK)	ug/l	ND	10/20/99	CJW	12.0		
n-Butylbenzene	ug/l	ND	10/20/99	CJW	0.7		
sec-Butylbenzene	ug/l	ND	10/20/99	CJW	0.6		
tert-Butylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Carbon Disulfide	ug/l	ND	10/20/99	CJW	3.0		
Carbon Tetrachloride	ug/l	ND	10/20/99	CJW	0.5		
Chlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
Chlorodibromomethane	ug/l	ND	10/20/99	CJW	0.5		
Chloroethane	ug/l	ND	10/20/99	CJW	0.8		
2-Chloroethylvinylether	ug/l	ND	10/20/99	CJW	9.6		
Chloroform	ug/l	ND	10/20/99	CJW	0.8		
Chloromethane	ug/l	ND	10/20/99	CJW	1.2		
2-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
4-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
1,2-Dibromo-3-Chloropropane	ug/l	ND	10/20/99	CJW	1.6		
1,2-Dibromoethane	ug/l	ND	10/20/99	CJW	0.7		
Dibromomethane	ug/l	ND	10/20/99	CJW	1.1		
1,2-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
1,3-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
1,4-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
cis-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.4		
trans-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.1		
Dichlorodifluoromethane	ug/l	ND	10/20/99	CJW	1.0		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-29

	Units	99B23209	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	ug/l	ND	10/20/99	CJW	0.7		
1,2-Dichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.6		
cis-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.8		
1,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.6		
1,3-Dichloropropane	ug/l	ND	10/20/99	CJW	0.5		
2,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloropropene	ug/l	ND	10/20/99	CJW	1.4		
cis-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.4		
Ethyl Benzene	ug/l	ND	10/20/99	CJW	0.6		
Ethyl Methacrylate	ug/l	ND	10/20/99	CJW	0.8		
Hexachlorobutadiene	ug/l	ND	10/20/99	CJW	1.3		
2-Hexanone	ug/l	ND	10/20/99	CJW	9.7		
Iodomethane	ug/l	ND	10/20/99	CJW	0.8		
Isopropylbenzene	ug/l	ND	10/20/99	CJW	0.6		
p-Isopropyltoluene	ug/l	ND	10/20/99	CJW	0.7		
MTBE	ug/l	ND	10/20/99	CJW	0.8		
Methylene Chloride	ug/l	ND	10/20/99	CJW	3.0		
MIBK	ug/l	ND	10/20/99	CJW	8.8		
Naphthalene	ug/l	ND	10/20/99	CJW	1.0		
n-Propylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Styrene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	0.5		
1,1,2,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	1.4		
Tetrachloroethylene	ug/l	ND	10/20/99	CJW	0.4		
Toluene	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,2,4-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1-Trichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1,2-Trichloroethane	ug/l	ND	10/20/99	CJW	0.7		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-29

	Units	99B23209	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	ug/l	ND	10/20/99	CJW	1.0		
Trichlorofluoromethane	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichloropropane	ug/l	ND	10/20/99	CJW	1.3		
1,2,4-Trimethylbenzene	ug/l	ND	10/20/99	CJW	0.7		
1,3,5-Trimethylbenzene	ug/l	ND	10/20/99	CJW	1.0		
Vinyl Acetate	ug/l	ND	10/20/99	CJW	16.4		
Vinyl Chloride	ug/l	ND	10/20/99	CJW	0.3		
m-Xylene	ug/l	ND	10/20/99	CJW	1.3		
o + p Xylene	ug/l	ND	10/20/99	CJW	0.5		

MDL = Method Detection Limit  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-02

	Units	99B23205	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	-----	-----	-----
Arsenic	mg/l	ND	10/21/99	PM	0.02		
Barium	mg/l	0.0424	10/21/99	PM	0.0005		
Cadmium	mg/l	ND	10/21/99	PM	0.0002		
Chromium	mg/l	0.002	10/21/99	PM	0.002		
Lead	mg/l	ND	10/21/99	PM	0.01		
Mercury	mg/l	ND	10/21/99	JER	0.00004		
Selenium	mg/l	ND	10/21/99	PM	0.02		
Silver	mg/l	ND	10/21/99	PM	0.002		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-04

	Units	99B23206	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	-----	-----	-----
Arsenic	mg/l	ND	10/21/99	PM	0.02		
Barium	mg/l	0.116	10/21/99	PM	0.0005		
Cadmium	mg/l	0.0006	10/21/99	PM	0.0002		
Chromium	mg/l	ND	10/21/99	PM	0.002		
Lead	mg/l	ND	10/21/99	PM	0.01		
Mercury	mg/l	ND	10/21/99	JER	0.00004		
Selenium	mg/l	ND	10/21/99	PM	0.02		
Silver	mg/l	ND	10/21/99	PM	0.002		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-15

	Units	99823207	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/l	ND	10/21/99	PM	0.02		
Barium	mg/l	0.0560	10/21/99	PM	0.0005		
Cadmium	mg/l	0.0003	10/21/99	PM	0.0002		
Chromium	mg/l	0.002	10/21/99	PM	0.002		
Lead	mg/l	ND	10/21/99	PM	0.01		
Mercury	mg/l	0.00043	10/21/99	JER	0.00004		
Selenium	mg/l	ND	10/21/99	PM	0.02		
Silver	mg/l	ND	10/21/99	PM	0.002		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-28

	Units	99823208	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/l	0.06	10/21/99	PM	0.02		
Barium	mg/l	0.488	10/21/99	PM	0.0005		
Cadmium	mg/l	0.0005	10/21/99	PM	0.0002		
Chromium	mg/l	0.085	10/21/99	PM	0.002		
Lead	mg/l	0.13	10/21/99	PM	0.01		
Mercury	mg/l	0.0030	10/21/99	JER	0.00004		
Selenium	mg/l	ND	10/21/99	PM	0.02		
Silver	mg/l	ND	10/21/99	PM	0.002		

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ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-29

	Units	99B23209	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Arsenic	mg/l	ND	10/21/99	PM	0.02		
Barium	mg/l	0.311	10/21/99	PM	0.0005		
Cadmium	mg/l	0.0004	10/21/99	PM	0.0002		
Chromium	mg/l	0.006	10/21/99	PM	0.002		
Lead	mg/l	0.03	10/21/99	PM	0.01		
Mercury	mg/l	0.00021	10/21/99	JER	0.00004		
Selenium	mg/l	ND	10/21/99	PM	0.02		
Silver	mg/l	ND	10/21/99	PM	0.002		

Analytical Method(s):

Arsenic  
EPA 200.7

SAMPLES ARE ANALYZED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETRY (ICP).

Barium  
EPA 200.7

SAMPLES ARE ANALYZED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETRY (ICP).

Cadmium  
EPA 200.7

SAMPLES ARE ANALYZED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETRY (ICP).

Chromium  
EPA 200.7

MDL = Method Detection Limit  
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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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SAMPLES ARE ANALYZED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETRY (ICP).

Lead  
EPA 200.7

SAMPLES ARE ANALYZED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETRY (ICP).

Mercury  
EPA 245.1

COLD VAPOR TECHNIQUE (FLAMELESS ABSORPTION AT 254 NM)

Selenium  
EPA 200.7

SAMPLES ARE ANALYZED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETRY (ICP).

Silver  
EPA 200.7

SAMPLES ARE ANALYZED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETRY (ICP).

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-02

	Units	99B23211	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Benzo(k)fluoranthene	ug/l	ND	10/27/99	BGL	1.00		
Chrysene	ug/l	ND	10/27/99	BGL	3.20		
Dibenz(a,h)anthracene	ug/l	ND	10/27/99	BGL	2.16		
Fluoranthene	ug/l	ND	10/27/99	BGL	40.0		
Fluorene	ug/l	ND	10/27/99	BGL	40.0		
Indeno(1,2,3-cd)pyrene	ug/l	ND	10/27/99	BGL	2.08		
2-Methylnaphthalene	ug/l	ND	10/27/99	BGL	40.0		
Naphthalene	ug/l	ND	10/27/99	BGL	40.0		
Phenanthrene	ug/l	ND	10/27/99	BGL	40.0		
Pyrene	ug/l	ND	10/27/99	BGL	120		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-02

	Units	99B23205	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	ug/l	ND	10/27/99	BGL	20.0		
Acenaphthylene	ug/l	ND	10/27/99	BGL	20.0		
Anthracene	ug/l	ND	10/27/99	BGL	20.0		
Benzo(a)anthracene	ug/l	ND	10/27/99	BGL	0.120		
Benzo(a)pyrene	ug/l	ND	10/27/99	BGL	0.300		
Benzo(b)fluoranthene	ug/l	ND	10/27/99	BGL	0.320		
Benzo(g,h,i)perylene	ug/l	ND	10/27/99	BGL	0.860		
Benzo(k)fluoranthene	ug/l	ND	10/27/99	BGL	0.500		
Chrysene	ug/l	ND	10/27/99	BGL	1.60		
Dibenz(a,h)anthracene	ug/l	ND	10/27/99	BGL	1.08		
Fluoranthene	ug/l	ND	10/27/99	BGL	20.0		
Fluorene	ug/l	ND	10/27/99	BGL	20.0		
Indeno(1,2,3-cd)pyrene	ug/l	ND	10/27/99	BGL	1.04		
2-Methylnaphthalene	ug/l	ND	10/27/99	BGL	20.0		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAY #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-02

	Units	99B23205	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Naphthalene	ug/l	ND	10/27/99	BGL	20.0		
Phenanthrene	ug/l	ND	10/27/99	BGL	20.0		
Pyrene	ug/l	ND	10/27/99	BGL	60.0		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-04

	Units	99B23206	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	ug/l	ND	10/27/99	BGL	20.0		
Acenaphthylene	ug/l	ND	10/27/99	BGL	20.0		
Anthracene	ug/l	ND	10/27/99	BGL	20.0		
Benzo(a)anthracene	ug/l	ND	10/27/99	BGL	0.120		
Benzo(a)pyrene	ug/l	ND	10/27/99	BGL	0.300		
Benzo(b)fluoranthene	ug/l	ND	10/27/99	BGL	0.320		
Benzo(g,h,i)perylene	ug/l	ND	10/27/99	BGL	0.860		
Benzo(k)fluoranthene	ug/l	ND	10/27/99	BGL	0.500		
Chrysene	ug/l	ND	10/27/99	BGL	1.60		
Dibenz(a,h)anthracene	ug/l	ND	10/27/99	BGL	1.08		
Fluoranthene	ug/l	ND	10/27/99	BGL	20.0		
Fluorene	ug/l	ND	10/27/99	BGL	20.0		
Indeno(1,2,3-cd)pyrene	ug/l	ND	10/27/99	BGL	1.04		
2-Methylnaphthalene	ug/l	ND	10/27/99	BGL	20.0		
Naphthalene	ug/l	ND	10/27/99	BGL	20.0		
Phenanthrene	ug/l	ND	10/27/99	BGL	20.0		
Pyrene	ug/l	ND	10/27/99	BGL	60.0		

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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-15

	Units	99B23207	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	ug/l	ND	10/27/99	BGL	20.0		
Acenaphthylene	ug/l	ND	10/27/99	BGL	20.0		
Anthracene	ug/l	ND	10/27/99	BGL	20.0		
Benzo(a)anthracene	ug/l	ND	10/27/99	BGL	0.120		
Benzo(a)pyrene	ug/l	ND	10/27/99	BGL	0.300		
Benzo(b)fluoranthene	ug/l	ND	10/27/99	BGL	0.320		
Benzo(g,h,i)perylene	ug/l	ND	10/27/99	BGL	0.860		
Benzo(k)fluoranthene	ug/l	ND	10/27/99	BGL	0.500		
Chrysene	ug/l	ND	10/27/99	BGL	1.60		
Dibenz(a,h)anthracene	ug/l	ND	10/27/99	BGL	1.08		
Fluoranthene	ug/l	ND	10/27/99	BGL	20.0		
Fluorene	ug/l	NO	10/27/99	BGL	20.0		
Indeno(1,2,3-cd)pyrene	ug/l	ND	10/27/99	BGL	1.04		
2-Methylnaphthalene	ug/l	ND	10/27/99	BGL	20.0		
Naphthalene	ug/l	ND	10/27/99	BGL	20.0		
Phenanthrene	ug/l	ND	10/27/99	BGL	20.0		
Pyrene	ug/l	ND	10/27/99	BGL	60.0		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-28

	Units	99B23208	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	ug/l	ND	10/27/99	BGL	50.0		
Acenaphthylene	ug/l	ND	10/27/99	BGL	50.0		
Anthracene	ug/l	ND	10/27/99	BGL	50.0		
Benzo(a)anthracene	ug/l	ND	10/27/99	BGL	0.300		
Benzo(a)pyrene	ug/l	ND	10/27/99	BGL	0.750		
Benzo(b)fluoranthene	ug/l	ND	10/27/99	BGL	0.800		
Benzo(g,h,i)perylene	ug/l	ND	10/27/99	BGL	2.15		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-28

	Units	99823208	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Benzo(k)fluoranthene	ug/l	ND	10/27/99	BGL	1.25		
Chrysene	ug/l	ND	10/27/99	BGL	4.00		
Dibenz(a,h)anthracene	ug/l	ND	10/27/99	BGL	2.70		
Fluoranthene	ug/l	ND	10/27/99	BGL	50.0		
Fluorene	ug/l	ND	10/27/99	BGL	50.0		
Indeno(1,2,3-cd)pyrene	ug/l	ND	10/27/99	BGL	2.60		
2-Methylnaphthalene	ug/l	ND	10/27/99	BGL	50.0		
Naphthalene	ug/l	ND	10/27/99	BGL	50.0		
Phenanthrene	ug/l	ND	10/27/99	BGL	50.0		
Pyrene	ug/l	ND	10/27/99	BGL	150		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-29

	Units	99823209	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	ug/l	ND	10/27/99	BGL	20.0		
Acenaphthylene	ug/l	ND	10/27/99	BGL	20.0		
Anthracene	ug/l	ND	10/27/99	BGL	20.0		
Benzo(a)anthracene	ug/l	ND	10/27/99	BGL	0.120		
Benzo(a)pyrene	ug/l	ND	10/27/99	BGL	0.300		
Benzo(b)fluoranthene	ug/l	ND	10/27/99	BGL	0.320		
Benzo(g,h,i)perylene	ug/l	ND	10/27/99	BGL	0.860		
Benzo(k)fluoranthene	ug/l	ND	10/27/99	BGL	0.500		
Chrysene	ug/l	ND	10/27/99	BGL	1.60		
Dibenz(a,h)anthracene	ug/l	ND	10/27/99	BGL	1.08		
Fluoranthene	ug/l	ND	10/27/99	BGL	20.0		
Fluorene	ug/l	ND	10/27/99	BGL	20.0		
Indeno(1,2,3-cd)pyrene	ug/l	ND	10/27/99	BGL	1.04		
2-Methylnaphthalene	ug/l	ND	10/27/99	BGL	20.0		

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ND = Not Detected  
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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-29

	Units	99B23209	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Naphthalene	ug/l	ND	10/27/99	BGL	20.0		
Phenanthrene	ug/l	ND	10/27/99	BGL	20.0		
Pyrene	ug/l	ND	10/27/99	BGL	60.0		

Analytical Method(s):

625/8270

SAMPLES ARE EXTRACTED INTO METHYLENE CHLORIDE, FOLLOWED BY KUDERNA-DANISH  
EVAPORATIVE CONCENTRATION AND QUANTITATED BY GC/MS TARGET COMPOUND ANALYSIS

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or  
regulatory level for comparison with data to  
determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-01

	Units	99B23210	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/l	BDL	10/21/99	LL	0.44		

Sampled: 10/16/99  
BLANK  
FB-02

	Units	99B23211	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/l	BDL	10/21/99	LL	0.43		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-02

	Units	99B23205	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/l	BDL	10/21/99	LL	0.53		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-04

	Units	99B23206	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/l	BDL	10/21/99	LL	0.41		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-15

	Units	99B23207	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/l	BDL	10/21/99	LL	0.43		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-28

	Units	99B23208	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/l	BDL	10/21/99	LL	0.42		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-29

	Units	99B23209	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/l	BDL	10/21/99	LL	0.42		

Analytical Method(s):

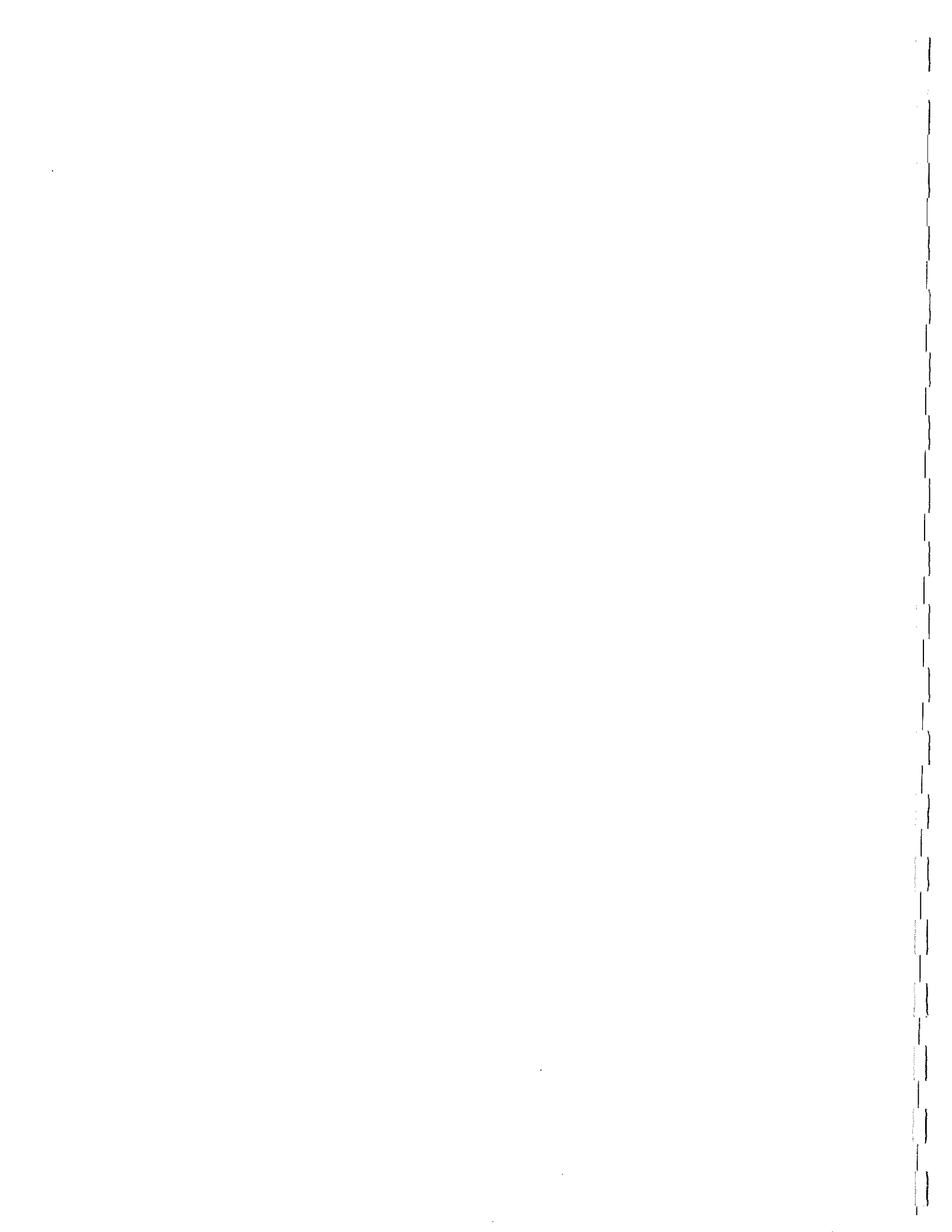
EPA 418.1

INFRA-RED DETERMINATION FOLLOWING LIQUID-LIQUID EXTRACTION OF HYDROCARBONS INTO 1,1,2-TRICHLORO- 1,2,2-TRIFLUOROETHANE (FREON 113)

IDL = Method Detection Limit  
D = Not Detected  
DL = Below Detection Limit  
M = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

**APPENDIX D**  
**QA/QC Sample**  
**Laboratory Reports**



C KNIGHT  
 CT DOT C/O LES  
 354 SOUTH RIVER ROAD  
 TOLLAND, CT 06084

Purchase Order Number: 98270

 10/28/99  
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 Project Location: NEW HAVEN- PARCEL B  
 Date Received: 10/18/99

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: WATER OTHER

Sampled: 10/16/99

 BLANK  
 FB-01

	Units	99B23210	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	ug/l	ND	10/21/99	JB	0.20		
alpha-BHC	ug/l	ND	10/21/99	JB	0.20		
beta-BHC	ug/l	ND	10/21/99	JB	0.40		
delta-BHC	ug/l	ND	10/21/99	JB	0.40		
gamma-BHC (Lindane)	ug/l	ND	10/21/99	JB	0.20		
Chlordane	ug/l	ND	10/21/99	JB	0.80		
4,4'-DDD	ug/l	ND	10/21/99	JB	0.80		
4,4'-DDE	ug/l	ND	10/21/99	JB	0.40		
4,4'-DDT	ug/l	ND	10/21/99	JB	0.20		
Dieldrin	ug/l	ND	10/21/99	JB	0.20		
Endosulfan I	ug/l	ND	10/21/99	JB	0.20		
Endosulfan II	ug/l	ND	10/21/99	JB	0.20		
Endosulfan Sulfate	ug/l	ND	10/21/99	JB	1.00		
Endrin	ug/l	ND	10/21/99	JB	0.60		
Endrin Aldehyde	ug/l	ND	10/21/99	JB	1.00		
Heptachlor	ug/l	ND	10/21/99	JB	0.20		
Heptachlor Epoxide	ug/l	ND	10/21/99	JB	0.20		
Methoxychlor	ug/l	ND	10/21/99	JB	2.20		
PCB-1221	ug/l	ND	10/21/99	JB			
PCB-1232	ug/l	ND	10/21/99	JB			
PCB-1242	ug/l	ND	10/21/99	JB			
PCB-1248	ug/l	ND	10/21/99	JB			
PCB-1254	ug/l	ND	10/21/99	JB			
PCB-1260	ug/l	ND	10/21/99	JB			
PCB's	ug/l	ND	10/21/99	JB	0.20		
Toxaphene	ug/l	ND	10/21/99	JB	0.80		

 MDL = Method Detection Limit  
 ND = Not Detected  
 BDL = Below Detection Limit  
 NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-02

	Units	99B23211	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	ug/l	ND	10/21/99	JB	0.20		
alpha-BHC	ug/l	ND	10/21/99	JB	0.20		
beta-BHC	ug/l	ND	10/21/99	JB	0.40		
delta-BHC	ug/l	ND	10/21/99	JB	0.40		
gamma-BHC (Lindane)	ug/l	ND	10/21/99	JB	0.20		
Chlordane	ug/l	ND	10/21/99	JB	0.80		
4,4'-DDD	ug/l	ND	10/21/99	JB	0.80		
4,4'-DDE	ug/l	ND	10/21/99	JB	0.40		
4,4'-DDT	ug/l	ND	10/21/99	JB	0.20		
Dieldrin	ug/l	ND	10/21/99	JB	0.20		
Endosulfan I	ug/l	ND	10/21/99	JB	0.20		
Endosulfan II	ug/l	ND	10/21/99	JB	0.20		
Endosulfan Sulfate	ug/l	ND	10/21/99	JB	1.00		
Endrin	ug/l	ND	10/21/99	JB	0.60		
Endrin Aldehyde	ug/l	ND	10/21/99	JB	1.00		
Heptachlor	ug/l	ND	10/21/99	JB	0.20		
Heptachlor Epoxide	ug/l	ND	10/21/99	JB	0.20		
Methoxychlor	ug/l	ND	10/21/99	JB	2.20		
PCB-1221	ug/l	ND	10/21/99	JB			
PCB-1232	ug/l	ND	10/21/99	JB			
PCB-1242	ug/l	ND	10/21/99	JB			
PCB-1248	ug/l	ND	10/21/99	JB			
PCB-1254	ug/l	ND	10/21/99	JB			
PCB-1260	ug/l	ND	10/21/99	JB			
PCB's	ug/l	ND	10/21/99	JB	0.20		
Toxaphene	ug/l	ND	10/21/99	JB	0.80		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-02

	Units	99B23205	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	ug/l	ND	10/21/99	JB	0.10		
alpha-BHC	ug/l	ND	10/21/99	JB	0.10		
beta-BHC	ug/l	ND	10/21/99	JB	0.20		
delta-BHC	ug/l	ND	10/21/99	JB	0.20		
gamma-BHC (Lindane)	ug/l	ND	10/21/99	JB	0.10		
Chlordane	ug/l	ND	10/21/99	JB	0.40		
4,4'-DDD	ug/l	ND	10/21/99	JB	0.40		
4,4'-DDE	ug/l	ND	10/21/99	JB	0.20		
4,4'-DDT	ug/l	ND	10/21/99	JB	0.10		
Dieldrin	ug/l	ND	10/21/99	JB	0.10		
Endosulfan I	ug/l	ND	10/21/99	JB	0.10		
Endosulfan II	ug/l	ND	10/21/99	JB	0.10		
Endosulfan Sulfate	ug/l	ND	10/21/99	JB	0.50		
Endrin	ug/l	ND	10/21/99	JB	0.30		
Endrin Aldehyde	ug/l	ND	10/21/99	JB	0.50		
Heptachlor	ug/l	ND	10/21/99	JB	0.10		
Heptachlor Epoxide	ug/l	ND	10/21/99	JB	0.10		
Methoxychlor	ug/l	ND	10/21/99	JB	1.10		
PCB-1221	ug/l	ND	10/21/99	JB			
PCB-1232	ug/l	ND	10/21/99	JB			
PCB-1242	ug/l	ND	10/21/99	JB			
PCB-1248	ug/l	ND	10/21/99	JB			
PCB-1254	ug/l	ND	10/21/99	JB			
PCB-1260	ug/l	ND	10/21/99	JB			
PCB's	ug/l	ND	10/21/99	JB		0.10	
Toxaphene	ug/l	ND	10/21/99	JB		0.40	

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ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-04

	Units	99B23206	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	ug/l	ND	10/21/99	JB	0.10		
alpha-BHC	ug/l	ND	10/21/99	JB	0.10		
beta-BHC	ug/l	ND	10/21/99	JB	0.20		
delta-BHC	ug/l	ND	10/21/99	JB	0.20		
gamma-BHC (Lindane)	ug/l	ND	10/21/99	JB	0.10		
Chlordane	ug/l	ND	10/21/99	JB	0.40		
4,4'-DDD	ug/l	ND	10/21/99	JB	0.40		
4,4'-DDE	ug/l	ND	10/21/99	JB	0.20		
4,4'-DDT	ug/l	ND	10/21/99	JB	0.10		
Dieldrin	ug/l	ND	10/21/99	JB	0.10		
Endosulfan I	ug/l	ND	10/21/99	JB	0.10		
Endosulfan II	ug/l	ND	10/21/99	JB	0.10		
Endosulfan Sulfate	ug/l	ND	10/21/99	JB	0.50		
Endrin	ug/l	ND	10/21/99	JB	0.30		
Endrin Aldehyde	ug/l	ND	10/21/99	JB	0.50		
Heptachlor	ug/l	ND	10/21/99	JB	0.10		
Heptachlor Epoxide	ug/l	ND	10/21/99	JB	0.10		
Methoxychlor	ug/l	ND	10/21/99	JB	1.10		
PCB-1221	ug/l	ND	10/21/99	JB			
PCB-1232	ug/l	ND	10/21/99	JB			
PCB-1242	ug/l	ND	10/21/99	JB			
PCB-1248	ug/l	ND	10/21/99	JB			
PCB-1254	ug/l	ND	10/21/99	JB			
PCB-1260	ug/l	ND	10/21/99	JB			
PCB's	ug/l	ND	10/21/99	JB	0.10		
Toxaphene	ug/l	ND	10/21/99	JB	0.40		

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ND = Not Detected  
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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-15

	Units	99823207	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	ug/l	ND	10/21/99	JB	0.10		
alpha-BHC	ug/l	ND	10/21/99	JB	0.10		
beta-BHC	ug/l	ND	10/21/99	JB	0.20		
delta-BHC	ug/l	ND	10/21/99	JB	0.20		
gamma-BHC (Lindane)	ug/l	ND	10/21/99	JB	0.10		
Chlordane	ug/l	ND	10/21/99	JB	0.40		
4,4'-DDD	ug/l	ND	10/21/99	JB	0.40		
4,4'-DDE	ug/l	ND	10/21/99	JB	0.20		
4,4'-DDT	ug/l	ND	10/21/99	JB	0.10		
Dieldrin	ug/l	ND	10/21/99	JB	0.10		
Endosulfan I	ug/l	ND	10/21/99	JB	0.10		
Endosulfan II	ug/l	ND	10/21/99	JB	0.10		
Endosulfan Sulfate	ug/l	ND	10/21/99	JB	0.50		
Endrin	ug/l	ND	10/21/99	JB	0.30		
Endrin Aldehyde	ug/l	ND	10/21/99	JB	0.50		
Heptachlor	ug/l	ND	10/21/99	JB	0.10		
Heptachlor Epoxide	ug/l	ND	10/21/99	JB	0.10		
Methoxychlor	ug/l	ND	10/21/99	JB	1.10		
PCB-1221	ug/l	ND	10/21/99	JB			
PCB-1232	ug/l	ND	10/21/99	JB			
PCB-1242	ug/l	ND	10/21/99	JB			
PCB-1248	ug/l	ND	10/21/99	JB			
PCB-1254	ug/l	ND	10/21/99	JB			
PCB-1260	ug/l	ND	10/21/99	JB			
PCB's	ug/l	ND	10/21/99	JB	0.10		
Toxaphene	ug/l	ND	10/21/99	JB	0.40		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-28

	Units	99B23208	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	ug/l	ND	10/21/99	JB	0.25		
alpha-BHC	ug/l	ND	10/21/99	JB	0.25		
beta-BHC	ug/l	ND	10/21/99	JB	0.50		
delta-BHC	ug/l	ND	10/21/99	JB	0.50		
gamma-BHC (Lindane)	ug/l	ND	10/21/99	JB	0.25		
Chlordane	ug/l	ND	10/21/99	JB	1.00		
4,4'-DDD	ug/l	ND	10/21/99	JB	1.00		
4,4'-DDE	ug/l	ND	10/21/99	JB	0.50		
4,4'-DDT	ug/l	ND	10/21/99	JB	0.25		
Dieldrin	ug/l	ND	10/21/99	JB	0.25		
Endosulfan I	ug/l	ND	10/21/99	JB	0.25		
Endosulfan II	ug/l	ND	10/21/99	JB	0.25		
Endosulfan Sulfate	ug/l	ND	10/21/99	JB	1.25		
Endrin	ug/l	ND	10/21/99	JB	0.75		
Endrin Aldehyde	ug/l	ND	10/21/99	JB	1.25		
Heptachlor	ug/l	ND	10/21/99	JB	0.25		
Heptachlor Epoxide	ug/l	ND	10/21/99	JB	0.25		
Methoxychlor	ug/l	ND	10/21/99	JB	2.75		
PCB-1221	ug/l	ND	10/21/99	JB			
PCB-1232	ug/l	ND	10/21/99	JB			
PCB-1242	ug/l	ND	10/21/99	JB			
PCB-1248	ug/l	ND	10/21/99	JB			
PCB-1254	ug/l	ND	10/21/99	JB			
PCB-1260	ug/l	ND	10/21/99	JB			
PCB's	ug/l	ND	10/21/99	JB	0.25		
Toxaphene	ug/l	ND	10/21/99	JB	1.00		

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ND = Not Detected  
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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-29

	Units	99823209	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Aldrin	ug/l	ND	10/21/99	JB	0.10		
alpha-BHC	ug/l	ND	10/21/99	JB	0.10		
beta-BHC	ug/l	ND	10/21/99	JB	0.20		
delta-BHC	ug/l	ND	10/21/99	JB	0.20		
gamma-BHC (Lindane)	ug/l	ND	10/21/99	JB	0.10		
Chlordane	ug/l	ND	10/21/99	JB	0.40		
4,4'-DDD	ug/l	ND	10/21/99	JB	0.40		
4,4'-DDE	ug/l	ND	10/21/99	JB	0.20		
4,4'-DDT	ug/l	ND	10/21/99	JB	0.10		
Dieldrin	ug/l	ND	10/21/99	JB	0.10		
Endosulfan I	ug/l	ND	10/21/99	JB	0.10		
Endosulfan II	ug/l	ND	10/21/99	JB	0.10		
Endosulfan Sulfate	ug/l	ND	10/21/99	JB	0.50		
Endrin	ug/l	ND	10/21/99	JB	0.30		
Endrin Aldehyde	ug/l	ND	10/21/99	JB	0.50		
Heptachlor	ug/l	ND	10/21/99	JB	0.10		
Heptachlor Epoxide	ug/l	ND	10/21/99	JB	0.10		
Methoxychlor	ug/l	ND	10/21/99	JB	1.10		
PCB-1221	ug/l	ND	10/21/99	JB			
PCB-1232	ug/l	ND	10/21/99	JB			
PCB-1242	ug/l	ND	10/21/99	JB			
PCB-1248	ug/l	ND	10/21/99	JB			
PCB-1254	ug/l	ND	10/21/99	JB			
PCB-1260	ug/l	ND	10/21/99	JB			
PCB's	ug/l	ND	10/21/99	JB	0.10		
Toxaphene	ug/l	ND	10/21/99	JB	0.40		

Analytical Method(s):

EPA 608/8080

SAMPLES ARE EXTRACTED INTO METHYLENE CHLORIDE, SOLVENT EXCHANGED WITH

MDL = Method Detection Limit

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HEXANE, CONCENTRATED BY KUDERNA-DANISH EVAPORATIVE METHODS, AND ANALYZED  
BY GAS CHROMATOGRAPHY WITH ELECTRON CAPTURE DETECTION.

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SPEC LIMIT = a client specified, recommended, or  
regulatory level for comparison with data to  
determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-D1

	Units	99B23210	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	ug/l	ND	10/20/99	CJW	50.0		
Acrolein	ug/l	ND	10/20/99	CJW	20.0		
Acrylonitrile	ug/l	ND	10/20/99	CJW	7.6		
Benzene	ug/l	ND	10/20/99	CJW	0.6		
Bromobenzene	ug/l	ND	10/20/99	CJW	0.5		
Bromochloromethane	ug/l	ND	10/20/99	CJW	0.7		
Bromodichloromethane	ug/l	ND	10/20/99	CJW	0.4		
Bromomethane	ug/l	ND	10/20/99	CJW	1.2		
Bromoförm	ug/l	ND	10/20/99	CJW	1.2		
2-Butanone (MEK)	ug/l	ND	10/20/99	CJW	12.0		
n-Butylbenzene	ug/l	ND	10/20/99	CJW	0.7		
sec-Butylbenzene	ug/l	ND	10/20/99	CJW	0.6		
tert-Butylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Carbon Disulfide	ug/l	ND	10/20/99	CJW	3.0		
Carbon Tetrachloride	ug/l	ND	10/20/99	CJW	0.5		
Chlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
Chlorodibromomethane	ug/l	ND	10/20/99	CJW	0.5		
Chloroethane	ug/l	ND	10/20/99	CJW	0.8		
2-Chloroethylvinylether	ug/l	ND	10/20/99	CJW	9.6		
Chloroform	ug/l	ND	10/20/99	CJW	0.8		
Chloromethane	ug/l	ND	10/20/99	CJW	1.2		
2-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
4-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
1,2-Dibromo-3-Chloropropane	ug/l	ND	10/20/99	CJW	1.6		
1,2-Dibromoethane	ug/l	ND	10/20/99	CJW	0.7		
Dibromomethane	ug/l	ND	10/20/99	CJW	1.1		
1,2-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
1,3-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
1,4-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
cis-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.4		
trans-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.1		
Dichlorodifluoromethane	ug/l	ND	10/20/99	CJW	1.0		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-01

	Units	99823210	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	ug/l	ND	10/20/99	CJW	0.7		
1,2-Dichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.6		
cis-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.8		
1,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.6		
1,3-Dichloropropane	ug/l	ND	10/20/99	CJW	0.5		
2,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloropropene	ug/l	ND	10/20/99	CJW	1.4		
cis-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.4		
Ethyl Benzene	ug/l	ND	10/20/99	CJW	0.6		
Ethyl Methacrylate	ug/l	ND	10/20/99	CJW	0.8		
Hexachlorobutadiene	ug/l	ND	10/20/99	CJW	1.3		
2-Hexanone	ug/l	ND	10/20/99	CJW	9.7		
Iodomethane	ug/l	ND	10/20/99	CJW	0.8		
Isopropylbenzene	ug/l	ND	10/20/99	CJW	0.6		
p-Isopropyltoluene	ug/l	ND	10/20/99	CJW	0.7		
MTBE	ug/l	1.4	10/20/99	CJW	0.8		
Methylene Chloride	ug/l	ND	10/20/99	CJW	3.0		
MIBK	ug/l	ND	10/20/99	CJW	8.8		
Naphthalene	ug/l	ND	10/20/99	CJW	1.0		
n-Propylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Styrene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	0.5		
1,1,2,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	1.4		
Tetrachloroethylene	ug/l	ND	10/20/99	CJW	0.4		
Toluene	ug/l	1.2	10/20/99	CJW	0.7		
1,2,3-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,2,4-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1-Trichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1,2-Trichloroethane	ug/l	ND	10/20/99	CJW	0.7		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-01

	Units	99B23210	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	ug/l	ND	10/20/99	CJW	1.0		
Trichlorofluoromethane	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichloropropane	ug/l	ND	10/20/99	CJW	1.3		
1,2,4-Trimethylbenzene	ug/l	ND	10/20/99	CJW	0.7		
1,3,5-Trimethylbenzene	ug/l	ND	10/20/99	CJW	1.0		
Vinyl Acetate	ug/l	ND	10/20/99	CJW	16.4		
Vinyl Chloride	ug/l	ND	10/20/99	CJW	0.3		
m-Xylene	ug/l	ND	10/20/99	CJW	1.3		
o + p Xylene	ug/l	ND	10/20/99	CJW	0.5		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-02

	Units	99823211	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	ug/l	ND	10/20/99	CJW	50.0		
Acrolein	ug/l	ND	10/20/99	CJW	20.0		
Acrylonitrile	ug/l	ND	10/20/99	CJW	7.6		
Benzene	ug/l	ND	10/20/99	CJW	0.6		
Bromobenzene	ug/l	ND	10/20/99	CJW	0.5		
Bromochloromethane	ug/l	ND	10/20/99	CJW	0.7		
Bromodichloromethane	ug/l	ND	10/20/99	CJW	0.4		
Bromomethane	ug/l	ND	10/20/99	CJW	1.2		
Bromoform	ug/l	ND	10/20/99	CJW	1.2		
2-Butanone (MEK)	ug/l	ND	10/20/99	CJW	12.0		
n-Butylbenzene	ug/l	ND	10/20/99	CJW	0.7		
sec-Butylbenzene	ug/l	ND	10/20/99	CJW	0.6		
tert-Butylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Carbon Disulfide	ug/l	ND	10/20/99	CJW	3.0		
Carbon Tetrachloride	ug/l	ND	10/20/99	CJW	0.5		
Chlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
Chlorodibromomethane	ug/l	ND	10/20/99	CJW	0.5		
Chloroethane	ug/l	ND	10/20/99	CJW	0.8		
2-Chloroethylvinylether	ug/l	ND	10/20/99	CJW	9.6		
Chloroform	ug/l	ND	10/20/99	CJW	0.8		
Chloromethane	ug/l	ND	10/20/99	CJW	1.2		
2-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
4-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
1,2-Dibromo-3-Chloropropane	ug/l	ND	10/20/99	CJW	1.6		
1,2-Dibromoethane	ug/l	ND	10/20/99	CJW	0.7		
Dibromomethane	ug/l	ND	10/20/99	CJW	1.1		
1,2-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
1,3-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
1,4-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
cis-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.4		
trans-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.1		
Dichlorodifluoromethane	ug/l	ND	10/20/99	CJW	1.0		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-02

	Units	99B23211	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	ug/l	ND	10/20/99	CJW	0.7		
1,2-Dichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.6		
cis-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.8		
1,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.6		
1,3-Dichloropropane	ug/l	ND	10/20/99	CJW	0.5		
2,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloropropene	ug/l	ND	10/20/99	CJW	1.4		
cis-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.4		
Ethyl Benzene	ug/l	ND	10/20/99	CJW	0.6		
Ethyl Methacrylate	ug/l	ND	10/20/99	CJW	0.8		
Hexachlorobutadiene	ug/l	ND	10/20/99	CJW	1.3		
2-Hexanone	ug/l	ND	10/20/99	CJW	9.7		
Iodomethane	ug/l	ND	10/20/99	CJW	0.8		
Isopropylbenzene	ug/l	ND	10/20/99	CJW	0.6		
p-Isopropyltoluene	ug/l	ND	10/20/99	CJW	0.7		
MTBE	ug/l	ND	10/20/99	CJW	0.8		
Methylene Chloride	ug/l	ND	10/20/99	CJW	3.0		
MIBK	ug/l	ND	10/20/99	CJW	8.8		
Naphthalene	ug/l	ND	10/20/99	CJW	1.0		
n-Propylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Styrene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	0.5		
1,1,2,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	1.4		
Tetrachloroethylene	ug/l	ND	10/20/99	CJW	0.4		
Toluene	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,2,4-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1-Trichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1,2-Trichloroethane	ug/l	ND	10/20/99	CJW	0.7		

MDL = Method Detection Limit  
ND = Not Detected  
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NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: WATER OTHER

 Sampled: 10/16/99  
 BLANK  
 FB-02

	Units	99823211	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	ug/l	ND	10/20/99	CJW	1.0		
Trichlorofluoromethane	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichloropropane	ug/l	ND	10/20/99	CJW	1.3		
1,2,4-Trimethylbenzene	ug/l	ND	10/20/99	CJW	0.7		
1,3,5-Trimethylbenzene	ug/l	ND	10/20/99	CJW	1.0		
Vinyl Acetate	ug/l	ND	10/20/99	CJW	16.4		
Vinyl Chloride	ug/l	ND	10/20/99	CJW	0.3		
m-Xylene	ug/l	ND	10/20/99	CJW	1.3		
o + p Xylene	ug/l	ND	10/20/99	CJW	0.5		

 MDL = Method Detection Limit  
 ND = Not Detected  
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 NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
TB-01

	Units	99B23212	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	ug/l	ND	10/20/99	CJW	50.0		
Acrolein	ug/l	ND	10/20/99	CJW	20.0		
Acrylonitrile	ug/l	ND	10/20/99	CJW	7.6		
Benzene	ug/l	ND	10/20/99	CJW	0.6		
Bromobenzene	ug/l	ND	10/20/99	CJW	0.5		
Bromochloromethane	ug/l	ND	10/20/99	CJW	0.7		
Bromodichloromethane	ug/l	ND	10/20/99	CJW	0.4		
Bromomethane	ug/l	ND	10/20/99	CJW	1.2		
Bromoform	ug/l	ND	10/20/99	CJW	1.2		
2-Butanone (MEK)	ug/l	ND	10/20/99	CJW	12.0		
n-Butylbenzene	ug/l	ND	10/20/99	CJW	0.7		
sec-Butylbenzene	ug/l	ND	10/20/99	CJW	0.6		
tert-Butylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Carbon Disulfide	ug/l	ND	10/20/99	CJW	3.0		
Carbon Tetrachloride	ug/l	ND	10/20/99	CJW	0.5		
Chlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
Chlorodibromomethane	ug/l	ND	10/20/99	CJW	0.5		
Chloroethane	ug/l	ND	10/20/99	CJW	0.8		
2-Chloroethylvinylether	ug/l	ND	10/20/99	CJW	9.6		
Chloroform	ug/l	ND	10/20/99	CJW	0.8		
Chloromethane	ug/l	ND	10/20/99	CJW	1.2		
2-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
4-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
1,2-Dibromo-3-Chloropropane	ug/l	ND	10/20/99	CJW	1.6		
1,2-Dibromoethane	ug/l	ND	10/20/99	CJW	0.7		
Dibromomethane	ug/l	ND	10/20/99	CJW	1.1		
1,2-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
1,3-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
1,4-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
cis-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.4		
trans-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.1		
Dichlorodifluoromethane	ug/l	ND	10/20/99	CJW	1.0		

MDL = Method Detection Limit  
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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
TB-01

	Units	99B23212	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	ug/l	ND	10/20/99	CJW	0.7		
1,2-Dichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.6		
cis-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.8		
1,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.6		
1,3-Dichloropropane	ug/l	ND	10/20/99	CJW	0.5		
2,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloropropene	ug/l	ND	10/20/99	CJW	1.4		
cis-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.4		
Ethyl Benzene	ug/l	ND	10/20/99	CJW	0.6		
Ethyl Methacrylate	ug/l	ND	10/20/99	CJW	0.8		
Hexachlorobutadiene	ug/l	ND	10/20/99	CJW	1.3		
2-Hexanone	ug/l	ND	10/20/99	CJW	9.7		
Iodomethane	ug/l	ND	10/20/99	CJW	0.8		
Isopropylbenzene	ug/l	ND	10/20/99	CJW	0.6		
p-Isopropyltoluene	ug/l	ND	10/20/99	CJW	0.7		
MTBE	ug/l	ND	10/20/99	CJW	0.8		
Methylene Chloride	ug/l	6.0	10/20/99	CJW	3.0		
MIBK	ug/l	ND	10/20/99	CJW	8.8		
Naphthalene	ug/l	ND	10/20/99	CJW	1.0		
n-Propylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Styrene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	0.5		
1,1,2,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	1.4		
Tetrachloroethylene	ug/l	ND	10/20/99	CJW	0.4		
Toluene	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,2,4-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1-Trichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1,2-Trichloroethane	ug/l	ND	10/20/99	CJW	0.7		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
TB-01

	Units	99823212	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	ug/l	ND	10/20/99	CJW	1.0		
Trichlorofluoromethane	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichloropropane	ug/l	ND	10/20/99	CJW	1.3		
1,2,4-Trimethylbenzene	ug/l	ND	10/20/99	CJW	0.7		
1,3,5-Trimethylbenzene	ug/l	ND	10/20/99	CJW	1.0		
Vinyl Acetate	ug/l	ND	10/20/99	CJW	16.4		
Vinyl Chloride	ug/l	ND	10/20/99	CJW	0.3		
m-Xylene	ug/l	ND	10/20/99	CJW	1.3		
o + p Xylene	ug/l	ND	10/20/99	CJW	0.5		

MDL = Method Detection Limit  
ND = Not Detected  
BDL = Below Detection Limit  
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

 LIMS-BAT #: LIMS-44773  
 Job Number: 301-49  
 Sample Matrix: WATER OTHER

 Sampled: 10/16/99  
 BLANK  
 T8-02

	Units	99823213	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acetone	ug/l	ND	10/20/99	CJW	50.0		
Acrolein	ug/l	ND	10/20/99	CJW	20.0		
Acrylonitrile	ug/l	ND	10/20/99	CJW	7.6		
Benzene	ug/l	ND	10/20/99	CJW	0.6		
Bromobenzene	ug/l	ND	10/20/99	CJW	0.5		
Bromochloromethane	ug/l	ND	10/20/99	CJW	0.7		
Bromodichloromethane	ug/l	ND	10/20/99	CJW	0.4		
Bromomethane	ug/l	ND	10/20/99	CJW	1.2		
Bromoform	ug/l	ND	10/20/99	CJW	1.2		
2-Butanone (MEK)	ug/l	ND	10/20/99	CJW	12.0		
n-Butylbenzene	ug/l	ND	10/20/99	CJW	0.7		
sec-Butylbenzene	ug/l	ND	10/20/99	CJW	0.6		
tert-Butylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Carbon Disulfide	ug/l	ND	10/20/99	CJW	3.0		
Carbon Tetrachloride	ug/l	ND	10/20/99	CJW	0.5		
Chlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
Chlorodibromomethane	ug/l	ND	10/20/99	CJW	0.5		
Chloroethane	ug/l	ND	10/20/99	CJW	0.8		
2-Chloroethylvinylether	ug/l	ND	10/20/99	CJW	9.6		
Chloroform	ug/l	ND	10/20/99	CJW	0.8		
Chloromethane	ug/l	ND	10/20/99	CJW	1.2		
2-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
4-Chlorotoluene	ug/l	ND	10/20/99	CJW	0.6		
1,2-Dibromo-3-Chloropropane	ug/l	ND	10/20/99	CJW	1.6		
1,2-Dibromoethane	ug/l	ND	10/20/99	CJW	0.7		
Dibromomethane	ug/l	ND	10/20/99	CJW	1.1		
1,2-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
1,3-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.6		
1,4-Dichlorobenzene	ug/l	ND	10/20/99	CJW	0.8		
cis-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.4		
trans-1,4-Dichloro-2-Butene	ug/l	ND	10/20/99	CJW	2.1		
Dichlorodifluoromethane	ug/l	ND	10/20/99	CJW	1.0		

 MDL = Method Detection Limit  
 ND = Not Detected  
 BDL = Below Detection Limit  
 NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.



Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
TB-02

	Units	99823213	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
1,1-Dichloroethane	ug/l	ND	10/20/99	CJW	0.7		
1,2-Dichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.6		
cis-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,2-Dichloroethylene	ug/l	ND	10/20/99	CJW	0.8		
1,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.6		
1,3-Dichloropropane	ug/l	ND	10/20/99	CJW	0.5		
2,2-Dichloropropane	ug/l	ND	10/20/99	CJW	0.9		
1,1-Dichloropropene	ug/l	ND	10/20/99	CJW	1.4		
cis-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.5		
trans-1,3-Dichloropropene	ug/l	ND	10/20/99	CJW	0.4		
Ethyl Benzene	ug/l	ND	10/20/99	CJW	0.6		
Ethyl Methacrylate	ug/l	ND	10/20/99	CJW	0.8		
Hexachlorobutadiene	ug/l	ND	10/20/99	CJW	1.3		
2-Hexanone	ug/l	ND	10/20/99	CJW	9.7		
Iodomethane	ug/l	ND	10/20/99	CJW	0.8		
Isopropylbenzene	ug/l	ND	10/20/99	CJW	0.6		
p-Isopropyltoluene	ug/l	ND	10/20/99	CJW	0.7		
MTBE	ug/l	ND	10/20/99	CJW	0.8		
Methylene Chloride	ug/l	6.1	10/20/99	CJW	3.0		
MIBK	ug/l	ND	10/20/99	CJW	8.8		
Naphthalene	ug/l	ND	10/20/99	CJW	1.0		
n-Propylbenzene	ug/l	ND	10/20/99	CJW	0.8		
Styrene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	0.5		
1,1,2,2-Tetrachloroethane	ug/l	ND	10/20/99	CJW	1.4		
Tetrachloroethylene	ug/l	ND	10/20/99	CJW	0.4		
Toluene	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,2,4-Trichlorobenzene	ug/l	ND	10/20/99	CJW	0.7		
1,1,1-Trichloroethane	ug/l	ND	10/20/99	CJW	0.9		
1,1,2-Trichloroethane	ug/l	ND	10/20/99	CJW	0.7		

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SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
TB-02

	Units	99B23213	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Trichloroethylene	ug/l	ND	10/20/99	CJW	1.0		
Trichlorofluoromethane	ug/l	ND	10/20/99	CJW	0.7		
1,2,3-Trichloropropane	ug/l	ND	10/20/99	CJW	1.3		
1,2,4-Trimethylbenzene	ug/l	ND	10/20/99	CJW	0.7		
1,3,5-Trimethylbenzene	ug/l	ND	10/20/99	CJW	1.0		
Vinyl Acetate	ug/l	ND	10/20/99	CJW	16.4		
Vinyl Chloride	ug/l	ND	10/20/99	CJW	0.3		
m-Xylene	ug/l	ND	10/20/99	CJW	1.3		
o + p Xylene	ug/l	ND	10/20/99	CJW	0.5		

Analytical Method(s):

SW846 8260

SAMPLES ARE CONCENTRATED BY PURGE & TRAP, FOLLOWED BY GC/MS TARGET COMPOUND ANALYSIS.

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-01

	Units	99823210	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/l	ND	10/21/99	PM	0.02		
Barium	mg/l	ND	10/21/99	PM	0.0005		
Cadmium	mg/l	ND	10/21/99	PM	0.0002		
Chromium	mg/l	ND	10/21/99	PM	0.002		
Lead	mg/l	ND	10/21/99	PM	0.01		
Mercury	mg/l	ND	10/21/99	JER	0.00004		
Selenium	mg/l	ND	10/21/99	PM	0.02		
Silver	mg/l	ND	10/21/99	PM	0.002		

Sampled: 10/16/99  
BLANK  
FB-02

	Units	99823211	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
-----	-----	-----	-----	-----	---	-----	---
Arsenic	mg/l	ND	10/21/99	PM	0.02		
Barium	mg/l	ND	10/21/99	PM	0.0005		
Cadmium	mg/l	ND	10/21/99	PM	0.0002		
Chromium	mg/l	ND	10/21/99	PM	0.002		
Lead	mg/l	ND	10/21/99	PM	0.01		
Mercury	mg/l	ND	10/21/99	JER	0.00004		
Selenium	mg/l	ND	10/21/99	PM	0.02		
Silver	mg/l	ND	10/21/99	PM	0.002		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-01

	Units	99823210	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	ug/l	ND	10/27/99	BGL	40.0		
Acenaphthylene	ug/l	ND	10/27/99	BGL	40.0		
Anthracene	ug/l	ND	10/27/99	BGL	40.0		
Benzo(a)anthracene	ug/l	ND	10/27/99	BGL	0.240		
Benzo(a)pyrene	ug/l	ND	10/27/99	BGL	0.600		
Benzo(b)fluoranthene	ug/l	ND	10/27/99	BGL	0.640		
Benzo(g,h,i)perylene	ug/l	ND	10/27/99	BGL	1.72		
Benzo(k)fluoranthene	ug/l	ND	10/27/99	BGL	1.00		
Chrysene	ug/l	ND	10/27/99	BGL	3.20		
Dibenz(a,h)anthracene	ug/l	ND	10/27/99	BGL	2.16		
Fluoranthene	ug/l	ND	10/27/99	BGL	40.0		
Fluorene	ug/l	ND	10/27/99	BGL	40.0		
Indeno(1,2,3-cd)pyrene	ug/l	ND	10/27/99	BGL	2.08		
2-Methylnaphthalene	ug/l	ND	10/27/99	BGL	40.0		
Naphthalene	ug/l	ND	10/27/99	BGL	40.0		
Phenanthrene	ug/l	ND	10/27/99	BGL	40.0		
Pyrene	ug/l	ND	10/27/99	BGL	120		

Sampled: 10/16/99  
BLANK  
FB-02

	Units	99823211	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	ug/l	ND	10/27/99	BGL	40.0		
Acenaphthylene	ug/l	ND	10/27/99	BGL	40.0		
Anthracene	ug/l	ND	10/27/99	BGL	40.0		
Benzo(a)anthracene	ug/l	ND	10/27/99	BGL	0.240		
Benzo(a)pyrene	ug/l	ND	10/27/99	BGL	0.600		
Benzo(b)fluoranthene	ug/l	ND	10/27/99	BGL	0.640		
Benzo(g,h,i)perylene	ug/l	ND	10/27/99	BGL	1.72		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-02

	Units	99B23211	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Benzo(k)fluoranthene	ug/l	ND	10/27/99	BGL	1.00		
Chrysene	ug/l	ND	10/27/99	BGL	3.20		
Dibenz(a,h)anthracene	ug/l	ND	10/27/99	BGL	2.16		
Fluoranthene	ug/l	ND	10/27/99	BGL	40.0		
Fluorene	ug/l	ND	10/27/99	BGL	40.0		
Indeno(1,2,3-cd)pyrene	ug/l	ND	10/27/99	BGL	2.08		
2-Methylnaphthalene	ug/l	ND	10/27/99	BGL	40.0		
Naphthalene	ug/l	ND	10/27/99	BGL	40.0		
Phenanthrene	ug/l	ND	10/27/99	BGL	40.0		
Pyrene	ug/l	ND	10/27/99	BGL	120		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-02

	Units	99B23205	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Acenaphthene	ug/l	ND	10/27/99	BGL	20.0		
Acenaphthylene	ug/l	ND	10/27/99	BGL	20.0		
Anthracene	ug/l	ND	10/27/99	BGL	20.0		
Benzo(a)anthracene	ug/l	ND	10/27/99	BGL	0.120		
Benzo(a)pyrene	ug/l	ND	10/27/99	BGL	0.300		
Benzo(b)fluoranthene	ug/l	ND	10/27/99	BGL	0.320		
Benzo(g,h,i)perylene	ug/l	ND	10/27/99	BGL	0.860		
Benzo(k)fluoranthene	ug/l	ND	10/27/99	BGL	0.500		
Chrysene	ug/l	ND	10/27/99	BGL	1.60		
Dibenz(a,h)anthracene	ug/l	ND	10/27/99	BGL	1.08		
Fluoranthene	ug/l	ND	10/27/99	BGL	20.0		
Fluorene	ug/l	ND	10/27/99	BGL	20.0		
Indeno(1,2,3-cd)pyrene	ug/l	ND	10/27/99	BGL	1.04		
2-Methylnaphthalene	ug/l	ND	10/27/99	BGL	20.0		

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Purchase Order Number: 98270

LIMS-BAT #: LIMS-44773  
Job Number: 301-49  
Sample Matrix: WATER OTHER

Sampled: 10/16/99  
BLANK  
FB-01

	Units	99B23210	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/l	BDL	10/21/99	LL	0.43		

Sampled: 10/16/99  
BLANK  
FB-02

	Units	99B23211	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/l	BDL	10/21/99	LL	0.43		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-02

	Units	99B23205	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/l	BDL	10/21/99	LL	0.53		

Sampled: 10/16/99  
GROUND WATER GRAB  
GP-04

	Units	99B23206	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
Total Petroleum Hydrocarbons	mg/l	BDL	10/21/99	LL	0.41		

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QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
Standard Reference Materials and Duplicates  
Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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QC Batch Number: GC/ECD-2705

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99823173	Dibutyl Chloroendate	Surrogate Recovery	155.5	%	
99823174	Dibutyl Chloroendate	Surrogate Recovery	111.0	%	
99823175	Dibutyl Chloroendate	Surrogate Recovery	111.0	%	
99823176	Dibutyl Chloroendate	Surrogate Recovery	150.0	%	
99823177	alpha-BHC	Sample Amount	<0.025	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.107	mg/kg	
		Matrix Spike % Rec.	106.900	%	
		Duplicate Sample Amt	<0.025	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.110	mg/kg	
		MSD % Recovery	109.850	%	
		MSD Range	2.950	units	
	delta-BHC	Sample Amount	<0.050	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.090	mg/kg	
		Matrix Spike % Rec.	89.950	%	
		Duplicate Sample Amt	<0.050	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.085	mg/kg	
		MSD % Recovery	85.350	%	
		MSD Range	4.600	units	
	beta-BHC	Sample Amount	<0.050	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.125	mg/kg	
		Matrix Spike % Rec.	124.850	%	
		Duplicate Sample Amt	<0.050	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.120	mg/kg	
		MSD % Recovery	120.450	%	
		MSD Range	4.400	units	
	gamma-BHC (Lindane)	Sample Amount	<0.025	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.109	mg/kg	
		Matrix Spike % Rec.	109.300	%	
		Duplicate Sample Amt	<0.025	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.106	mg/kg	

QC SUMMARY REPORT

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 Standard Reference Materials and Duplicates  
 Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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QC Batch Number: GC/ECD-2705

Sample Id	Analysis	QC Analysis	Values	Units	Limits
		MSD % Recovery	106.000	%	
		MSD Range	3.300	units	
	Heptachlor	Sample Amount	<0.025	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.120	mg/kg	
		Matrix Spike % Rec.	119.950	%	
		Duplicate Sample Amt	<0.025	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.116	mg/kg	
		MSD % Recovery	115.600	%	
		MSD Range	4.350	units	
	Aldrin	Sample Amount	<0.025	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.122	mg/kg	
		Matrix Spike % Rec.	122.300	%	
		Duplicate Sample Amt	<0.025	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.106	mg/kg	
		MSD % Recovery	106.400	%	
		MSD Range	15.900	units	
	Heptachlor Epoxide	Sample Amount	<0.025	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.135	mg/kg	
		Matrix Spike % Rec.	134.650	%	
		Duplicate Sample Amt	<0.025	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.131	mg/kg	
		MSD % Recovery	131.450	%	
		MSD Range	3.200	units	
	Endosulfan I	Sample Amount	<0.025	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.099	mg/kg	
		Matrix Spike % Rec.	98.700	%	
		Duplicate Sample Amt	<0.025	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.096	mg/kg	
		MSD % Recovery	95.700	%	
		MSD Range	3.000	units	
	4,4'-DDE	Sample Amount	<0.050	mg/kg	



QC SUMMARY REPORT

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Lims Bat #: LIMS-44773

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QC Batch Number: GC/ECD-2705

Sample Id	Analysis	QC Analysis	Values	Units	Limits
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.152	mg/kg	
		Matrix Spike % Rec.	152.450	%	
		Duplicate Sample Amt	<0.050	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.144	mg/kg	
		MSD % Recovery	143.800	%	
		MSD Range	8.650	units	
	Dieldrin	Sample Amount	<0.025	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.119	mg/kg	
		Matrix Spike % Rec.	119.150	%	
		Duplicate Sample Amt	<0.025	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.117	mg/kg	
		MSD % Recovery	116.600	%	
		MSD Range	2.550	units	
	Endrin	Sample Amount	<0.075	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.158	mg/kg	
		Matrix Spike % Rec.	158.250	%	
		Duplicate Sample Amt	<0.075	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.162	mg/kg	
		MSD % Recovery	162.200	%	
		MSD Range	3.950	units	
	4,4'-DDD	Sample Amount	<0.100	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.173	mg/kg	
		Matrix Spike % Rec.	173.000	%	
		Duplicate Sample Amt	<0.100	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.172	mg/kg	
		MSD % Recovery	172.000	%	
		MSD Range	1.000	units	
	Endosulfan II	Sample Amount	<0.075	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.110	mg/kg	
		Matrix Spike % Rec.	110.450	%	

QC SUMMARY REPORT

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Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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QC Batch Number: GC/ECD-2705

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
		Duplicate Sample Amt	<0.075	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.104	mg/kg	
		MSD % Recovery	103.650	%	
		MSD Range	6.800	units	
	Endrin Aldehyde	Sample Amount	<0.125	mg/kg	
		Matrix Spk Amt Added	0.100	mg/kg	
		MS Amt Measured	0.159	mg/kg	
		Matrix Spike % Rec.	159.300	%	
		Duplicate Sample Amt	<0.125	mg/kg	
		MSD Amount Added	0.100	mg/kg	
		MSD Amt Measured	0.152	mg/kg	
		MSD % Recovery	152.000	%	
		MSD Range	7.300	units	
	Methoxychlor	Sample Amount	<0.275	mg/kg	
		Matrix Spk Amt Added	0.500	mg/kg	
		MS Amt Measured	0.735	mg/kg	
		Matrix Spike % Rec.	147.000	%	
		Duplicate Sample Amt	<0.275	mg/kg	
		MSD Amount Added	0.500	mg/kg	
		MSD Amt Measured	0.640	mg/kg	
		MSD % Recovery	128.000	%	
		MSD Range	19.000	units	
	Dibutyl Chloroendate	Surrogate Recovery	110.5	%	
99B23178	Chlordane	Sample Amount	<0.100	mg/kg	
		Duplicate Value	<0.100	mg/kg	
	PCB-1232	Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
	PCB-1242	Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
	PCB-1254	Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
	PCB-1260	Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
	PCB-1248	Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
	PCB-1221	Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
	alpha-BHC	Sample Amount	<0.025	mg/kg	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
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QC Batch Number: GC/ECD-2705

Sample Id	Analysis	QC Analysis	Values	Units	Limits
		Duplicate Value	<0.025	mg/kg	
	delta-BHC	Sample Amount	<0.050	mg/kg	
		Duplicate Value	<0.050	mg/kg	
	beta-BHC	Sample Amount	<0.050	mg/kg	
		Duplicate Value	<0.050	mg/kg	
	gamma-BHC (Lindane)	Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
	Heptachlor	Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
	Aldrin	Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
	Heptachlor Epoxide	Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
	Endosulfan I	Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
	4,4'-DDE	Sample Amount	<0.050	mg/kg	
		Duplicate Value	<0.050	mg/kg	
	Dieldrin	Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
	Endrin	Sample Amount	<0.075	mg/kg	
		Duplicate Value	<0.075	mg/kg	
	4,4'-DDD	Sample Amount	<0.100	mg/kg	
		Duplicate Value	<0.100	mg/kg	
	Endosulfan II	Sample Amount	<0.075	mg/kg	
		Duplicate Value	<0.075	mg/kg	
	4,4'-DDT	Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
	Endrin Aldehyde	Sample Amount	<0.125	mg/kg	
		Duplicate Value	<0.125	mg/kg	
	Endosulfan Sulfate	Sample Amount	<0.125	mg/kg	
		Duplicate Value	<0.125	mg/kg	
	Methoxychlor	Sample Amount	<0.275	mg/kg	
		Duplicate Value	<0.275	mg/kg	
	Toxaphene	Sample Amount	<0.100	mg/kg	
		Duplicate Value	<0.100	mg/kg	
	PCB's	Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
	Dibutyl Chlorendate	Surrogate Recovery	125.0	%	
99B23179	Chlordane	Sample Amount	<0.100	mg/kg	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
Standard Reference Materials and Duplicates  
Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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QC Batch Number: GC/ECD-2705

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
		Duplicate Value	<0.100	mg/kg	
PCB-1232		Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
PCB-1242		Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
PCB-1254		Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
PCB-1260		Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
PCB-1248		Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
PCB-1221		Sample Amount	0.000	mg/kg	
		Duplicate Value	0.000	mg/kg	
alpha-BHC		Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
delta-BHC		Sample Amount	<0.050	mg/kg	
		Duplicate Value	<0.050	mg/kg	
beta-BHC		Sample Amount	<0.050	mg/kg	
		Duplicate Value	<0.050	mg/kg	
gamma-BHC (Lindane)		Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
Heptachlor		Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
Aldrin		Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
Heptachlor Epoxide		Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
Endosulfan I		Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
4,4'-DDE		Sample Amount	<0.050	mg/kg	
		Duplicate Value	<0.050	mg/kg	
Dieldrin		Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
Endrin		Sample Amount	<0.075	mg/kg	
		Duplicate Value	<0.075	mg/kg	
4,4'-DDD		Sample Amount	<0.100	mg/kg	
		Duplicate Value	<0.100	mg/kg	
Endosulfan II		Sample Amount	<0.075	mg/kg	
		Duplicate Value	<0.075	mg/kg	

SAMPLE QC: Sample Results with Duplicates  
 Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
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QC Batch Number: GC/ECD-2705

Sample Id	Analysis	QC Analysis	Values	Units	Limits
	4,4'-DDT	Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
	Endrin Aldehyde	Sample Amount	<0.125	mg/kg	
		Duplicate Value	<0.125	mg/kg	
	Endosulfan Sulfate	Sample Amount	<0.125	mg/kg	
		Duplicate Value	<0.125	mg/kg	
	Methoxychlor	Sample Amount	<0.275	mg/kg	
		Duplicate Value	<0.275	mg/kg	
	Toxaphene	Sample Amount	<0.100	mg/kg	
		Duplicate Value	<0.100	mg/kg	
	PCB's	Sample Amount	<0.025	mg/kg	
		Duplicate Value	<0.025	mg/kg	
99B23180	Dibutyl Chlorendate	Surrogate Recovery	143.5	%	
99B23181	Dibutyl Chlorendate	Surrogate Recovery	145.0	%	
99B23182	Dibutyl Chlorendate	Surrogate Recovery	126.0	%	
	PCB-1242	Sample Amount	0.000	mg/kg	
		Matrix Spk Amt Added	28.492	mg/kg	
		MS Amt Measured	19.497	mg/kg	
		Matrix Spike % Rec.	68.431	%	
		Duplicate Sample Amt	0.000	mg/kg	
		MSD Amount Added	28.498	mg/kg	
		MSD Amt Measured	20.317	mg/kg	
		MSD % Recovery	71.293	%	
		MSD Range	2.862	units	
99B23183	Dibutyl Chlorendate	Surrogate Recovery	77.5	%	
99B23184	Dibutyl Chlorendate	Surrogate Recovery	81.5	%	
99B23185	Dibutyl Chlorendate	Surrogate Recovery	85.5	%	
99B23186	Dibutyl Chlorendate	Surrogate Recovery	105.0	%	
99B23187	Dibutyl Chlorendate	Surrogate Recovery	79.5	%	
99B23188	Dibutyl Chlorendate	Surrogate Recovery	110.0	%	
BLANK-21808	Chlordane	Blank	<0.100	mg/kg	
	PCB-1232	Blank	0.000	mg/kg	
	PCB-1242	Blank	0.000	mg/kg	
	PCB-1254	Blank	0.000	mg/kg	
	PCB-1260	Blank	0.000	mg/kg	
	PCB-1248	Blank	0.000	mg/kg	
	PCB-1221	Blank	0.000	mg/kg	
	alpha-BHC	Blank	<0.025	mg/kg	

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SAMPLE QC: Sample Results with Duplicates  
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QC Batch Number: GC/ECD-2705

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
	delta-BHC	Blank	<0.050	mg/kg	
	beta-BHC	Blank	<0.050	mg/kg	
	gamma-BHC (Lindane)	Blank	<0.025	mg/kg	
	Heptachlor	Blank	<0.025	mg/kg	
	Aldrin	Blank	<0.025	mg/kg	
	Heptachlor Epoxide	Blank	<0.025	mg/kg	
	Endosulfan I	Blank	<0.025	mg/kg	
	4,4'-DDE	Blank	<0.050	mg/kg	
	Dieldrin	Blank	<0.025	mg/kg	
	Endrin	Blank	<0.075	mg/kg	
	4,4'-DDD	Blank	<0.100	mg/kg	
	Endosulfan II	Blank	<0.075	mg/kg	
	4,4'-DDT	Blank	<0.025	mg/kg	
	Endrin Aldehyde	Blank	<0.125	mg/kg	
	Endosulfan Sulfate	Blank	<0.125	mg/kg	
	Methoxychlor	Blank	<0.275	mg/kg	
	Toxaphene	Blank	<0.100	mg/kg	
	PCB's	Blank	<0.025	mg/kg	

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SAMPLE QC: Sample Results with Duplicates  
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QC Batch Number: GC/ECD-2708

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23189	Dibutyl Chlorendate	Surrogate Recovery	100.5	%	
99B23190	Dibutyl Chlorendate	Surrogate Recovery	133.9	%	
99B23191	Dibutyl Chlorendate	Surrogate Recovery	82.0	%	
99B23192	Dibutyl Chlorendate	Surrogate Recovery	103.5	%	
99B23193	Dibutyl Chlorendate	Surrogate Recovery	92.5	%	
99B23194	Dibutyl Chlorendate	Surrogate Recovery	84.0	%	
99B23195	Dibutyl Chlorendate	Surrogate Recovery	87.1	%	
99B23196	Dibutyl Chlorendate	Surrogate Recovery	82.5	%	
99B23197	Dibutyl Chlorendate	Surrogate Recovery	90.0	%	
99B23198	Dibutyl Chlorendate	Surrogate Recovery	122.5	%	
99B23199	Dibutyl Chlorendate	Surrogate Recovery	92.5	%	
99B23200	Dibutyl Chlorendate	Surrogate Recovery	109.0	%	
99B23201	Dibutyl Chlorendate	Surrogate Recovery	87.5	%	
99B23202	Dibutyl Chlorendate	Surrogate Recovery	86.0	%	
99B23203	Dibutyl Chlorendate	Surrogate Recovery	91.5	%	
99B23204	Dibutyl Chlorendate	Surrogate Recovery	139.0	%	
BLANK-21811	Chlordane	Blank	<0.100	mg/kg	
	PCB-1232	Blank	0.000	mg/kg	
	PCB-1242	Blank	0.000	mg/kg	
	PCB-1254	Blank	0.000	mg/kg	
	PCB-1260	Blank	0.000	mg/kg	
	PCB-1248	Blank	0.000	mg/kg	
	PCB-1221	Blank	0.000	mg/kg	
	alpha-BHC	Blank	<0.025	mg/kg	
	delta-BHC	Blank	<0.050	mg/kg	
	beta-BHC	Blank	<0.050	mg/kg	
	gamma-BHC (Lindane)	Blank	<0.025	mg/kg	
	Heptachlor	Blank	<0.025	mg/kg	
	Aldrin	Blank	<0.025	mg/kg	
	Heptachlor Epoxide	Blank	<0.025	mg/kg	
	Endosulfan I	Blank	<0.025	mg/kg	
	4,4'-DDE	Blank	<0.050	mg/kg	
	Dieldrin	Blank	<0.025	mg/kg	
	Endrin	Blank	<0.075	mg/kg	
	4,4'-DDD	Blank	<0.100	mg/kg	
	Endosulfan II	Blank	<0.075	mg/kg	
	4,4'-DDT	Blank	<0.025	mg/kg	
	Endrin Aldehyde	Blank	<0.125	mg/kg	
	Endosulfan Sulfate	Blank	<0.125	mg/kg	

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SAMPLE QC: Sample Results with Duplicates  
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QC Batch Number: GC/ECD-2708

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
	Methoxychlor	Blank	<0.275	mg/kg	
	Toxaphene	Blank	<0.100	mg/kg	
	PCB's	Blank	<0.025	mg/kg	



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QC Batch Number: GC/ECD-2715

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23205	Dibutyl Chlorendate	Surrogate Recovery	64.0	%	
99B23206	Dibutyl Chlorendate	Surrogate Recovery	107.5	%	
99B23207	Dibutyl Chlorendate	Surrogate Recovery	111.0	%	
99B23208	Dibutyl Chlorendate	Surrogate Recovery	61.5	%	
99B23209	Dibutyl Chlorendate	Surrogate Recovery	107.5	%	
99B23210	Dibutyl Chlorendate	Surrogate Recovery	103.0	%	
99B23211	Dibutyl Chlorendate	Surrogate Recovery	102.5	%	
BLANK-21858	Chlordane	Blank	<0.20	ug/l	
	PCB-1232	Blank	0.00	ug/l	
	PCB-1242	Blank	0.00	ug/l	
	PCB-1254	Blank	0.00	ug/l	
	PCB-1260	Blank	0.00	ug/l	
	PCB-1248	Blank	0.00	ug/l	
	PCB-1221	Blank	0.00	ug/l	
	alpha-BHC	Blank	<0.05	ug/l	
	delta-BHC	Blank	<0.10	ug/l	
	beta-BHC	Blank	<0.10	ug/l	
	gamma-BHC (Lindane)	Blank	<0.05	ug/l	
	Heptachlor	Blank	<0.05	ug/l	
	Aldrin	Blank	<0.05	ug/l	
	Heptachlor Epoxide	Blank	<0.05	ug/l	
	Endosulfan I	Blank	<0.05	ug/l	
	4,4'-DDE	Blank	<0.10	ug/l	
	Dieldrin	Blank	<0.05	ug/l	
	Endrin	Blank	<0.15	ug/l	
	4,4'-DDD	Blank	<0.20	ug/l	
	Endosulfan II	Blank	<0.05	ug/l	
	4,4'-DDT	Blank	<0.05	ug/l	
	Endrin Aldehyde	Blank	<0.25	ug/l	
	Endosulfan Sulfate	Blank	<0.25	ug/l	
	Methoxychlor	Blank	<0.55	ug/l	
	Toxaphene	Blank	<0.20	ug/l	
	PCB's	Blank	<0.05	ug/l	
LFBLANK-09864	alpha-BHC	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.17	ug/l	
		Lab Fort Blk. % Rec.	84.00	%	
	delta-BHC	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.15	ug/l	
		Lab Fort Blk. % Rec.	74.50	%	

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SAMPLE QC: Sample Results with Duplicates  
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QC Batch Number: GC/ECD-2715

Sample Id	Analysis	QC Analysis	Values	Units	Limits
	beta-BHC	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.19	ug/l	
		Lab Fort Blk. % Rec.	95.50	%	
	gamma-BHC (Lindane)	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.17	ug/l	
		Lab Fort Blk. % Rec.	86.00	%	
	Heptachlor	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.20	ug/l	
		Lab Fort Blk. % Rec.	100.00	%	
	Aldrin	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.14	ug/l	
		Lab Fort Blk. % Rec.	71.50	%	
	Heptachlor Epoxide	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.19	ug/l	
		Lab Fort Blk. % Rec.	96.50	%	
	Endosulfan I	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.15	ug/l	
		Lab Fort Blk. % Rec.	74.00	%	
	4,4'-DDE	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.18	ug/l	
		Lab Fort Blk. % Rec.	90.50	%	
	Dieldrin	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.18	ug/l	
		Lab Fort Blk. % Rec.	91.00	%	
	Endrin	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.22	ug/l	
		Lab Fort Blk. % Rec.	110.00	%	
	4,4'-DDD	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.21	ug/l	
		Lab Fort Blk. % Rec.	105.50	%	
	Endosulfan II	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.19	ug/l	
		Lab Fort Blk. % Rec.	95.50	%	
	4,4'-DDT	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.17	ug/l	
		Lab Fort Blk. % Rec.	87.00	%	
	Endrin Aldehyde	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.24	ug/l	
		Lab Fort Blk. % Rec.	119.50	%	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
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QC Batch Number: GC/ECD-2715

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
	Endosulfan Sulfate	Lab Fort Blank Amt.	0.20	ug/l	
		Lab Fort Blk. Found	0.24	ug/l	
		Lab Fort Blk. % Rec.	118.50	%	
	Methoxychlor	Lab Fort Blank Amt.	1.00	ug/l	
		Lab Fort Blk. Found	1.00	ug/l	
		Lab Fort Blk. % Rec.	100.00	%	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
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QC Batch Number: GCMS/SEMI-2033

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23205	Nitrobenzene-d5	Surrogate Recovery	84.0	%	35.0-114.0
	2-Fluorobiphenyl	Surrogate Recovery	115.0	%	43.0-116.0
	Terphenyl-d14	Surrogate Recovery	164.0	%	33.0-141.0
99B23206	Nitrobenzene-d5	Surrogate Recovery	87.0	%	35.0-114.0
	2-Fluorobiphenyl	Surrogate Recovery	103.0	%	43.0-116.0
	Terphenyl-d14	Surrogate Recovery	138.0	%	33.0-141.0
99B23207	Nitrobenzene-d5	Surrogate Recovery	100.0	%	35.0-114.0
	2-Fluorobiphenyl	Surrogate Recovery	116.0	%	43.0-116.0
	Terphenyl-d14	Surrogate Recovery	141.0	%	33.0-141.0
99B23208	Nitrobenzene-d5	Surrogate Recovery	58.0	%	35.0-114.0
	2-Fluorobiphenyl	Surrogate Recovery	106.0	%	43.0-116.0
	Terphenyl-d14	Surrogate Recovery	141.0	%	33.0-141.0
99B23209	Nitrobenzene-d5	Surrogate Recovery	70.0	%	35.0-114.0
	2-Fluorobiphenyl	Surrogate Recovery	114.0	%	43.0-116.0
	Terphenyl-d14	Surrogate Recovery	139.0	%	33.0-141.0
99B23210	Nitrobenzene-d5	Surrogate Recovery	76.0	%	35.0-114.0
	2-Fluorobiphenyl	Surrogate Recovery	110.5	%	43.0-116.0
	Terphenyl-d14	Surrogate Recovery	144.0	%	33.0-141.0
99B23211	Nitrobenzene-d5	Surrogate Recovery	95.0	%	35.0-114.0
	2-Fluorobiphenyl	Surrogate Recovery	111.0	%	43.0-116.0
	Terphenyl-d14	Surrogate Recovery	145.0	%	33.0-141.0
BLANK-21867	Naphthalene	Blank	<10.00	ug/l	
	Acenaphthene	Blank	<10.00	ug/l	
	Acenaphthylene	Blank	<10.00	ug/l	
	Anthracene	Blank	<10.00	ug/l	
	Benzo(a)anthracene	Blank	<0.060	ug/l	
	Benzo(a)pyrene	Blank	<0.150	ug/l	
	Benzo(b)fluoranthene	Blank	<0.160	ug/l	
	Benzo(g,h,i)perylene	Blank	<0.430	ug/l	
	Chrysene	Blank	<0.80	ug/l	
	Dibenz(a,h)anthracene	Blank	<0.540	ug/l	
	Fluoranthene	Blank	<10.00	ug/l	
	Fluorene	Blank	<10.00	ug/l	
	Indeno(1,2,3-cd)pyrene	Blank	<0.520	ug/l	
	2-Methylnaphthalene	Blank	<10.00	ug/l	
	Phenanthrene	Blank	<10.00	ug/l	
	Pyrene	Blank	<30.00	ug/l	
	Benzo(k)fluoranthene	Blank	<0.250	ug/l	
LFBLANK-09871	Naphthalene	Lab Fort Blank Amt.	100.00	ug/l	

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QC Batch Number: GCMS/SEMI-2033

Sample Id	Analysis	QC Analysis	Values	Units	Limits
		Lab Fort Blk. Found	90.00	ug/l	
		Lab Fort Blk. % Rec.	90.00	%	
	Acenaphthene	Lab Fort Blank Amt.	100.00	ug/l	
		Lab Fort Blk. Found	100.00	ug/l	
		Lab Fort Blk. % Rec.	100.00	%	
	Acenaphthylene	Lab Fort Blank Amt.	100.00	ug/l	
		Lab Fort Blk. Found	101.00	ug/l	
		Lab Fort Blk. % Rec.	101.00	%	
	Anthracene	Lab Fort Blank Amt.	100.00	ug/l	
		Lab Fort Blk. Found	129.00	ug/l	
		Lab Fort Blk. % Rec.	129.00	%	
	Benzo(a)anthracene	Lab Fort Blank Amt.	100.000	ug/l	
		Lab Fort Blk. Found	119.000	ug/l	
		Lab Fort Blk. % Rec.	119.000	%	
	Benzo(a)pyrene	Lab Fort Blank Amt.	100.000	ug/l	
		Lab Fort Blk. Found	110.000	ug/l	
		Lab Fort Blk. % Rec.	110.000	%	
	Benzo(b)fluoranthene	Lab Fort Blank Amt.	100.000	ug/l	
		Lab Fort Blk. Found	108.000	ug/l	
		Lab Fort Blk. % Rec.	108.000	%	
	Benzo(g,h,i)perylene	Lab Fort Blank Amt.	100.000	ug/l	
		Lab Fort Blk. Found	121.000	ug/l	
		Lab Fort Blk. % Rec.	121.000	%	
	Chrysene	Lab Fort Blank Amt.	100.00	ug/l	
		Lab Fort Blk. Found	129.00	ug/l	
		Lab Fort Blk. % Rec.	129.00	%	
	Dibenz(a,h)anthracen	Lab Fort Blank Amt.	100.000	ug/l	
		Lab Fort Blk. Found	125.000	ug/l	
		Lab Fort Blk. % Rec.	125.000	%	
	Fluoranthene	Lab Fort Blank Amt.	100.00	ug/l	
		Lab Fort Blk. Found	130.00	ug/l	
		Lab Fort Blk. % Rec.	130.00	%	
	Fluorene	Lab Fort Blank Amt.	100.00	ug/l	
		Lab Fort Blk. Found	108.00	ug/l	
		Lab Fort Blk. % Rec.	108.00	%	
	Indeno(1,2,3-cd)pyre	Lab Fort Blank Amt.	100.000	ug/l	
		Lab Fort Blk. Found	99.000	ug/l	
		Lab Fort Blk. % Rec.	99.000	%	
	2-Methylnaphthalene	Lab Fort Blank Amt.	100.00	ug/l	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
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QC Batch Number: GCMS/SEMI-2033

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
		Lab Fort Blk. Found	88.00	ug/l	
		Lab Fort Blk. % Rec.	88.00	%	
	Phenanthrene	Lab Fort Blank Amt.	100.00	ug/l	
		Lab Fort Blk. Found	125.00	ug/l	
		Lab Fort Blk. % Rec.	125.00	%	
	Pyrene	Lab Fort Blank Amt.	100.00	ug/l	
		Lab Fort Blk. Found	122.00	ug/l	
		Lab Fort Blk. % Rec.	122.00	%	
	Benzo(k)fluoranthene	Lab Fort Blank Amt.	100.000	ug/l	
		Lab Fort Blk. Found	130.000	ug/l	
		Lab Fort Blk. % Rec.	130.000	%	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
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QC Batch Number: GCMS/SEMI-2038

Sample Id	Analysis	QC Analysis	Values	Units	Limits	
99B23173	Nitrobenzene-d5 2-Fluorobiphenyl Terphenyl-d14	Surrogate Recovery	79.9	%	23.0-120.0	
		Surrogate Recovery	90.3	%	25.0-121.0	
		Surrogate Recovery	108.6	%	18.0-137.0	
99B23174	Nitrobenzene-d5 2-Fluorobiphenyl Terphenyl-d14	Surrogate Recovery	75.4	%	23.0-120.0	
		Surrogate Recovery	91.1	%	25.0-121.0	
		Surrogate Recovery	108.0	%	18.0-137.0	
99B23175	Nitrobenzene-d5 2-Fluorobiphenyl Terphenyl-d14	Surrogate Recovery	92.9	%	23.0-120.0	
		Surrogate Recovery	93.3	%	25.0-121.0	
		Surrogate Recovery	102.1	%	18.0-137.0	
99B23176	Nitrobenzene-d5 2-Fluorobiphenyl Terphenyl-d14	Surrogate Recovery	69.8	%	23.0-120.0	
		Surrogate Recovery	87.5	%	25.0-121.0	
		Surrogate Recovery	107.2	%	18.0-137.0	
99B23177	Acenaphthene	Sample Amount	<0.33	mg/kg		
		Matrix Spk Amt Added	3.33	mg/kg		
		MS Amt Measured	2.83	mg/kg		
			Matrix Spike % Rec.	84.78	%	
	2-Methylnaphthalene	Sample Amount	<0.33	mg/kg		
		Matrix Spk Amt Added	3.33	mg/kg		
		MS Amt Measured	1.97	mg/kg		
		Matrix Spike % Rec.	59.23	%		
	Pyrene	Sample Amount	<1.00	mg/kg		
		Matrix Spk Amt Added	3.33	mg/kg		
		MS Amt Measured	2.85	mg/kg		
		Matrix Spike % Rec.	85.60	%		
	Nitrobenzene-d5 2-Fluorobiphenyl Terphenyl-d14	Surrogate Recovery	75.6	%	23.0-120.0	
Surrogate Recovery		86.1	%	25.0-121.0		
Surrogate Recovery		103.6	%	18.0-137.0		
99B23178	Acenaphthene	Sample Amount	<0.33	mg/kg		
		Matrix Spk Amt Added	3.33	mg/kg		
		MS Amt Measured	2.00	mg/kg		
			Matrix Spike % Rec.	60.00	%	
	2-Methylnaphthalene	Sample Amount	<0.33	mg/kg		
		Matrix Spk Amt Added	3.33	mg/kg		
		MS Amt Measured	1.10	mg/kg		
		Matrix Spike % Rec.	33.10	%		
	Pyrene	Sample Amount	<1.00	mg/kg		
		Matrix Spk Amt Added	3.33	mg/kg		
		MS Amt Measured	2.09	mg/kg		
		Matrix Spike % Rec.	62.63	%		

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Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23179	Nitrobenzene-d5	Surrogate Recovery	76.8	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	86.2	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	104.2	%	18.0-137.0
99B23180	Nitrobenzene-d5	Surrogate Recovery	56.8	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	68.1	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	82.4	%	18.0-137.0
99B23181	Nitrobenzene-d5	Surrogate Recovery	67.6	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	80.1	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	100.7	%	18.0-137.0
99B23182	Nitrobenzene-d5	Surrogate Recovery	67.8	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	73.5	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	95.8	%	18.0-137.0
99B23183	Nitrobenzene-d5	Surrogate Recovery	71.0	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	87.4	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	97.1	%	18.0-137.0
99B23184	Nitrobenzene-d5	Surrogate Recovery	53.4	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	60.9	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	75.8	%	18.0-137.0
99B23185	Nitrobenzene-d5	Surrogate Recovery	47.7	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	55.8	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	71.9	%	18.0-137.0
BLANK-21901	Nitrobenzene-d5	Surrogate Recovery	77.4	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	97.7	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	116.9	%	18.0-137.0
	Naphthalene	Blank	<0.33	mg/kg	
	Acenaphthene	Blank	<0.33	mg/kg	
	Acenaphthylene	Blank	<0.33	mg/kg	
	Anthracene	Blank	<0.33	mg/kg	
	Benzo(a)anthracene	Blank	<0.33	mg/kg	
	Benzo(a)pyrene	Blank	<0.67	mg/kg	
	Benzo(b)fluoranthene	Blank	<0.33	mg/kg	
	Benzo(g,h,i)perylene	Blank	<1.00	mg/kg	
	Chrysene	Blank	<0.67	mg/kg	
	Dibenz(a,h)anthracene	Blank	<0.67	mg/kg	
	Fluoranthene	Blank	<0.33	mg/kg	
	Fluorene	Blank	<0.33	mg/kg	
Indeno(1,2,3-cd)pyrene	Blank	<0.33	mg/kg		
2-Methylnaphthalene	Blank	<0.33	mg/kg		
Phenanthrene	Blank	<0.33	mg/kg		



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QC Batch Number: GCMS/SEMI-2038

Sample Id	Analysis	QC Analysis	Values	Units	Limits
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	Pyrene	Blank	<1.00	mg/kg	
	Benzo(k)fluoranthene	Blank	<0.67	mg/kg	

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QC Batch Number: GCMS/SEMI-2039

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99823186	Nitrobenzene-d5	Surrogate Recovery	62.6	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	82.2	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	100.8	%	18.0-137.0
99823187	Nitrobenzene-d5	Surrogate Recovery	61.1	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	77.9	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	90.3	%	18.0-137.0
99823188	Nitrobenzene-d5	Surrogate Recovery	69.0	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	70.5	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	87.6	%	18.0-137.0
99823189	Nitrobenzene-d5	Surrogate Recovery	66.5	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	79.3	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	99.3	%	18.0-137.0
99823190	Nitrobenzene-d5	Surrogate Recovery	47.0	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	77.1	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	113.0	%	18.0-137.0
99823191	Nitrobenzene-d5	Surrogate Recovery	69.0	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	89.4	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	117.7	%	18.0-137.0
99823192	Nitrobenzene-d5	Surrogate Recovery	63.5	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	72.9	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	107.0	%	18.0-137.0
99823193	Nitrobenzene-d5	Surrogate Recovery	90.7	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	101.2	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	133.0	%	18.0-137.0
99823194	Nitrobenzene-d5	Surrogate Recovery	31.0	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	91.0	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	126.0	%	18.0-137.0
99823195	Nitrobenzene-d5	Surrogate Recovery	32.0	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	65.1	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	72.5	%	18.0-137.0
99823196	Nitrobenzene-d5	Surrogate Recovery	67.3	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	91.9	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	114.6	%	18.0-137.0

## QC SUMMARY REPORT

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QC Batch Number: GCMS/SEMI-2040

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23197	Nitrobenzene-d5	Surrogate Recovery	84.0	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	110.4	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	130.7	%	18.0-137.0
99B23198	Nitrobenzene-d5	Surrogate Recovery	82.8	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	98.4	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	104.7	%	18.0-137.0
99B23199	Nitrobenzene-d5	Surrogate Recovery	91.1	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	95.6	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	108.6	%	18.0-137.0
99B23200	Nitrobenzene-d5	Surrogate Recovery	67.4	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	88.0	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	110.6	%	18.0-137.0
99B23201	Nitrobenzene-d5	Surrogate Recovery	85.3	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	101.3	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	104.3	%	18.0-137.0
99B23202	Nitrobenzene-d5	Surrogate Recovery	26.7	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	20.9	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	40.2	%	18.0-137.0
99B23203	Nitrobenzene-d5	Surrogate Recovery	73.7	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	89.8	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	95.5	%	18.0-137.0
99B23204	Nitrobenzene-d5	Surrogate Recovery	53.5	%	23.0-120.0
	2-Fluorobiphenyl	Surrogate Recovery	68.8	%	25.0-121.0
	Terphenyl-d14	Surrogate Recovery	91.4	%	18.0-137.0

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SAMPLE QC: Sample Results with Duplicates  
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QC Batch Number: GCMS/VOL-4317

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23205	1,2-Dichloroethane-d	Surrogate Recovery	98.3	%	56.0-128.0
	Toluene-d8	Surrogate Recovery	98.7	%	65.0-113.0
	Bromofluorobenzene	Surrogate Recovery	97.4	%	62.0-137.0
99B23206	1,2-Dichloroethane-d	Surrogate Recovery	98.8	%	56.0-128.0
	Toluene-d8	Surrogate Recovery	97.2	%	65.0-113.0
	Bromofluorobenzene	Surrogate Recovery	102.8	%	62.0-137.0
99B23207	1,2-Dichloroethane-d	Surrogate Recovery	107.8	%	56.0-128.0
	Toluene-d8	Surrogate Recovery	93.9	%	65.0-113.0
	Bromofluorobenzene	Surrogate Recovery	102.5	%	62.0-137.0
99B23208	1,2-Dichloroethane-d	Surrogate Recovery	110.0	%	56.0-128.0
	Toluene-d8	Surrogate Recovery	102.4	%	65.0-113.0
	Bromofluorobenzene	Surrogate Recovery	100.0	%	62.0-137.0
99B23209	1,2-Dichloroethane-d	Surrogate Recovery	103.7	%	56.0-128.0
	Toluene-d8	Surrogate Recovery	98.1	%	65.0-113.0
	Bromofluorobenzene	Surrogate Recovery	80.4	%	62.0-137.0
99B23210	1,2-Dichloroethane-d	Surrogate Recovery	105.0	%	56.0-128.0
	Toluene-d8	Surrogate Recovery	98.0	%	65.0-113.0
	Bromofluorobenzene	Surrogate Recovery	107.3	%	62.0-137.0
99B23211	1,2-Dichloroethane-d	Surrogate Recovery	105.0	%	56.0-128.0
	Toluene-d8	Surrogate Recovery	97.0	%	65.0-113.0
	Bromofluorobenzene	Surrogate Recovery	107.3	%	62.0-137.0
99B23212	1,2-Dichloroethane-d	Surrogate Recovery	100.7	%	56.0-128.0
	Toluene-d8	Surrogate Recovery	100.3	%	65.0-113.0
	Bromofluorobenzene	Surrogate Recovery	106.8	%	62.0-137.0
99B23213	1,2-Dichloroethane-d	Surrogate Recovery	102.6	%	56.0-128.0
	Toluene-d8	Surrogate Recovery	93.1	%	65.0-113.0
	Bromofluorobenzene	Surrogate Recovery	100.0	%	62.0-137.0
BLANK-21791	Acetone	Blank	<50.0	ug/l	
	Benzene	Blank	<0.6	ug/l	
	Carbon Tetrachloride	Blank	<0.5	ug/l	
	Chloroform	Blank	<0.8	ug/l	
	1,2-Dichloroethane	Blank	<0.9	ug/l	
	1,4-Dichlorobenzene	Blank	<0.8	ug/l	
	Ethyl Benzene	Blank	<0.6	ug/l	
	2-Butanone (MEK)	Blank	<12.0	ug/l	
	MIBK	Blank	<8.8	ug/l	
	Naphthalene	Blank	<1.0	ug/l	
	Styrene	Blank	<0.7	ug/l	
Tetrachloroethylene	Blank	<0.4	ug/l		

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Sample Id	Analysis	QC Analysis	Values	Units	Limits
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	Toluene	Blank	<0.7	ug/l	
	1,1,1-Trichloroethan	Blank	<0.9	ug/l	
	Trichloroethylene	Blank	<1.0	ug/l	
	Trichlorofluorometha	Blank	<0.7	ug/l	
	o + p Xylene	Blank	<0.5	ug/l	
	m-Xylene	Blank	<1.3	ug/l	
	1,2-Dichlorobenzene	Blank	<0.8	ug/l	
	1,3-Dichlorobenzene	Blank	<0.6	ug/l	
	1,1-Dichloroethane	Blank	<0.7	ug/l	
	1,1-Dichloroethylene	Blank	<0.6	ug/l	
	MTBE	Blank	<0.8	ug/l	
	trans-1,2-Dichloroet	Blank	<0.8	ug/l	
	Vinyl Chloride	Blank	<0.3	ug/l	
	Methylene Chloride	Blank	<3.0	ug/l	
	Chlorobenzene	Blank	<0.6	ug/l	
	Chloromethane	Blank	<1.2	ug/l	
	Bromomethane	Blank	<1.2	ug/l	
	Chloroethane	Blank	<0.8	ug/l	
	cis-1,3-Dichloroprop	Blank	<0.5	ug/l	
	trans-1,3-Dichloropr	Blank	<0.4	ug/l	
	Chlorodibromomethane	Blank	<0.5	ug/l	
	1,1,2-Trichloroethan	Blank	<0.7	ug/l	
	2-Chloroethylvinylet	Blank	<9.6	ug/l	
	Bromoform	Blank	<1.2	ug/l	
	1,1,2,2-Tetrachloroe	Blank	<1.4	ug/l	
	2-Chlorotoluene	Blank	<0.6	ug/l	
	Hexachlorobutadiene	Blank	<1.3	ug/l	
	Isopropylbenzene	Blank	<0.6	ug/l	
	p-Isopropyltoluene	Blank	<0.7	ug/l	
	n-Propylbenzene	Blank	<0.8	ug/l	
	sec-Butylbenzene	Blank	<0.6	ug/l	
	tert-Butylbenzene	Blank	<0.8	ug/l	
	1,2,3-Trichlorobenze	Blank	<0.7	ug/l	
	1,2,4-Trichlorobenze	Blank	<0.7	ug/l	
	1,2,4-Trimethylbenze	Blank	<0.7	ug/l	
	1,3,5-Trimethylbenze	Blank	<1.0	ug/l	
	Dibromomethane	Blank	<1.1	ug/l	
	cis-1,2-Dichloroethy	Blank	<0.5	ug/l	
	4-Chlorotoluene	Blank	<0.6	ug/l	

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Sample Id	Analysis	QC Analysis	Values	Units	Limits
	1,1-Dichloropropene	Blank	<1.4	ug/l	
	1,2-Dichloropropene	Blank	<0.6	ug/l	
	1,3-Dichloropropene	Blank	<0.5	ug/l	
	2,2-Dichloropropene	Blank	<0.9	ug/l	
	1,1,1,2-Tetrachloroe	Blank	<0.5	ug/l	
	1,2,3-Trichloropropa	Blank	<1.3	ug/l	
	n-Butylbenzene	Blank	<0.7	ug/l	
	Dichlorodifluorometh	Blank	<1.0	ug/l	
	Bromochloromethane	Blank	<0.7	ug/l	
	Bromobenzene	Blank	<0.5	ug/l	
	Iodomethane	Blank	<0.8	ug/l	
	Acrolein	Blank	<20.0	ug/l	
	Acrylonitrile	Blank	<7.6	ug/l	
	Carbon Disulfide	Blank	<3.0	ug/l	
	Vinyl Acetate	Blank	<16.4	ug/l	
	2-Hexanone	Blank	<9.7	ug/l	
	trans-1,4-Dichloro-2	Blank	<2.1	ug/l	
	Ethyl Methacrylate	Blank	<0.8	ug/l	
	cis-1,4-Dichloro-2-B	Blank	<2.4	ug/l	
	Bromodichloromethane	Blank	<0.4	ug/l	
	1,2-Dibromo-3-Chloro	Blank	<1.6	ug/l	
	1,2-Dibromoethane	Blank	<0.7	ug/l	
LFBLANK-09826	Benzene	Lab Fort Blank Amt.	25.0	ug/l	
		Lab Fort Blk. Found	24.2	ug/l	
		Lab Fort Blk. % Rec.	96.9	%	
	Toluene	Lab Fort Blank Amt.	25.0	ug/l	
		Lab Fort Blk. Found	23.9	ug/l	
		Lab Fort Blk. % Rec.	95.6	%	
	Trichloroethylene	Lab Fort Blank Amt.	25.0	ug/l	
		Lab Fort Blk. Found	23.9	ug/l	
		Lab Fort Blk. % Rec.	95.8	%	
	1,1-Dichloroethylene	Lab Fort Blank Amt.	25.0	ug/l	
		Lab Fort Blk. Found	26.2	ug/l	
		Lab Fort Blk. % Rec.	104.8	%	
	Chlorobenzene	Lab Fort Blank Amt.	25.0	ug/l	
		Lab Fort Blk. Found	23.1	ug/l	
		Lab Fort Blk. % Rec.	92.4	%	

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Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23173	1,2-Dichloroethane-d	Surrogate Recovery	94.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	95.200	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	94.400	%	62.000-137.000
99B23174	1,2-Dichloroethane-d	Surrogate Recovery	91.600	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	86.800	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	97.600	%	62.000-137.000
99B23175	1,2-Dichloroethane-d	Surrogate Recovery	95.200	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	90.800	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	97.200	%	62.000-137.000
99B23176	1,2-Dichloroethane-d	Surrogate Recovery	96.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	96.400	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	104.000	%	62.000-137.000
99B23177	1,2-Dichloroethane-d	Surrogate Recovery	101.200	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	93.600	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	101.200	%	62.000-137.000
99B23178	1,2-Dichloroethane-d	Surrogate Recovery	84.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	92.800	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	104.400	%	62.000-137.000
99B23179	1,2-Dichloroethane-d	Surrogate Recovery	100.120	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	90.840	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	103.280	%	62.000-137.000
99B23180	1,2-Dichloroethane-d	Surrogate Recovery	98.400	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	88.800	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	101.600	%	62.000-137.000
99B23181	1,2-Dichloroethane-d	Surrogate Recovery	94.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	92.800	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	101.600	%	62.000-137.000
99B23182	1,2-Dichloroethane-d	Surrogate Recovery	90.000	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	92.000	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	96.800	%	62.000-137.000
BLANK-21865	Acetone	Blank	<0.250	mg/kg	
	Benzene	Blank	<0.003	mg/kg	
	Carbon Tetrachloride	Blank	<0.002	mg/kg	
	Chloroform	Blank	<0.004	mg/kg	
	1,2-Dichloroethane	Blank	<0.004	mg/kg	
	1,4-Dichlorobenzene	Blank	<0.004	mg/kg	
	Ethyl Benzene	Blank	<0.003	mg/kg	
	2-Butanone (MEK)	Blank	<0.060	mg/kg	
	MIBK	Blank	<0.044	mg/kg	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
Standard Reference Materials and Duplicates  
Method Blanks

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QC Batch Number: GCMS/VOL-4327

Sample Id	Analysis	QC Analysis	Values	Units	Limits
	Naphthalene	Blank	<0.005	mg/kg	
	Styrene	Blank	<0.004	mg/kg	
	Tetrachloroethylene	Blank	<0.002	mg/kg	
	Toluene	Blank	<0.004	mg/kg	
	1,1,1-Trichloroethan	Blank	<0.004	mg/kg	
	Trichloroethylene	Blank	<0.005	mg/kg	
	Trichlorofluorometha	Blank	<0.004	mg/kg	
	o + p Xylene	Blank	<0.002	mg/kg	
	m-Xylene	Blank	<0.006	mg/kg	
	1,2-Dichlorobenzene	Blank	<0.004	mg/kg	
	1,3-Dichlorobenzene	Blank	<0.003	mg/kg	
	1,1-Dichloroethane	Blank	<0.004	mg/kg	
	1,1-Dichloroethylene	Blank	<0.003	mg/kg	
	MTBE	Blank	<0.004	mg/kg	
	trans-1,2-Dichloroet	Blank	<0.004	mg/kg	
	Vinyl Chloride	Blank	<0.002	mg/kg	
	Methylene Chloride	Blank	0.219	mg/kg	
	Chlorobenzene	Blank	<0.003	mg/kg	
	Chloromethane	Blank	<0.006	mg/kg	
	Bromomethane	Blank	<0.006	mg/kg	
	Chloroethane	Blank	<0.004	mg/kg	
	cis-1,3-Dichloroprop	Blank	<0.002	mg/kg	
	trans-1,3-Dichloropr	Blank	<0.002	mg/kg	
	Chlorodibromomethane	Blank	<0.002	mg/kg	
	1,1,2-Trichloroethan	Blank	<0.004	mg/kg	
	2-Chloroethylvinylet	Blank	<0.048	mg/kg	
	Bromoform	Blank	<0.006	mg/kg	
	1,1,2,2-Tetrachloroe	Blank	<0.007	mg/kg	
	2-Chlorotoluene	Blank	<0.003	mg/kg	
	Hexachlorobutadiene	Blank	<0.006	mg/kg	
	Isopropylbenzene	Blank	<0.003	mg/kg	
	p-Isopropyltoluene	Blank	<0.004	mg/kg	
	n-Propylbenzene	Blank	<0.004	mg/kg	
	sec-Butylbenzene	Blank	<0.003	mg/kg	
	tert-Butylbenzene	Blank	<0.004	mg/kg	
	1,2,3-Trichlorobenze	Blank	<0.004	mg/kg	
	1,2,4-Trichlorobenze	Blank	<0.004	mg/kg	
	1,2,4-Trimethylbenze	Blank	<0.004	mg/kg	
	1,3,5-Trimethylbenze	Blank	<0.005	mg/kg	



## QC SUMMARY REPORT

 SAMPLE QC: Sample Results with Duplicates  
 Sample Matrix Spikes and Matrix Spike Duplicates

 BATCH QC: Lab Fortified Blanks and Duplicates  
 Standard Reference Materials and Duplicates  
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QC Batch Number: GCMS/VOL-4327

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
	Dibromomethane	Blank	<0.006	mg/kg	
	cis-1,2-Dichloroethy	Blank	<0.002	mg/kg	
	4-Chlorotoluene	Blank	<0.003	mg/kg	
	1,1-Dichloropropene	Blank	<0.007	mg/kg	
	1,2-Dichloropropane	Blank	<0.003	mg/kg	
	1,3-Dichloropropane	Blank	<0.002	mg/kg	
	2,2-Dichloropropane	Blank	<0.004	mg/kg	
	1,1,1,2-Tetrachloroe	Blank	<0.002	mg/kg	
	1,2,3-Trichloropropa	Blank	<0.006	mg/kg	
	n-Butylbenzene	Blank	<0.004	mg/kg	
	Dichlorodifluorometh	Blank	<0.005	mg/kg	
	Bromochloromethane	Blank	<0.004	mg/kg	
	Bromobenzene	Blank	<0.002	mg/kg	
	Iodomethane	Blank	<0.004	mg/kg	
	Acrolein	Blank	<0.100	mg/kg	
	Acrylonitrile	Blank	<0.038	mg/kg	
	Carbon Disulfide	Blank	<0.015	mg/kg	
	Vinyl Acetate	Blank	<0.082	mg/kg	
	2-Hexanone	Blank	<0.048	mg/kg	
	trans-1,4-Dichloro-2	Blank	<0.010	mg/kg	
	Ethyl Methacrylate	Blank	<0.004	mg/kg	
	cis-1,4-Dichloro-2-B	Blank	<0.012	mg/kg	
	Bromodichloromethane	Blank	<0.002	mg/kg	
	1,2-Dibromo-3-Chloro	Blank	<0.008	mg/kg	
	1,2-Dibromoethane	Blank	<0.004	mg/kg	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
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BATCH QC: Lab Fortified Blanks and Duplicates  
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QC Batch Number: GCMS/VOL-4328

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23183	1,2-Dichloroethane-d	Surrogate Recovery	94.400	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	87.200	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	99.200	%	62.000-137.000
99B23184	1,2-Dichloroethane-d	Surrogate Recovery	96.000	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	94.800	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	99.600	%	62.000-137.000
99B23185	1,2-Dichloroethane-d	Surrogate Recovery	94.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	91.200	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	98.400	%	62.000-137.000
99B23186	Benzene	Sample Amount	<0.003	mg/kg	
		Matrix Spk Amt Added	0.250	mg/kg	
		MS Amt Measured	0.228	mg/kg	
		Matrix Spike % Rec.	91.160	%	
		Duplicate Sample Amt	<0.003	mg/kg	
		MSD Amount Added	0.250	mg/kg	
		MSD Amt Measured	0.220	mg/kg	
		MSD % Recovery	88.000	%	
		MSD Range	3.160	units	
	Toluene	Sample Amount	<0.004	mg/kg	
		Matrix Spk Amt Added	0.250	mg/kg	
		MS Amt Measured	0.190	mg/kg	
		Matrix Spike % Rec.	76.000	%	
		Duplicate Sample Amt	<0.004	mg/kg	
		MSD Amount Added	0.250	mg/kg	
		MSD Amt Measured	0.190	mg/kg	
		MSD % Recovery	76.000	%	
		MSD Range	0.000	units	
	Trichloroethylene	Sample Amount	<0.005	mg/kg	
		Matrix Spk Amt Added	0.250	mg/kg	
		MS Amt Measured	0.190	mg/kg	
		Matrix Spike % Rec.	76.000	%	
		Duplicate Sample Amt	<0.005	mg/kg	
		MSD Amount Added	0.250	mg/kg	
		MSD Amt Measured	0.183	mg/kg	
		MSD % Recovery	73.340	%	
		MSD Range	2.660	units	
	1,1-Dichloroethylene	Sample Amount	<0.003	mg/kg	
		Matrix Spk Amt Added	0.250	mg/kg	
		MS Amt Measured	0.238	mg/kg	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
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BATCH QC: Lab Fortified Blanks and Duplicates  
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QC Batch Number: GCMS/VOL-4328

Sample Id	Analysis	QC Analysis	Values	Units	Limits
		Matrix Spike % Rec.	95.140	%	
		Duplicate Sample Amt	<0.003	mg/kg	
		MSD Amount Added	0.250	mg/kg	
		MSD Amt Measured	0.230	mg/kg	
		MSD % Recovery	92.000	%	
		MSD Range	3.140	units	
	Chlorobenzene	Sample Amount	<0.003	mg/kg	
		Matrix Spk Amt Added	0.250	mg/kg	
		MS Amt Measured	0.167	mg/kg	
		Matrix Spike % Rec.	66.900	%	
		Duplicate Sample Amt	<0.003	mg/kg	
		MSD Amount Added	0.250	mg/kg	
		MSD Amt Measured	0.175	mg/kg	
		MSD % Recovery	70.000	%	
		MSD Range	3.100	units	
	1,2-Dichloroethane-d	Surrogate Recovery	109.600	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	91.600	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	98.400	%	62.000-137.000
99823187	Acetone	Sample Amount	<0.250	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Benzene	Sample Amount	<0.003	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Carbon Tetrachloride	Sample Amount	<0.002	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Chloroform	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,2-Dichloroethane	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,4-Dichlorobenzene	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Ethyl Benzene	Sample Amount	<0.003	mg/kg	
		Duplicate Value	0.000	mg/kg	
	2-Butanone (MEK)	Sample Amount	<0.060	mg/kg	
		Duplicate Value	0.000	mg/kg	
	MIBK	Sample Amount	<0.044	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Naphthalene	Sample Amount	<0.005	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Styrene	Sample Amount	<0.004	mg/kg	

## QC SUMMARY REPORT

 SAMPLE QC: Sample Results with Duplicates  
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Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
		Duplicate Value	0.000	mg/kg	
	Tetrachloroethylene	Sample Amount	<0.002	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Toluene	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,1,1-Trichloroethan	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Trichloroethylene	Sample Amount	<0.005	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Trichlorofluorometha	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	o + p Xylene	Sample Amount	<0.002	mg/kg	
		Duplicate Value	0.000	mg/kg	
	m-Xylene	Sample Amount	<0.006	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,2-Dichlorobenzene	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,3-Dichlorobenzene	Sample Amount	<0.003	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,1-Dichloroethane	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,1-Dichloroethylene	Sample Amount	<0.003	mg/kg	
		Duplicate Value	0.000	mg/kg	
	MTBE	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	trans-1,2-Dichloroet	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Vinyl Chloride	Sample Amount	<0.002	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Methylene Chloride	Sample Amount	<0.075	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Chlorobenzene	Sample Amount	<0.003	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Chloromethane	Sample Amount	<0.006	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Bromomethane	Sample Amount	<0.006	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Chloroethane	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
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BATCH QC: Lab Fortified Blanks and Duplicates  
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Sample Id	Analysis	QC Analysis	Values	Units	Limits
	cis-1,3-Dichloroprop	Sample Amount	<0.002	mg/kg	
		Duplicate Value	0.000	mg/kg	
	trans-1,3-Dichloropr	Sample Amount	<0.002	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Chlorodibromomethane	Sample Amount	<0.002	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,1,2-Trichloroethan	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	2-Chloroethylvinylet	Sample Amount	<0.048	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Bromoförm	Sample Amount	<0.006	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,1,2,2-Tetrachloroe	Sample Amount	<0.007	mg/kg	
		Duplicate Value	0.000	mg/kg	
	2-Chlorotoluene	Sample Amount	<0.003	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Hexachlorobutadiene	Sample Amount	<0.006	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Isopropylbenzene	Sample Amount	<0.003	mg/kg	
		Duplicate Value	0.000	mg/kg	
	p-Isopropyltoluene	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	n-Propylbenzene	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	sec-Butylbenzene	Sample Amount	<0.003	mg/kg	
		Duplicate Value	0.000	mg/kg	
	tert-Butylbenzene	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,2,3-Trichlorobenze	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,2,4-Trichlorobenze	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,2,4-Trimethylbenze	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,3,5-Trimethylbenze	Sample Amount	<0.005	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Dibromomethane	Sample Amount	<0.006	mg/kg	
		Duplicate Value	0.000	mg/kg	
	cis-1,2-Dichloroethy	Sample Amount	<0.002	mg/kg	

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SAMPLE QC: Sample Results with Duplicates  
 Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
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Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
		Duplicate Value	0.000	mg/kg	
	4-Chlorotoluene	Sample Amount	<0.003	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,1-Dichloropropene	Sample Amount	<0.007	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,2-Dichloropropane	Sample Amount	<0.003	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,3-Dichloropropane	Sample Amount	<0.002	mg/kg	
		Duplicate Value	0.000	mg/kg	
	2,2-Dichloropropane	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,1,1,2-Tetrachloroe	Sample Amount	<0.002	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,2,3-Trichloropropa	Sample Amount	<0.006	mg/kg	
		Duplicate Value	0.000	mg/kg	
	n-Butylbenzene	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Dichlorodifluorometh	Sample Amount	<0.005	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Bromochloromethane	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Bromobenzene	Sample Amount	<0.002	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Iodomethane	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Acrolein	Sample Amount	<0.100	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Acrylonitrile	Sample Amount	<0.038	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Carbon Disulfide	Sample Amount	<0.015	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Vinyl Acetate	Sample Amount	<0.082	mg/kg	
		Duplicate Value	0.000	mg/kg	
	2-Hexanone	Sample Amount	<0.048	mg/kg	
		Duplicate Value	0.000	mg/kg	
	trans-1,4-Dichloro-2	Sample Amount	<0.010	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Ethyl Methacrylate	Sample Amount	<0.004	mg/kg	
		Duplicate Value	0.000	mg/kg	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
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Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23188	cis-1,4-Dichloro-2-B	Sample Amount	<0.012	mg/kg	
		Duplicate Value	0.000	mg/kg	
	Bromodichloromethane	Sample Amount	<0.002	mg/kg	
		Duplicate Value	0.000	mg/kg	
	1,2-Dichloroethane-d	Surrogate Recovery	98.000	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	90.000	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	96.400	%	62.000-137.000
	Benzene	Sample Amount	<0.003	mg/kg	
		Matrix Spk Amt Added	0.250	mg/kg	
		MS Amt Measured	0.270	mg/kg	
		Matrix Spike % Rec.	108.000	%	
		Duplicate Sample Amt	<0.003	mg/kg	
		MSD Amount Added	0.250	mg/kg	
		MSD Amt Measured	0.275	mg/kg	
		MSD % Recovery	110.000	%	
		MSD Range	2.000	units	
		Toluene	Sample Amount	<0.004	mg/kg
	Matrix Spk Amt Added		0.250	mg/kg	
	MS Amt Measured		0.255	mg/kg	
	Matrix Spike % Rec.		102.000	%	
	Duplicate Sample Amt		<0.004	mg/kg	
	MSD Amount Added		0.250	mg/kg	
	MSD Amt Measured		0.270	mg/kg	
MSD % Recovery	108.000		%		
MSD Range	6.000		units		
Trichloroethylene	Sample Amount		<0.005	mg/kg	
	Matrix Spk Amt Added	0.250	mg/kg		
	MS Amt Measured	0.230	mg/kg		
	Matrix Spike % Rec.	91.820	%		
	Duplicate Sample Amt	<0.005	mg/kg		
	MSD Amount Added	0.250	mg/kg		
	MSD Amt Measured	0.245	mg/kg		
	MSD % Recovery	98.000	%		
	MSD Range	6.180	units		
	1,1-Dichloroethylene	Sample Amount	<0.003	mg/kg	
Matrix Spk Amt Added		0.250	mg/kg		
MS Amt Measured		0.265	mg/kg		
Matrix Spike % Rec.		106.000	%		
Duplicate Sample Amt		<0.003	mg/kg		

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
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Sample Id	Analysis	QC Analysis	Values	Units	Limits
		MSD Amount Added	0.250	mg/kg	
		MSD Amt Measured	0.270	mg/kg	
		MSD % Recovery	108.000	%	
		MSD Range	2.000	units	
	Chlorobenzene	Sample Amount	<0.003	mg/kg	
		Matrix Spk Amt Added	0.250	mg/kg	
		MS Amt Measured	0.265	mg/kg	
		Matrix Spike % Rec.	106.000	%	
		Duplicate Sample Amt	<0.003	mg/kg	
		MSD Amount Added	0.250	mg/kg	
		MSD Amt Measured	0.270	mg/kg	
		MSD % Recovery	108.000	%	
		MSD Range	2.000	units	
	1,2-Dichloroethane-d	Surrogate Recovery	100.400	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	88.400	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	103.200	%	62.000-137.000
99B23189	1,2-Dichloroethane-d	Surrogate Recovery	98.400	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	90.800	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	96.000	%	62.000-137.000
99B23190	1,2-Dichloroethane-d	Surrogate Recovery	96.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	90.800	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	96.000	%	62.000-137.000
99B23191	1,2-Dichloroethane-d	Surrogate Recovery	112.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	102.800	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	107.200	%	62.000-137.000
99B23192	1,2-Dichloroethane-d	Surrogate Recovery	94.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	89.200	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	103.600	%	62.000-137.000
BLANK-21868	Acetone	Blank	<0.250	mg/kg	
	Benzene	Blank	<0.003	mg/kg	
	Carbon Tetrachloride	Blank	<0.002	mg/kg	
	Chloroform	Blank	<0.004	mg/kg	
	1,2-Dichloroethane	Blank	<0.004	mg/kg	
	1,4-Dichlorobenzene	Blank	<0.004	mg/kg	
	Ethyl Benzene	Blank	<0.003	mg/kg	
	2-Butanone (MEK)	Blank	<0.060	mg/kg	
	MIBK	Blank	<0.044	mg/kg	
	Naphthalene	Blank	<0.005	mg/kg	
	Styrene	Blank	<0.004	mg/kg	



QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
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Sample Id	Analysis	QC Analysis	Values	Units	Limits
	Tetrachloroethylene	Blank	<0.002	mg/kg	
	Toluene	Blank	<0.004	mg/kg	
	1,1,1-Trichloroethan	Blank	<0.004	mg/kg	
	Trichloroethylene	Blank	<0.005	mg/kg	
	Trichlorofluorometha	Blank	<0.004	mg/kg	
	o + p Xylene	Blank	<0.002	mg/kg	
	m-Xylene	Blank	<0.006	mg/kg	
	1,2-Dichlorobenzene	Blank	<0.004	mg/kg	
	1,3-Dichlorobenzene	Blank	<0.003	mg/kg	
	1,1-Dichloroethane	Blank	<0.004	mg/kg	
	1,1-Dichloroethylene	Blank	<0.003	mg/kg	
	MTBE	Blank	<0.004	mg/kg	
	trans-1,2-Dichloroet	Blank	<0.004	mg/kg	
	Vinyl Chloride	Blank	<0.002	mg/kg	
	Methylene Chloride	Blank	0.167	mg/kg	
	Chlorobenzene	Blank	<0.003	mg/kg	
	Chloromethane	Blank	<0.006	mg/kg	
	Bromomethane	Blank	<0.006	mg/kg	
	Chloroethane	Blank	<0.004	mg/kg	
	cis-1,3-Dichloroprop	Blank	<0.002	mg/kg	
	trans-1,3-Dichloropr	Blank	<0.002	mg/kg	
	Chlorodibromomethane	Blank	<0.002	mg/kg	
	1,1,2-Trichloroethan	Blank	<0.004	mg/kg	
	2-Chloroethylvinylet	Blank	<0.048	mg/kg	
	Bromoform	Blank	<0.006	mg/kg	
	1,1,2,2-Tetrachloroe	Blank	<0.007	mg/kg	
	2-Chlorotoluene	Blank	<0.003	mg/kg	
	Hexachlorobutadiene	Blank	<0.006	mg/kg	
	Isopropylbenzene	Blank	<0.003	mg/kg	
	p-Isopropyltoluene	Blank	<0.004	mg/kg	
	n-Propylbenzene	Blank	<0.004	mg/kg	
	sec-Butylbenzene	Blank	<0.003	mg/kg	
	tert-Butylbenzene	Blank	<0.004	mg/kg	
	1,2,3-Trichlorobenze	Blank	<0.004	mg/kg	
	1,2,4-Trichlorobenze	Blank	<0.004	mg/kg	
	1,2,4-Trimethylbenze	Blank	<0.004	mg/kg	
	1,3,5-Trimethylbenze	Blank	<0.005	mg/kg	
	Dibromomethane	Blank	<0.006	mg/kg	
	cis-1,2-Dichloroethy	Blank	<0.002	mg/kg	

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SAMPLE QC: Sample Results with Duplicates  
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QC Batch Number: GCMS/VOL-4328

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
	4-Chlorotoluene	Blank	<0.003	mg/kg	
	1,1-Dichloropropene	Blank	<0.007	mg/kg	
	1,2-Dichloropropane	Blank	<0.003	mg/kg	
	1,3-Dichloropropane	Blank	<0.002	mg/kg	
	2,2-Dichloropropane	Blank	<0.004	mg/kg	
	1,1,1,2-Tetrachloroe	Blank	<0.002	mg/kg	
	1,2,3-Trichloropropa	Blank	<0.006	mg/kg	
	n-Butylbenzene	Blank	<0.004	mg/kg	
	Dichlorodifluorometh	Blank	<0.005	mg/kg	
	Bromochloromethane	Blank	<0.004	mg/kg	
	Bromobenzene	Blank	<0.002	mg/kg	
	Iodomethane	Blank	<0.004	mg/kg	
	Acrolein	Blank	<0.100	mg/kg	
	Acrylonitrile	Blank	<0.038	mg/kg	
	Carbon Disulfide	Blank	<0.015	mg/kg	
	Vinyl Acetate	Blank	<0.082	mg/kg	
	2-Hexanone	Blank	<0.048	mg/kg	
	trans-1,4-Dichloro-2	Blank	<0.010	mg/kg	
	Ethyl Methacrylate	Blank	<0.004	mg/kg	
	cis-1,4-Dichloro-2-B	Blank	<0.012	mg/kg	
	Bromodichloromethane	Blank	<0.002	mg/kg	
	1,2-Dibromo-3-Chloro	Blank	<0.008	mg/kg	
	1,2-Dibromoethane	Blank	<0.004	mg/kg	

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QC Batch Number: GCMS/VOL-4329

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23193	1,2-Dichloroethane-d	Surrogate Recovery	99.600	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	93.200	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	102.000	%	62.000-137.000
99B23194	1,2-Dichloroethane-d	Surrogate Recovery	88.400	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	92.400	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	104.000	%	62.000-137.000
99B23195	1,2-Dichloroethane-d	Surrogate Recovery	96.000	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	94.000	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	97.200	%	62.000-137.000
99B23196	1,2-Dichloroethane-d	Surrogate Recovery	95.600	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	91.200	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	93.200	%	62.000-137.000
99B23197	1,2-Dichloroethane-d	Surrogate Recovery	92.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	93.200	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	101.600	%	62.000-137.000
99B23198	1,2-Dichloroethane-d	Surrogate Recovery	100.000	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	92.400	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	98.800	%	62.000-137.000
99B23199	1,2-Dichloroethane-d	Surrogate Recovery	93.600	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	91.600	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	102.000	%	62.000-137.000
99B23200	1,2-Dichloroethane-d	Surrogate Recovery	102.000	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	91.200	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	92.400	%	62.000-137.000
99B23201	1,2-Dichloroethane-d	Surrogate Recovery	98.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	93.200	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	94.400	%	62.000-137.000
99B23202	1,2-Dichloroethane-d	Surrogate Recovery	96.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	90.400	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	98.800	%	62.000-137.000
99B23203	1,2-Dichloroethane-d	Surrogate Recovery	96.800	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	91.600	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	98.400	%	62.000-137.000
99B23204	1,2-Dichloroethane-d	Surrogate Recovery	98.400	%	56.000-128.000
	Toluene-d8	Surrogate Recovery	89.600	%	65.000-113.000
	Bromofluorobenzene	Surrogate Recovery	92.800	%	62.000-137.000

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
 Sample Matrix Spikes and Matrix Spike Duplicates

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QC Batch Number: HG-1248

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23211	Mercury	Sample Amount	<0.00004	mg/l	
		Duplicate Value	0.00000	mg/l	
		Sample Amount	<0.00004	mg/l	
		Matrix Spk Amt Added	0.00200	mg/l	
		MS Amt Measured	0.00256	mg/l	
		Matrix Spike % Rec.	128.00000	%	45.50000-163.00000
BLANK-21800	Mercury	Blank	<0.00004	mg/l	
STDADD-13495	Mercury	Standard Measured	0.00222	mg/l	
		Standard Amt Added	0.00200	mg/l	
		Standard % Recovery	111.00000	%	88.60000-114.00000

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

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QC Batch Number: HG-1250

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23182	Mercury	Sample Amount	0.088	mg/kg	
		Duplicate Value	0.068	mg/kg	
		Duplicate RPD	25.730	%	
99B23191	Mercury	Sample Amount	0.414	mg/kg	
		Duplicate Value	0.343	mg/kg	
		Duplicate RPD	18.767	%	
		Sample Amount	0.414	mg/kg	
		Matrix Spk Amt Added	0.423	mg/kg	
		MS Amt Measured	0.715	mg/kg	
		Matrix Spike % Rec.	71.296	%	
99B23196	Mercury	Sample Amount	0.011	mg/kg	
		Duplicate Value	0.014	mg/kg	
		Duplicate RPD	22.590	%	
BLANK-21806	Mercury	Blank	<0.010	mg/kg	
LFBLANK-09830	Mercury	Lab Fort Blank Amt.	0.500	mg/kg	
		Lab Fort Blk. Found	0.495	mg/kg	
		Lab Fort Blk. % Rec.	99.000	%	
		Dup Lab Fort Bl Amt.	0.500	mg/kg	
		Dup Lab Fort Bl. Fnd	0.488	mg/kg	
		Dup Lab Fort Bl %Rec	97.500	%	
		Lab Fort Blank Range	1.500	units	
		Lab Fort Bl. Av. Rec	98.250	%	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

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QC Batch Number: HG/TCLP-0614

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23145	Mercury	Sample Amount	<0.00004	MG/L LEACHATE	
		Matrix Spk Amt Added	0.00200	MG/L LEACHATE	
		MS Amt Measured	0.00262	MG/L LEACHATE	
		Matrix Spike % Rec.	131.00000	%	0.25000-150.00000
99B23146	Mercury	Sample Amount	<0.00004	MG/L LEACHATE	
		Matrix Spk Amt Added	0.00200	MG/L LEACHATE	
		MS Amt Measured	0.00259	MG/L LEACHATE	
		Matrix Spike % Rec.	129.50000	%	0.25000-150.00000
99B23147	Mercury	Sample Amount	<0.00004	MG/L LEACHATE	
		Matrix Spk Amt Added	0.00200	MG/L LEACHATE	
		MS Amt Measured	0.00247	MG/L LEACHATE	
		Matrix Spike % Rec.	123.50000	%	0.25000-150.00000
99B23148	Mercury	Sample Amount	0.00006	MG/L LEACHATE	
		Matrix Spk Amt Added	0.00200	MG/L LEACHATE	
		MS Amt Measured	0.00276	MG/L LEACHATE	
		Matrix Spike % Rec.	135.25000	%	0.25000-150.00000
BLANK-21801	Mercury	Blank	<0.00004	MG/L LEACHATE	
BLANK-21802	Mercury	Blank	<0.00004	MG/L LEACHATE	
STDADD-13496	Mercury	Standard Measured	0.00222	MG/L LEACHATE	
		Standard Amt Added	0.00200	MG/L LEACHATE	
		Standard % Recovery	111.00000	%	

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SAMPLE QC: Sample Results with Duplicates  
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QC Batch Number: ICP-3809

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99823173	Silver	Sample Amount	<0.50	mg/kg	
		Duplicate Value	0.50	mg/kg	
		Duplicate RPD	0.00	%	
	Arsenic	Sample Amount	<5.00	mg/kg	
		Duplicate Value	0.00	mg/kg	
		Duplicate RPD	200.00	%	
	Barium	Sample Amount	22.45	mg/kg	
		Duplicate Value	22.16	mg/kg	
		Duplicate RPD	1.32	%	
	Cadmium	Sample Amount	<0.05	mg/kg	
		Duplicate Value	0.05	mg/kg	
		Duplicate RPD	0.00	%	
	Chromium	Sample Amount	3.82	mg/kg	
		Duplicate Value	4.76	mg/kg	
		Duplicate RPD	21.78	%	
	Lead	Sample Amount	11.44	mg/kg	
		Duplicate Value	8.34	mg/kg	
		Duplicate RPD	31.40	%	
	Selenium	Sample Amount	<5.00	mg/kg	
		Duplicate Value	0.00	mg/kg	
99823182	Silver	Sample Amount	<0.50	mg/kg	
		Duplicate Value	0.00	mg/kg	
		Sample Amount	<0.50	mg/kg	
		Matrix Spk Amt Added	100.00	mg/kg	
		MS Amt Measured	89.00	mg/kg	
		Matrix Spike % Rec.	89.00	%	
	Arsenic	Sample Amount	6.42	mg/kg	
		Duplicate Value	0.00	mg/kg	
		Duplicate RPD	200.00	%	
		Sample Amount	6.42	mg/kg	
		Matrix Spk Amt Added	100.00	mg/kg	
		MS Amt Measured	94.00	mg/kg	
		Matrix Spike % Rec.	87.58	%	
	Barium	Sample Amount	32.53	mg/kg	
		Duplicate Value	26.72	mg/kg	
		Duplicate RPD	19.63	%	
		Sample Amount	32.53	mg/kg	
		Matrix Spk Amt Added	100.00	mg/kg	
		MS Amt Measured	122.55	mg/kg	

SAMPLE QC: Sample Results with Duplicates  
 Sample Matrix Spikes and Matrix Spike Duplicates

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QC Batch Number: ICP-3809

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
99823191	Cadmium	Matrix Spike % Rec.	90.02	%	
		Sample Amount	<0.05	mg/kg	
		Duplicate Value	0.05	mg/kg	
		Duplicate RPD	0.00	%	
	Chromium	Sample Amount	<0.05	mg/kg	
		Matrix Spk Amt Added	100.00	mg/kg	
		MS Amt Measured	87.75	mg/kg	
		Matrix Spike % Rec.	87.70	%	
		Sample Amount	7.66	mg/kg	
		Duplicate Value	8.05	mg/kg	
		Duplicate RPD	4.96	%	
		Sample Amount	7.66	mg/kg	
Lead	Matrix Spk Amt Added	100.00	mg/kg		
	MS Amt Measured	96.85	mg/kg		
	Matrix Spike % Rec.	89.19	%		
	Sample Amount	28.23	mg/kg		
	Duplicate Value	28.93	mg/kg		
	Duplicate RPD	2.45	%		
	Sample Amount	28.23	mg/kg		
	Matrix Spk Amt Added	100.00	mg/kg		
Selenium	MS Amt Measured	128.65	mg/kg		
	Matrix Spike % Rec.	100.42	%		
	Sample Amount	<5.00	mg/kg		
	Duplicate Value	0.00	mg/kg		
	Sample Amount	<5.00	mg/kg		
	Matrix Spk Amt Added	100.00	mg/kg		
	MS Amt Measured	90.55	mg/kg		
	Matrix Spike % Rec.	90.55	%		
Silver	Sample Amount	<0.50	mg/kg		
	Duplicate Value	0.50	mg/kg		
	Duplicate RPD	0.00	%		
Arsenic	Sample Amount	<5.00	mg/kg		
	Duplicate Value	0.00	mg/kg		
Barium	Sample Amount	19.87	mg/kg		
	Duplicate Value	19.86	mg/kg		
	Duplicate RPD	0.08	%		
Cadmium	Sample Amount	0.18	mg/kg		
	Duplicate Value	0.22	mg/kg		
	Duplicate RPD	15.00	%		



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23203	Chromium	Sample Amount	5.02	mg/kg	
		Duplicate Value	4.62	mg/kg	
		Duplicate RPD	8.31	%	
	Lead	Sample Amount	7.34	mg/kg	
		Duplicate Value	6.68	mg/kg	
		Duplicate RPD	9.34	%	
	Selenium	Sample Amount	<5.00	mg/kg	
		Duplicate Value	0.00	mg/kg	
	Silver	Sample Amount	<0.50	mg/kg	
		Duplicate Value	0.50	mg/kg	
		Duplicate RPD	0.00	%	
		Sample Amount	<0.50	mg/kg	
		Matrix Spk Amt Added	100.00	mg/kg	
		MS Amt Measured	86.00	mg/kg	
		Matrix Spike % Rec.	86.00	%	
	Arsenic	Sample Amount	<5.00	mg/kg	
		Duplicate Value	0.00	mg/kg	
		Sample Amount	<5.00	mg/kg	
		Matrix Spk Amt Added	100.00	mg/kg	
	Barium	MS Amt Measured	87.55	mg/kg	
		Matrix Spike % Rec.	87.55	%	
		Sample Amount	16.40	mg/kg	
		Duplicate Value	16.39	mg/kg	
	Cadmium	Duplicate RPD	0.06	%	
		Sample Amount	16.40	mg/kg	
		Matrix Spk Amt Added	100.00	mg/kg	
		MS Amt Measured	109.50	mg/kg	
		Matrix Spike % Rec.	93.10	%	
Sample Amount		<0.05	mg/kg		
Duplicate Value		0.05	mg/kg		
Chromium	Duplicate RPD	0.00	%		
	Sample Amount	<0.05	mg/kg		
	Matrix Spk Amt Added	100.00	mg/kg		
	MS Amt Measured	85.80	mg/kg		
Chromium	Matrix Spike % Rec.	85.80	%		
	Sample Amount	3.44	mg/kg		
	Duplicate Value	3.52	mg/kg		
Chromium	Duplicate RPD	2.30	%		
	Sample Amount	3.44	mg/kg		

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QC Batch Number: ICP-3809

Sample Id	Analysis	QC Analysis	Values	Units	Limits
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		Matrix Spk Amt Added	100.00	mg/kg	
		MS Amt Measured	94.00	mg/kg	
		Matrix Spike % Rec.	90.56	%	
	Lead	Sample Amount	2.80	mg/kg	
		Duplicate Value	3.50	mg/kg	
		Duplicate RPD	22.05	%	
		Sample Amount	2.80	mg/kg	
		Matrix Spk Amt Added	100.00	mg/kg	
		MS Amt Measured	91.35	mg/kg	
		Matrix Spike % Rec.	88.54	%	
	Selenium	Sample Amount	<5.00	mg/kg	
		Duplicate Value	0.00	mg/kg	
		Sample Amount	<5.00	mg/kg	
		Matrix Spk Amt Added	100.00	mg/kg	
		MS Amt Measured	84.45	mg/kg	
		Matrix Spike % Rec.	84.45	%	
LFBLANK-09835	Silver	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	92.90	mg/kg	
		Lab Fort Blk. % Rec.	92.90	%	
	Arsenic	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	92.45	mg/kg	
		Lab Fort Blk. % Rec.	92.45	%	
	Barium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	93.75	mg/kg	
		Lab Fort Blk. % Rec.	93.75	%	
	Cadmium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	90.35	mg/kg	
		Lab Fort Blk. % Rec.	90.35	%	
	Chromium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	95.95	mg/kg	
		Lab Fort Blk. % Rec.	95.95	%	
	Lead	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	95.10	mg/kg	
		Lab Fort Blk. % Rec.	95.10	%	
	Selenium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	94.30	mg/kg	
		Lab Fort Blk. % Rec.	94.30	%	
LFBLANK-09836	Silver	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	92.25	mg/kg	

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QC Batch Number: ICP-3809

Sample Id	Analysis	QC Analysis	Values	Units	Limits
		Lab Fort Blk. % Rec.	92.25	%	
	Arsenic	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	94.05	mg/kg	
		Lab Fort Blk. % Rec.	94.05	%	
	Barium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	92.95	mg/kg	
		Lab Fort Blk. % Rec.	92.95	%	
	Cadmium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	89.15	mg/kg	
		Lab Fort Blk. % Rec.	89.15	%	
	Chromium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	94.75	mg/kg	
		Lab Fort Blk. % Rec.	94.75	%	
	Lead	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	93.90	mg/kg	
		Lab Fort Blk. % Rec.	93.90	%	
	Selenium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	87.85	mg/kg	
		Lab Fort Blk. % Rec.	87.85	%	
LFBLANK-09844	Silver	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	88.40	mg/kg	
		Lab Fort Blk. % Rec.	88.40	%	
	Arsenic	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	87.85	mg/kg	
		Lab Fort Blk. % Rec.	87.85	%	
	Barium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	88.55	mg/kg	
		Lab Fort Blk. % Rec.	88.55	%	
	Cadmium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	85.95	mg/kg	
		Lab Fort Blk. % Rec.	85.95	%	
	Chromium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	91.10	mg/kg	
		Lab Fort Blk. % Rec.	91.10	%	
	Lead	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	92.15	mg/kg	
		Lab Fort Blk. % Rec.	92.15	%	
	Selenium	Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	89.55	mg/kg	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
Standard Reference Materials and Duplicates  
Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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QC Batch Number: ICP-3809

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
LFBLANK-09845	Silver	Lab Fort Blk. % Rec.	89.55	%	
		Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	90.55	mg/kg	
	Arsenic	Lab Fort Blk. % Rec.	90.55	%	
		Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	88.65	mg/kg	
	Barium	Lab Fort Blk. % Rec.	88.65	%	
		Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	90.10	mg/kg	
	Cadmium	Lab Fort Blk. % Rec.	90.10	%	
		Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	87.80	mg/kg	
	Chromium	Lab Fort Blk. % Rec.	87.80	%	
		Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	92.60	mg/kg	
	Lead	Lab Fort Blk. % Rec.	92.60	%	
		Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	91.90	mg/kg	
	Selenium	Lab Fort Blk. % Rec.	91.90	%	
		Lab Fort Blank Amt.	100.00	mg/kg	
		Lab Fort Blk. Found	86.95	mg/kg	
		Lab Fort Blk. % Rec.	86.95	%	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
 Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
 Standard Reference Materials and Duplicates  
 Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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QC Batch Number: ICP-3810

Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-21787	Silver	Blank	<0.002	mg/l	
	Arsenic	Blank	<0.02	mg/l	
	Barium	Blank	<0.0005	mg/l	
	Cadmium	Blank	<0.0002	mg/l	
	Chromium	Blank	<0.002	mg/l	
	Lead	Blank	<0.01	mg/l	
	Selenium	Blank	<0.02	mg/l	
STDADD-13491	Silver	Standard Measured	1.063	mg/l	
		Standard Amt Added	1.000	mg/l	
		Standard % Recovery	106.300	%	87.200-116.000
	Arsenic	Standard Measured	1.07	mg/l	
		Standard Amt Added	1.00	mg/l	
		Standard % Recovery	107.20	%	85.20-113.00
	Barium	Standard Measured	1.0170	mg/l	
		Standard Amt Added	1.0000	mg/l	
		Standard % Recovery	101.7000	%	90.2000-116.0000
	Cadmium	Standard Measured	1.0910	mg/l	
		Standard Amt Added	1.0000	mg/l	
		Standard % Recovery	109.1000	%	86.0000-112.0000
	Chromium	Standard Measured	1.090	mg/l	
		Standard Amt Added	1.000	mg/l	
		Standard % Recovery	109.000	%	89.600-117.000
Lead	Standard Measured	1.12	mg/l		
	Standard Amt Added	1.00	mg/l		
	Standard % Recovery	111.90	%	87.20-113.00	
Selenium	Standard Measured	1.12	mg/l		
	Standard Amt Added	1.00	mg/l		
	Standard % Recovery	111.50	%	86.30-113.00	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
 Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
 Standard Reference Materials and Duplicates  
 Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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QC Batch Number: ICP/TCLP-0896

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23145	Silver	Sample Amount	<0.01	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	0.62	MG/L LEACHATE	
		Matrix Spike % Rec.	30.84	%	0.00-168.00
	Arsenic	Sample Amount	<0.02	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	1.94	MG/L LEACHATE	
		Matrix Spike % Rec.	97.10	%	23.00-132.00
	Barium	Sample Amount	0.14	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	2.11	MG/L LEACHATE	
		Matrix Spike % Rec.	98.61	%	29.00-146.00
	Cadmium	Sample Amount	<0.01	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	1.98	MG/L LEACHATE	
		Matrix Spike % Rec.	98.75	%	37.00-131.00
	Chromium	Sample Amount	<0.01	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	2.02	MG/L LEACHATE	
		Matrix Spike % Rec.	100.85	%	0.45-122.00
	Lead	Sample Amount	<0.01	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	2.01	MG/L LEACHATE	
		Matrix Spike % Rec.	100.50	%	21.00-143.00
	Selenium	Sample Amount	<0.02	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	1.97	MG/L LEACHATE	
		Matrix Spike % Rec.	98.70	%	17.00-150.00
99B23146	Silver	Sample Amount	<0.01	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	0.30	MG/L LEACHATE	
		Matrix Spike % Rec.	14.84	%	0.00-168.00
	Arsenic	Sample Amount	<0.02	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	2.09	MG/L LEACHATE	
		Matrix Spike % Rec.	104.55	%	23.00-132.00
	Barium	Sample Amount	0.11	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	2.14	MG/L LEACHATE	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
Standard Reference Materials and Duplicates  
Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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QC Batch Number: ICP/TCLP-0896

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99823147	Cadmium	Matrix Spike % Rec.	101.25	%	29.00-146.00
		Sample Amount	<0.01	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
	Chromium	MS Amt Measured	2.04	MG/L LEACHATE	
		Matrix Spike % Rec.	102.20	%	37.00-131.00
		Sample Amount	<0.01	MG/L LEACHATE	
	Lead	Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	2.07	MG/L LEACHATE	
		Matrix Spike % Rec.	103.60	%	0.45-122.00
	Selenium	Sample Amount	<0.01	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	2.09	MG/L LEACHATE	
Silver	Matrix Spike % Rec.	104.55	%	21.00-143.00	
	Sample Amount	<0.02	MG/L LEACHATE		
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
Arsenic	MS Amt Measured	2.05	MG/L LEACHATE		
	Matrix Spike % Rec.	102.55	%	17.00-150.00	
	Sample Amount	<0.01	MG/L LEACHATE		
Barium	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
	MS Amt Measured	2.00	MG/L LEACHATE		
	Matrix Spike % Rec.	100.20	%	23.00-132.00	
Cadmium	Sample Amount	0.41	MG/L LEACHATE		
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
	MS Amt Measured	2.41	MG/L LEACHATE		
Chromium	Matrix Spike % Rec.	99.66	%	29.00-146.00	
	Sample Amount	<0.01	MG/L LEACHATE		
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
Lead	MS Amt Measured	1.95	MG/L LEACHATE		
	Matrix Spike % Rec.	97.30	%	37.00-131.00	
	Sample Amount	<0.01	MG/L LEACHATE		
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
	MS Amt Measured	1.99	MG/L LEACHATE		
	Matrix Spike % Rec.	99.55	%	0.45-122.00	
	Sample Amount	<0.01	MG/L LEACHATE		
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
Standard Reference Materials and Duplicates  
Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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QC Batch Number: ICP/TCLP-0896

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23148	Selenium	MS Amt Measured	1.99	MG/L LEACHATE	21.00-143.00
		Matrix Spike % Rec.	99.30	%	
		Sample Amount	<0.02	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	1.96	MG/L LEACHATE	
		Matrix Spike % Rec.	98.05	%	
	Silver	Sample Amount	<0.01	MG/L LEACHATE	17.00-150.00
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	1.90	MG/L LEACHATE	
		Matrix Spike % Rec.	95.00	%	
		Sample Amount	<0.02	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
	Arsenic	MS Amt Measured	1.94	MG/L LEACHATE	0.00-168.00
		Matrix Spike % Rec.	96.80	%	
		Sample Amount	0.18	MG/L LEACHATE	
		Matrix Spk Amt Added	2.00	MG/L LEACHATE	
		MS Amt Measured	2.16	MG/L LEACHATE	
		Matrix Spike % Rec.	98.66	%	
Barium	Sample Amount	<0.01	MG/L LEACHATE	23.00-132.00	
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
	MS Amt Measured	1.92	MG/L LEACHATE		
	Matrix Spike % Rec.	96.00	%		
	Sample Amount	<0.01	MG/L LEACHATE		
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
Cadmium	MS Amt Measured	1.97	MG/L LEACHATE	29.00-146.00	
	Matrix Spike % Rec.	98.55	%		
	Sample Amount	0.01	MG/L LEACHATE		
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
	MS Amt Measured	1.96	MG/L LEACHATE		
	Matrix Spike % Rec.	97.51	%		
Chromium	Sample Amount	<0.02	MG/L LEACHATE	37.00-131.00	
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
	MS Amt Measured	1.97	MG/L LEACHATE		
	Matrix Spike % Rec.	98.55	%		
	Sample Amount	0.01	MG/L LEACHATE		
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
Lead	MS Amt Measured	1.96	MG/L LEACHATE	0.45-122.00	
	Matrix Spike % Rec.	97.51	%		
	Sample Amount	<0.02	MG/L LEACHATE		
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
	MS Amt Measured	1.95	MG/L LEACHATE		
	Matrix Spike % Rec.	97.30	%		
Selenium	Sample Amount	<0.02	MG/L LEACHATE	21.00-143.00	
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
	MS Amt Measured	1.95	MG/L LEACHATE		
	Matrix Spike % Rec.	97.30	%		
	Sample Amount	<0.01	MG/L LEACHATE		
	Matrix Spk Amt Added	2.00	MG/L LEACHATE		
BLANK-21812	Silver	Blank	<0.01	MG/L LEACHATE	17.00-15
	Arsenic	Blank	<0.02	MG/L LEACHATE	
	Barium	Blank	0.08	MG/L LEACHATE	
	Cadmium	Blank	<0.01	MG/L LEACHATE	
	Chromium	Blank	<0.01	MG/L LEACHATE	



QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
Standard Reference Materials and Duplicates  
Method Blanks

Report Date: 10/28/99

Lims Bat #: LIHS-44773

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QC Batch Number: ICP/TCLP-0896

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
	Lead	Blank	<0.01	MG/L LEACHATE	
	Selenium	Blank	<0.02	MG/L LEACHATE	
STDADD-13499	Silver	Standard Measured	1.02	MG/L LEACHATE	
		Standard Amt Added	1.00	MG/L LEACHATE	
		Standard % Recovery	101.80	%	
	Arsenic	Standard Measured	1.12	MG/L LEACHATE	
		Standard Amt Added	1.00	MG/L LEACHATE	
		Standard % Recovery	111.60	%	
	Barium	Standard Measured	1.02	MG/L LEACHATE	
		Standard Amt Added	1.00	MG/L LEACHATE	
		Standard % Recovery	102.10	%	
	Cadmium	Standard Measured	1.09	MG/L LEACHATE	
		Standard Amt Added	1.00	MG/L LEACHATE	
		Standard % Recovery	108.80	%	
	Chromium	Standard Measured	1.08	MG/L LEACHATE	
		Standard Amt Added	1.00	MG/L LEACHATE	
		Standard % Recovery	108.40	%	
	Lead	Standard Measured	1.12	MG/L LEACHATE	
		Standard Amt Added	1.00	MG/L LEACHATE	
		Standard % Recovery	112.00	%	
	Selenium	Standard Measured	1.08	MG/L LEACHATE	
		Standard Amt Added	1.00	MG/L LEACHATE	
		Standard % Recovery	107.60	%	

## QC SUMMARY REPORT

 SAMPLE QC: Sample Results with Duplicates  
 Sample Matrix Spikes and Matrix Spike Duplicates

 BATCH QC: Lab Fortified Blanks and Duplicates  
 Standard Reference Materials and Duplicates  
 Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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QC Batch Number: TPH-1443

Sample Id	Analysis	QC Analysis	Values	Units	Limits
-----	-----	-----	-----	-----	-----
LFBLANK-09817	Total Petroleum Hydr	Lab Fort Blank Amt.	20.00	mg/l	
		Lab Fort Blk. Found	18.71	mg/l	
		Lab Fort Blk. % Rec.	93.55	%	
		Dup Lab Fort Bl Amt.	20.00	mg/l	
		Dup Lab Fort Bl. Fnd	19.15	mg/l	
		Dup Lab Fort Bl %Rec	95.75	%	
		Lab Fort Blank Range	2.20	units	0.00-16.30
		Lab Fort Bl. Av. Rec	94.65	%	73.50-107.00

QC SUMMARY REPRDT

SAMPLE QC: Sample Results with Duplicates  
 Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
 Standard Reference Materials and Duplicates  
 Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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QC Batch Number: TPH-1445

Sample Id	Analysis	QC Analysis	Values	Units	Limits
99B23182	Total Petroleum Hydr	Sample Amount	18.97	mg/kg	
		Duplicate Value	19.53	mg/kg	
		Duplicate RPD	2.91	%	
		Sample Amount	18.97	mg/kg	
		Matrix Spk Amt Added	1869.00	mg/kg	
		MS Amt Measured	1501.41	mg/kg	
		Matrix Spike % Rec.	79.32	%	50.20-124.00
99B23191	Total Petroleum Hydr	Sample Amount	22.38	mg/kg	
		Duplicate Value	19.54	mg/kg	
		Duplicate RPD	13.55	%	
		Sample Amount	22.38	mg/kg	
		Matrix Spk Amt Added	1917.00	mg/kg	
		MS Amt Measured	1554.28	mg/kg	
		Matrix Spike % Rec.	79.91	%	50.20-124.00
99B23202	Total Petroleum Hydr	Sample Amount	25.83	mg/kg	
		Duplicate Value	27.00	mg/kg	
		Duplicate RPD	4.42	%	
		Sample Amount	25.83	mg/kg	
		Matrix Spk Amt Added	1890.00	mg/kg	
		MS Amt Measured	1513.81	mg/kg	
		Matrix Spike % Rec.	78.73	%	50.20-124.00
99B23204	Total Petroleum Hydr	Sample Amount	23.61	mg/kg	
		Duplicate Value	27.74	mg/kg	
		Duplicate RPD	16.09	%	
		Sample Amount	23.61	mg/kg	
		Matrix Spk Amt Added	1902.00	mg/kg	
		MS Amt Measured	1551.44	mg/kg	
		Matrix Spike % Rec.	80.33	%	50.20-124.00
STDADD-13493	Total Petroleum Hydr	Standard Measured	1873.34	mg/kg	
		Standard Amt Added	2036.00	mg/kg	
		Standard % Recovery	92.01	%	

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab Fortified Blanks and Duplicates  
Standard Reference Materials and Duplicates  
Method Blanks

Report Date: 10/28/99

Lims Bat #: LIMS-44773

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NOTES:

QC Batch No.: GCMS/SEMI-2033  
Sample ID: 99B23205  
Analysis: Terphenyl - D14  
QC Analysis: Surrogate Recovery  
SURROGATE RECOVERY OUTSIDE OF CON-TEST CONTRDL LIMITS, BUT WITHIN  
METHOD REQUIREMENTS.

QC Batch No.: GCMS/SEMI-2033  
Sample ID: 99B23210  
Analysis: Terphenyl - D14  
QC Analysis: Surrogate Recovery  
SURROGATE RECOVERY OUTSIDE OF CON-TEST CONTROL LIMITS, BUT WITHIN  
METHOD REQUIREMENTS.

QC Batch No.: GCMS/SEMI-2033  
Sample ID: 99B23211  
Analysis: Terphenyl - D14  
QC Analysis: Surrogate Recovery  
SURROGATE RECOVERY OUTSIDE OF CON-TEST CONTROL LIMITS, BUT WITHIN  
METHOD REQUIREMENTS.

QC Batch No.: GCMS/SEMI-2040  
Sample ID: 99B23202  
Analysis: 2-Fluorobiphenyl  
QC Analysis: Surrogate Recovery  
SURROGATE RECOVERY OUTSIDE OF CON-TEST CONTROL LIMITS, BUT WITHIN  
METHOD REQUIREMENTS.



(413) 525-2332  
FAX (413) 525-6405

# CHAIN OF CUSTODY RECORD

39 SPRUCE ST. • 2ND FLOOR • EAST LONGMEADOW, MA 01028

P. 1 OF 6

Client Name: CITDOT / MAGUIRE / Logical Environments  
 Attn: C Knight  
 Address: 354 South River Rd.  
TOLLAND CT 06084  
 Site Location: New Haven - Parcel B  
 Sampled By: C Knight  
 Call Results: Yes  No   
 Fax Results: Yes  No

Telephone: 8608701780  
 Batch #: \_\_\_\_\_  
 Project #: 301-49  
 CITDOT Client P.O. #: 982-70  
 Fax #: 8608701778

Field Sample I.D.	Sample Description	Lab #	DATE SAMPLED		Composite	Grab	MATRIX						Preservative (Use Code)	Container (Use Code)	Analysis Required													
			Start Date/Time	Stop Date/Time			WASTE WATER	GROUND WATER	DKG WATER	Soil	Air	Other																
GP-1	4'-6"		10/16/99		X				X						X	VOCs - 8260	X	TPH - 418.1	X	SVOCs (PAHs) - 8270	X	Pesticides + PCBs (8080)	X	Total RCRA 8	X	SPLP RCRA 8	X	
GP-2	2'-4"				X				X						X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP-3	4'-8"				X				X						X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP-4	2'-4"				X				X						X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP-5	2'-4"				X				X						X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP-6	4'-8"				X				X						X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP-7	4'-8"				X				X						X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP-8	2'-4"				X				X						X	X	X	X	X	X	X	X	X	X	X	X	X	X

CONTAINER CODE  
 P: PLASTIC (\_\_\_ Size) V = 40 ml vial G = Glass (\_\_\_ size) A = 1000 ml Amber 0 = Other \_\_\_  
 I = ICED N = HNO<sub>3</sub> H = HCl S = NaOH T = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> O = OTHER

Relinquished by: (Signature) [Signature] Date Time 10/18/99 10:30  
 Received by: (Signature) [Signature]  
 Relinquished by: (Signature) [Signature] Date Time \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_  
 Relinquished by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_

Turnaround Requested: \_\_\_\_\_ 24-Hour \_\_\_\_\_ 48-Hour  Normal  
 Other \_\_\_\_\_ Date Required \_\_\_\_\_

Remarks/Comments: \_\_\_\_\_

\*MATRIX OTHER \_\_\_\_\_



(413) 525-2332  
FAX (413) 525-6405

# CHAIN OF CUSTODY RECORD

39 SPRUCE ST. • 2ND FLOOR • EAST LONGMEADOW, MA 01028

Client Name: CTDOT / Maguire / LES  
 Attn: C. Knight  
 Address: 354 South River Rd.  
TOLLAND CT 06084  
 Site Location: New Haven - Parcel B  
 Sampled By: CKnight  
 Call Results: Yes  No   
 Fax Results: Yes  No   
 Telephone: 8608701780  
 Batch #: \_\_\_\_\_  
 Project #: 301-49  
 Client P.O. #: 98270  
 Fax #: 8608701778

Field Sample I.D.	Sample Description	Lab #	DATE SAMPLED		Composite	Grab	MATRIX						Preservative (Use Code)	Container (Use Code)	Analysis Required
			Start Date/Time	Stop Date/Time			WASTE WATER	GROUND WATER	DKG WATER	Soil	Air	Other			
GP-9	4'-8"		10/16/99		X				X					X	VOCs - 8260 TPH - 418.1 SVOCs (PAHs) 8270 Pesticides + PCBs (8080) Total RCRA 8 SPLP RCRA 8
GP-10	2'-4"				X				X					X	
GP-11	4'-8"				X				X					X	
GP-12	4'-8"				X				X					X	
GP-13	4'-8"				X				X					X	
GP-14	2'-4"				X				X					X	
GP-15	2'-4"				X				X					X	
GP-16	4'-8"				X				X					X	

CONTAINER CODE  
 P: PLASTIC (\_\_\_ Size) V = 40 ml vial G = Glass (\_\_\_ size) A = 1000 ml Amber 0 = Other \_\_\_  
 I = ICED N = HNO<sub>3</sub> H = HCl S = NaOH T = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> O = OTHER

Relinquished by: (Signature) [Signature] Date Time 10/17/99 Received by: (Signature) [Signature] Date Time 10/20  
 Relinquished by: (Signature) [Signature] Date Time \_\_\_\_\_ Received by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_  
 Relinquished by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_ Received by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_

Turnaround Requested: \_\_\_\_\_ 24-Hour \_\_\_\_\_ 48-Hour  Normal  
 Other \_\_\_\_\_ Date Required \_\_\_\_\_

Remarks/Comments: \_\_\_\_\_

\*MATRIX OTHER \_\_\_\_\_

# CHAIN OF CUSTODY RECORD

Client Name: CTDOT / Maguire / LLS  
 Attn: C Knight  
 Address: 354 S. River Rd.  
TOLLAND CT 06084  
 Site Location: New Haven - Parcel B  
 Sampled By: C Knight  
 Call Results: Yes \_\_\_ No X  
 Fax Results: Yes \_\_\_ No X

Field Sample I.D.	Sample Description	Lab #	DATE SAMPLED Start Date/Time Stop Date/Time	Composite	Grab	MATRIX					Preservative (Use Code)	Container (Use Code)	Analysis Required
						WASTE WATER	GROUND WATER	DKG WATER	Soil	Air			
GP-17	2'-4'		10/16/99	X				X					VOCs - 8260 TPH - 418.1 SVOCs - PAHs - 8270 Pests. + PCBs 8080 Total RCRA 8 SPLP RCRA 8
GP-18	2'-4'		12/15/99	X				X					X
GP-19	4'-8'			X				X					X
GP-20	2'-4'			X				X					X
GP-21	4'-8'			X				X					X
GP-22	2'-4'			X				X					X
GP-23	2'-4'			X				X					X
GP-24	4'-8'			X				X					X

Telephone: 860 870 1780  
 Batch #: \_\_\_\_\_  
 Project #: 301-49  
 Client P.O. #: CTDOT 98270  
 Fax #: 860 870 1778

CONTAINER CODE: P: PLASTIC (\_\_\_ Size) V = 40 ml vial G = Glass (\_\_\_ size) A = 1000 ml Amber 0 = Other  
 PRESERVATIVE CODE: I = ICED N = HNO<sub>3</sub> H = HCl S = NaOH T = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> O = OTHER

Relinquished by: (Signature) [Signature] Date Time 10/18/99  
 Received by: (Signature) [Signature] Date Time 12/30

Relinquished by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_

Turnaround Requested: \_\_\_\_\_ 24-Hour \_\_\_\_\_ 48-Hour \_\_\_\_\_ Normal \_\_\_\_\_  
 Other \_\_\_\_\_ Date Required \_\_\_\_\_

Remarks/Comments: \_\_\_\_\_

\*MATRIX OTHER \_\_\_\_\_



(413) 525-2332  
FAX (413) 525-6405

# CHAIN OF CUSTODY RECORD

39 SPRUCE ST. • 2ND FLOOR • EAST LONGMEADOW, MA 01028

P. 4 OF 6

Client Name: CTDOT / Maguire / LES  
 Attn: C Knight  
 Address: 354 S. RIVER RD.  
TOLLAND CT 06084  
 Site Location: New HAVEN - Parcel B  
 Sampled By: C Knight  
 Call Results: Yes  No   
 Fax Results: Yes  No

Telephone: 8608701780  
 Batch #: \_\_\_\_\_  
 Project #: 301-49  
 Client: CTDOT  
 P.O. #: 98270  
 Fax #: 8608701778

Field Sample I.D.	Sample Description	Lab #	DATE SAMPLED		Composite	Grab	MATRIX						Preservative (Use Code)	Container (Use Code)	Analysis Required
			Start Date/Time	Stop Date/Time			WASTE WATER	GROUND WATER	DKG WATER	WATER	Soil	Air			
GP-25	4'-8"		10/15/99		X				X						VOCs - 8260 TPH - 418.1 SVOCs - PAHS - 8270 Pests + PCBs 8080 Total PCRN 8 SPLP PCRN 8
GP-26	2'-4"				X				X						X
GP-27	4'-8"				X				X						X
GP-28	2'-4"				X				X						X
GP-29	2'-4"				X				X						X
GP-30	4'-8"				X				X						X
GP-31	4'-8"				X				X						X
GP-32	2'-4"				X				X						X

CONTAINER CODE  
 P: PLASTIC (--- Size) V = 40 ml vial G = Glass (--- size) A = 1000 ml Amber 0 = Other  
 Received by: (Signature) [Signature] Date Time 10/18/99  
 Received by: (Signature) [Signature] Date Time 10/18/99  
 Received by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_

Turnaround Requested: \_\_\_\_\_ 24-Hour \_\_\_\_\_ 48-Hour \_\_\_\_\_ Normal \_\_\_\_\_

Remarks/Comments: \_\_\_\_\_

\*MATRIX OTHER \_\_\_\_\_





(413) 525-2532  
FAX (413) 525-6405

# CHAIN OF CUSTODY RECORD

39 SPRUCE ST. • 2ND FLOOR • EAST LONGMEADOW, MA 01025

P. 5 OF 6

Client Name: CDOT / Maguire / LES  
 Attn: CKnight  
 Address: 354 S. RIVER RD.  
TOLLAND CT 06084  
 Site Location: New Haven - Parcel B  
 Sampled By: CKnight  
 Call Results: Yes  No   
 Fax Results: Yes  No   
 Telephone: 8608701780  
 Batch #: \_\_\_\_\_  
 Project #: 301-49  
 Client P.O. #: 98270  
 Fax #: 8608701778

Analysis Required

Field Sample I.D.	Sample Description	Lab #	DATE SAMPLED		Composite	Grab	MATRIX						Preservative (Use Code)	Container (Use Code)	Analysis Required	
			Start Date/Time	Stop Date/Time			WASTE WATER	GROUND WATER	DKG WATER	Soil	Air	Other				
GP-2	Groundwater Grab		10/16/99			X								X	VOCs - 8260	
GP-4	Groundwater Grab		10/16/99			X								X	SVOCs PAHs 8270	
GP-15	Groundwater Grab		10/16/99			X								X	Pests. + PCBs 8080	
GP-28	Groundwater Grab		10/15/99			X								X	pH - 418.1	
GP-29	Groundwater Grab		10/15/99			X								X	Total RCRA8	
FB-1	Blank		10/15/99											X		
FB-2	Blank		10/16/99											X		
TB-1	Blank		10/15/99											X		

### CONTAINER CODE

P: PLASTIC (\_\_\_ Size) V = 40 ml vial G = Glass (\_\_\_ size) A = 1000 ml Amber 0 = Other

Relinquished by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Date Time \_\_\_\_\_

PRESERVATIVE CODE: I = ICED N = HNO<sub>3</sub> H = HCl S = NaOH T = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> O = OTHER

Turnaround Requested: \_\_\_\_\_ 24-Hour \_\_\_\_\_ 48-Hour  Normal

Remarks/Comments: \_\_\_\_\_ Date Required \_\_\_\_\_

\*MATRIX OTHER Blank Water



# **TASK 210: SUBSURFACE SITE INVESTIGATION REPORT**

## **Union Station Parking Garage New Haven, Connecticut**

ConnDOT Assignment No. 214-5172  
ConnDOT Project No. 0301-0114

Prepared for:



State of Connecticut  
Department of Transportation  
Newington, Connecticut 06131

Prepared by:



CDR Group Inc.  
2080 Silas Deane Highway  
Rocky Hill, Connecticut 06067

February 11, 2016

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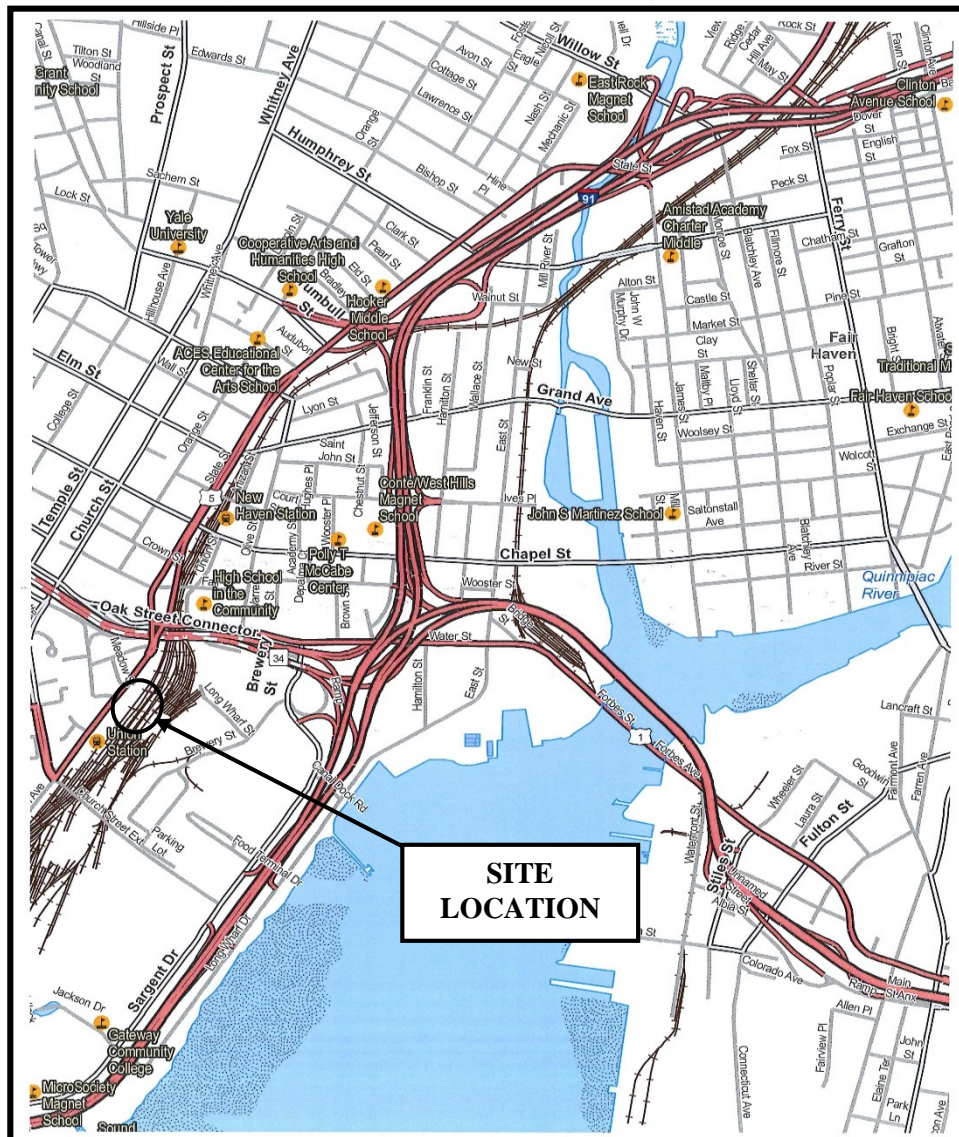
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## **1.0 INTRODUCTION**

On behalf of the Connecticut Department of Transportation (ConnDOT), CDR Group Inc. (CDRG) has conducted a Task 210 – Subsurface Site Investigation Report in conjunction with proposed activities associated with the construction of a new parking garage adjacent to Union Station in New Haven, Connecticut, herein referred to as the “Site” (See attached Figure 1 – Site Location Plan).

ConnDOT is proposing to construct a new parking garage adjacent to Union Station located on Union Avenue (US Route 1) in New Haven. The new parking garage will be constructed within the limits of the paved parking lot to the north of the existing Union Station Parking Garage. This Task 210 - SSIR was conducted in areas of anticipated construction activities within the existing parking lot.

The purpose of the Task 210 – Subsurface Site Investigation is to supplement previous investigations and to verify the absence or presence and location of subsurface contamination, and to assess the potential pollutant impacts to be encountered during excavation activities for the proposed parking garage project. It is anticipated that Task 310 Plans and Specifications will subsequently be prepared to assess construction related activities (i.e. proper storage, classification, transport and disposal of contaminated materials), in relationship to the environmental conditions prevalent within the project limits, as well as to specify remedial work to be included in the Contract Bid Documents.



**FIGURE 1 - SITE LOCATION PLAN**  
**New Haven Union Station**  
**Union Avenue (US Route 1)**  
**New Haven, Connecticut**

## 2.0 **SITE DESCRIPTION**

### 2.1 **Background**

ConnDOT is proposing to construct a new parking garage at New Haven’s Union Station. This Task 210 - Subsurface Site Investigation was conducted in areas of anticipated construction activities associated with the proposed parking garage.

Properties adjacent to the proposed station project include an active rail line corridor, commercial, and residential land. The site area and boring locations are shown on Figure 2 - Task 210: Subsurface Site Investigation Report, Boring Location Plan included at the end of this Report.

The following environmental investigations have previously been conducted at the site of the proposed parking garage:

- Task 110: Corridor Land Use Evaluation, Proposed Parking Garage – Parcel B, New Haven Rail Yard, New Haven, Connecticut, Prepared by: Maguire Group Inc., Dated: June 23, 1999.
- Task 210: Surficial Site Investigation, Union Station Parking Garage – Parcel B, Union Avenue, New Haven, Connecticut, Prepared by: Maguire Group Inc., Dated: November 8, 1999.

The Site has been a parking lot back to at the least the early 1950’s. Sanborn Maps from the late 1800’s indicated several structures on the Site including a rag sorting and rag storage buildings; kerosene storage buildings; a molasses storage building; and a salt packing house. Sanborn Maps from the early 1900’s show the Site as vacant with no structures. The previous environmental investigations recommended that the entire project limits be designated an Area of Environmental Concern (AOEC) due to the widespread existence of soil contaminated with polycyclic aromatic hydrocarbons (PAHs), lead and arsenic. The report recommended the development of environmental plans and specifications for the management of controlled materials during construction activities for the proposed parking garage.

### **3.0 LOCAL ENVIRONMENT & RECEPTORS**

#### **3.1 Geology**

The Site is underlain by New Haven Arkose, a reddish, poorly sorted arkose according to the Bedrock Geological Map of Connecticut compiled by John Rodgers in 1985. The CTDEEP's August 2009 Surficial Materials Glacial and Postglacial Deposits, New Haven, Connecticut map indicates that the soil underlying the Site consists of sand and gravel overlying sand and fines. Materials encountered during this Task 210 consisted of black ash & cinders; red-brown fine to coarse sand mixed with ash & cinders and trace silt. Bedrock was not encountered in any of the borings.

#### **3.2 Hydrogeology**

The CTDEEP's Water Quality Classifications map for New Haven indicates that the groundwater beneath the project area has a GB classification. The GB groundwater classification indicates that the groundwater is within an urbanized area of intense industrial activity where a public water supply source is available. The groundwater may not be suitable for human consumption due to waste discharges, spills or leaks of chemicals, or land use impacts. Groundwater was encountered in all of the direct push borings advanced as part of the Task 210 at depths of seven (7) to eight (8) feet below ground surface.

The project area is located within the South Central Shoreline Basin within the South Central Shoreline Regional Basin, which is situated within the South Central Coast Major Drainage Basin. There are no surface water bodies located within the project area.



## **4.0 SUBSURFACE INVESTIGATION**

Based upon the historic use of the Site for storage of miscellaneous materials (rags, kerosene, molasses and salt) in the late 1800's, past/current usage as a parking lot adjacent to an active railroad and station and the results of previous environmental investigations, a comprehensive sampling program was conducted at the Site. The following subsections detail the investigation that was conducted at the Site on November 15, 2015

### **4.1 Geoprobe® Soil Borings & Soil Sample Analyses**

Nine (9) borings, CDR-1 to CDR-9, were advanced to a depth of 8 feet or refusal in areas of proposed construction activities within the project limits, utilizing a Geoprobe® direct push unit. The Geoprobe® borings were advanced by Logical Environmental Solutions, LLC under the direction of CDRG and laboratory analyses were conducted by Phoenix Environmental Laboratories, Inc.

The boring locations CDR-1 to CDR-9 are depicted on Figure 2 at the end of this Report. Soil samples from the borings were collected continuously to 8 feet or refusal utilizing a 4-foot long 2-inch diameter Macro Core Sampler with dedicated acetate liners. Groundwater was encountered during the advancement of the borings and samples were collected from borings CDR-1 and CDR-9 according to the procedures detailed in Section 4.2 of this Report.

The soil samples were visually inspected in the field for staining, and were described as to physical characteristics and soil type. Soil boring logs were generated in the field by the on-site qualified technician. In addition, the soil samples were screened in the field for total volatile organic compounds utilizing a Photovac photoionization detector (PID).

Based upon field screening results and visual observations, one (1) soil sample from each boring was placed in laboratory-supplied glassware and stored in an ice-filled cooler. If visual screening did not indicate contamination, the surficial soil sample, 1 to 3-feet below grade, was collected for laboratory analyses.

All soil samples collected as part of this Task 210-SSIR were analyzed for the following parameters:

- Extractable Total Petroleum Hydrocarbons – CT-ETPH Method
- Volatile Organic Compounds – EPA Method 8260
- Semi-Volatile Organic Compounds - EPA Method 8270
- Polychlorinated Biphenyls – EPA Method 8082
- Chlorinated Herbicides - EPA Method 8151,
- Pesticides - EPA Method 8081A
- Total and TCLP RCRA 8 metals – EPA Method SW846

Field sampling protocols were performed in accordance with the CTDEEP's Guidance for Collecting & Preserving Soil & Sediment Samples for Laboratory Determination of Volatile Organic Compounds document dated March 1, 2006.

All Geoprobe® soil borings were back-filled upon completion utilizing clean sand and/or hydrated bentonite. Borings located within paved area were completed with cold patch following backfilling. All down-hole sampling equipment was decontaminated in the field between each use utilizing an Alconox and water bath and de-ionized rinse.

#### **4.2 Groundwater Sample Collection & Analyses**

Two (2) groundwater samples, CDR-1 GW and CDR-9 GW were during the advancement of borings as part of this Task 210 SSIR. The groundwater grab samples were collected by inserting one-half inch diameter, schedule 40, 10-slot, PVC well screen and riser casing into the borehole. The well screen was temporarily installed approximately 4 feet into the observed water table depth. Dedicated polyethylene tubing was placed into the temporary well and the groundwater grab sample was drawn through the tubing using a low-flow peristaltic pump.

The groundwater samples were collected for laboratory analysis for the following parameters:

- Extractable Total Petroleum Hydrocarbons – CT-ETPH Method
- Volatile Organic Compounds – EPA Method 8260
- Semi-Volatile Organic Compounds - EPA Method 8270
- Polychlorinated Biphenyls – EPA Method 8082
- Chlorinated Herbicides - EPA Method 8151,

- Pesticides - EPA Method 8081A
- Total and Dissolved RCRA 8 metals – EPA Method SW846

Groundwater samples collected for dissolved-phase metals were field filtered using a 0.45- $\mu$ m membrane filter prior to acidification. The groundwater samples were placed in laboratory-supplied glassware, and stored in an ice-filled cooler.

#### **4.3 Project Quality Assurance/Quality Control Practices**

The CTDEEP's Quality Assurance and Quality Control (QA/QC) Guidance was used to ensure that the analytical results generated during the investigation are of known and appropriate quality. Specifically, the Laboratory Quality Assurance Control Reasonable Confidence Protocols (RCPs) were utilized for all laboratory analytical methods. The Laboratory Quality Assurance and Quality Control, Data Quality Assessment and Data Usability Evaluation (DQA/DUE) Guidance were utilized to ensure that the analytical data used is of known and sufficient level of quality for the intended purpose.

To assess the collection of samples in the field in terms of the sampling techniques and decontamination procedures followed, quality control and quality assurance samples were collected and analyzed. A field blank sample consisting of decontamination rinsate and was collected on the day of field sampling. The field blank was prepared by pouring laboratory supplied de-ionized water over decontaminated sampling equipment and collecting the resulting rinsate in appropriate sample containers. The field blank sample was stored with the daily samples in the sample cooler until delivery to the laboratory for analysis. The field blank was analyzed for the same parameters specified for the daily samples.

A laboratory prepared trip blank (one per day of field sampling) accompanied samples obtained during field sampling activities. The trip blank consisted of three (3), 40 ml vials, one (1) containing laboratory grade de-ionized water and two (2) containing soil. The trip blanks were placed in the sample cooler with the daily samples until delivery to the laboratory for analysis of EPA Method 8260 volatile organic compounds. The data from the trip and field blanks is included in the laboratory report and has been used to assess the effectiveness of the decontamination procedures used in the field. All samples collected in the field were stored

in a manner that preserves the integrity of the sample chemistry. Samples intended for organic analyses were stored in an ice-filled cooler until delivery to the laboratory. Chain-of-Custody (COC) forms were filled out and accompanied all samples collected as a legal record of possession of the sample.

## 5.0 **DISCUSSION OF SAMPLE RESULTS**

### 5.1 **Regulatory Criteria**

The CTDEEP has amended the Remediation Standard Regulations (Regulations of Connecticut State Agencies, Section 22a-133k-1 to 3 and 22a-133q-1) effective June 27, 2013. The Remediation Standard Regulations (RSRs) apply to any action which is required pursuant to Chapter 445, 446k or section 22a-208(c)(2) of the General Statutes, including but not limited to any such action required to be taken or verified by a licensed environmental professional. The Regulations also outline the processes for establishing alternative site-specific numerical standards for certain sites and criterion for additional polluting substances not specified in the RSRs, upon approval by the CTDEEP. When a contaminant at a site is not one of the 88 substances listed in the RSRs or a different numeric criteria other than listed in the RSRs is believed to be appropriate for a site, a request for approval of an “Additional Polluting Substance (APS) criteria or Alternative Criteria (AC) must be submitted to the CTDEEP on Form “DEEP-REM-FASTAPS”.

The RSRs criteria applicable to the soil and groundwater sampled during this investigation are summarized below. The application of these RSRs to the results of the laboratory analyses from this investigation are discussed in subsections 5.2 and 5.3 of this section.

**Soils Criteria:** The RSRs are organized into two sets of criteria: the Direct Exposure Criteria (DEC) and the Pollutant Mobility Criteria (PMC). The DEC and PMC are briefly explained in the following sub-sections, in relation to how they would be applicable to the types of analyses conducted on the soil samples collected for this investigation. Please refer to the RSRs for a complete explanation of the Regulations.

#### Direct Exposure Criteria

The purpose of the Direct Exposure Criteria (DEC) is to protect human health from risks associated with the direct contact with or ingestion of various common soil contaminants. The

DEC are applicable to soil within approximately fifteen (15) feet of the ground surface. Concentrations of contaminants are evaluated based upon mass-based analyses and different criteria are established for residential and industrial/commercial properties. The use of the less stringent commercial/industrial standards requires the placement of an environmental land use restriction on the property.

The DEC for substances other than PCBs do not apply to “inaccessible” soil at a release area provided that such soil is less than 15-feet below the ground surface and an Environmental Land Use Restriction (ELUR) is in effect with respect to the subject parcel or to the portion of such parcel containing such release area.

Public Act No. 13-308 allows for the placement of Notice of Activity and Use Limitation (Notice AUL), also known as a “Deed Notice” to reach a site cleanup endpoint in lieu of the more cumbersome ELUR.

The DEC do not apply to metals, petroleum hydrocarbons or semi-volatile substances in soil provided such pollution is the result of: an incidental release due to the normal operation of motor vehicles, not including refueling, repair or maintenance of a motor vehicle; or normal paving and maintenance of a consolidated bituminous concrete surface provided such bituminous concrete surface has been maintained for its intended purpose.

### Pollutant Mobility Criteria

The purpose of the Pollutant Mobility Criteria (PMC) is to evaluate the potential for contaminants to leach from the soil in concentrations that may degrade groundwater quality.

The PMC do not apply to “environmentally isolated” soil at a release area provided that an Environmental Land Use Restriction (ELUR) is in effect with respect to the subject parcel or to the portion of such parcel containing such release area. The PMC do not apply to polluted fill on a parcel if the fill meets the requirements of section 22a-133k-2(c)(4)(B)(i) through (vi). The PMC do not apply to substances, other than volatile substances, in soil at a release area provided

that the release area meets the requirements of section 22a-133k-2(c)(4)(C)(i) through (v).

The PMC do not apply to metals, petroleum hydrocarbons or semi-volatile substances in soil provided such pollution is the result of: an incidental release due to the normal operation of motor vehicles, not including refueling, repair or maintenance of a motor vehicle; or normal paving and maintenance of a consolidated bituminous concrete surface provided such bituminous concrete surface has been maintained for its intended purpose.

Different numerical criteria are established for GA and GAA groundwater areas, versus GB groundwater areas. Since the project borings were advanced in a GB groundwater area, the less stringent criteria applies to the project.

**Groundwater Criteria:** Contaminants in the groundwater are compared either to background quality or the Groundwater Protection Criteria (GWPC), the Volatilization Criteria (VC), as well as the Surface Water Protection Criteria (SWPC). However, ConnDOT has had numerous discussions with CTDEEP staff with regard to groundwater encountered during “Construction Projects” and the applicability of the RSRs to these situations. Based on the guidance provided by CTDEEP, groundwater samples collected for “Construction Projects” were compared to the effluent limits for the *“General Permit for the Discharge of Groundwater Remediation Wastewater Directly to Surface Water”* (GP to Surface Water) and the *“General Permit for the Discharge of Groundwater Remediation Wastewater Directly to Sanitary Sewer”* (GP to Sanitary Sewer) to determine if Groundwater Areas of Environmental Concern (GW AOECs) exist within the project limits.

## 5.2 Results of Soil Sample Analyses

### Extractable Total Petroleum Hydrocarbons (ETPH)

ETPH was detected in two (2) soil samples, CDR-5 (480 mg/kg) and CDR-9 (250 mg/kg), at concentrations above analytical detection limits but below the applicable RSR criteria. No other soil samples contained ETPH at concentrations above analytical detection limits (ND).

### **Volatile Organic Compounds (VOCs)**

VOCs were not detected at concentrations above analytical detection limits (ND) in any of the nine (9) soil samples collected as part of this Task 210 – SSIR.

### **Semi-Volatile Organic Compounds (SVOCs)**

Various SVOCs were detected above analytical detection limits in soil samples CDR-1 (2'-4'), CDR-2 (1'-3'), CDR-4 (1'-3'), CDR-5 (1'-3'), CDR-6 (1'-3'), CDR-7 (2'-4'), and CDR-9 (1'-3'). Benz(a)anthracene (1.5 mg/kg), benzo(a)pyrene (1.6 mg/kg), benzo(b)fluoranthene (1.7 mg/kg), benzo(k)fluoranthene (1.6 mg/kg), chrysene (1.9 mg/kg), and indeno(1,2,3-cd)pyrene (1.2 mg/kg) were detected in soil sample CDR-4 (1'-3') at concentrations exceeding the GB PMC of 1.0 mg/kg for all compounds. The concentrations of benz(a)anthracene (1.5 mg/kg), benzo(a)pyrene (1.6 mg/kg), benzo(b)fluoranthene (1.7 mg/kg), and indeno(1,2,3-cd)pyrene (1.2 mg/kg) exceed the RDEC of 1.0 mg/kg for all compounds. In addition, the concentration of benzo(a)pyrene (1.6 mg/kg) exceeds the I/C-DEC of 1.0 mg/kg for that compound.

Benz(a)anthracene (2.0 mg/kg), benzo(a)pyrene (2.1 mg/kg), benzo(b)fluoranthene (4.3 mg/kg), benzo(k)fluoranthene (2.9 mg/kg), chrysene (3.1 mg/kg), and indeno(1,2,3-cd)pyrene (2.1 mg/kg) were detected in soil sample CDR-5 (1'-3') at concentrations exceeding the GB PMC of 1.0 mg/kg for all compounds. The concentrations of benz(a)anthracene (2.0 mg/kg), benzo(a)pyrene (2.1 mg/kg), benzo(b)fluoranthene (4.3 mg/kg), benzo(k)fluoranthene (2.9 mg/kg), chrysene (3.1 mg/kg), and indeno(1,2,3-cd)pyrene (2.1 mg/kg) exceed the RDEC of 1.0 mg/kg for all compounds. In addition, the concentration of benzo(a)pyrene (2.1 mg/kg) exceeds the I/C-DEC of 1.0 mg/kg for that compound.

Benz(a)anthracene (1.1 mg/kg), benzo(a)pyrene (1.2 mg/kg), benzo(b)fluoranthene (1.8 mg/kg), benzo(k)fluoranthene (1.6 mg/kg), chrysene (1.6 mg/kg), and indeno(1,2,3-cd)pyrene (1.1 mg/kg) were detected in soil sample CDR-9 (1'-3') at concentrations exceeding the GB PMC of 1.0 mg/kg for all compounds. The concentrations of benz(a)anthracene (1.1 mg/kg), benzo(a)pyrene (1.2 mg/kg), benzo(b)fluoranthene (1.8 mg/kg), and indeno(1,2,3-cd)pyrene (1.1 mg/kg) exceed the RDEC of 1.0 mg/kg for all compounds. In



addition, the concentration of benzo(a)pyrene (1.2 mg/kg) exceeds the I/C-DEC of 1.0 mg/kg for that compound.

Soil samples CDR-1 (2'-4'), CDR-2 (1'-3'), CDR-6 (1'-3'), and CDR-7 (2'-4') contained various SVOCs at concentrations above analytical detection limits but below the applicable RSR criteria. SVOCs were not detected at concentrations above analytical detection limits (ND) in soil samples CDR-3 (1'-3') and CDR-8 (1'-3') collected as part of this Task 210 – SSIR.

### **Pesticides**

Pesticides were not detected at concentrations above analytical detection limits (ND) in eight (8) of the nine (9) soil samples collected as part of this Task 210 – SSIR. 4,4'-DDT was detected in soil sample CDR-5 at a concentration of 0.03 mg/kg which exceeds the GB PMC of 0.02 mg/kg but is below the RDEC of 1.8 mg/kg and I/C-DEC of 17 mg/kg. No other pesticides were detected in soil sample CDR-5 at concentrations above analytical detection limits (ND).

### **Polychlorinated Biphenyls (PCBs)**

PCBs were not detected at concentrations above analytical detection limits (ND) in any of the nine (9) soil samples collected as part of this Task 210 – SSIR.

### **Herbicides**

PCBs were not detected at concentrations above analytical detection limits (ND) in any of the nine (9) soil samples collected as part of this Task 210 – SSIR.

### **RCRA Metals**

Various total metals were detected in the soil samples at concentrations above analytical detection limits but below the applicable RSR criteria with the exception of arsenic, lead and mercury. Total arsenic was detected in soil samples CDR-5 (30.5 mg/kg), CDR-7 (19.3 mg/kg) and CDR-9 (19.1 mg/kg) at concentrations exceeding the RDEC and I/C-DEC of 10 mg/kg. No other soil samples contained total arsenic at concentrations above RSR criteria. Total lead was detected in soil samples CDR-2 (526 mg/kg), CDR-5 (485 mg/kg), CDR-6 (921 mg/kg), and CDR-9 (509 mg/kg) at concentrations exceeding the RDEC of 400 mg/kg but below the

I/C-DEC of 1,000 mg/kg for that compound. No other soil samples contained total lead at concentrations above RSR criteria. Total mercury was detected in soil sample CDR-6 (1'-3') at a concentration of 143 mg/kg which exceeds the RDEC of 20 mg/kg but is below the I/C-DEC of 610 mg/kg for that compound. No other soil samples contained total mercury at concentrations above RSR criteria.

Leachable lead was detected in soil samples CDR-2 (0.6 mg/L), CDR-3 (0.29 mg/L), CDR-4 (0.44 mg/L), CDR-6 (1.56 mg/L) and CDR-8 (0.2 mg/L) at concentrations exceeding the GB PMC of 0.15 mg/L for lead. No other detected leachable metals were present in the soil samples at concentrations above the applicable RSR criteria.

### **5.3 Results of Groundwater Sample Analyses**

The results of the laboratory analyses of groundwater samples CDR-1 GW and CDR-9 GW did not indicate the presence of ETPH, VOCs, SVOCs, pesticides, herbicides and PCBs at concentrations above analytical detection limits (ND). Total barium, dissolved barium, total chromium, total lead and dissolved lead were detected in the groundwater samples at concentrations above analytical detection limits but below the applicable GP to surface and sanitary sewer effluent limits.

### **5.4 Results of QA/QC Sample Analyses**

The results of the laboratory analyses of trip blank samples TB-LOW, TG-HIGH and TB-1 did not indicate the presence of VOCs at concentrations above analytical detection limits (ND). The results of the laboratory analyses of field blank sample FB-1 did not indicate the presence of ETPH, SVOCs, pesticides, PCBs, Herbicides, total and leachable RCRA metals at concentrations above analytical detection limits (ND). Toluene and xylenes were detected in FB-1 at concentrations above analytical detection limits. These compounds were not detected in any of the samples collected as part of this Task 210 and their presence is likely due to field contamination. No other VOCs were detected in FB-1 at concentrations above analytical detection limits (ND).

### **5.5 Data Quality Assessment and Data Usability Evaluation (DOA/DUE)**

Nine (9) soil samples and two (2) groundwater samples were collected from within the project limits and submitted to a state-certified analytical laboratory for analyses using the CTDEEP Reasonable Confidence Protocols (RCPs) established for VOCs, SVOCs, ETPH, PCBs, pesticides, herbicides and metals. The samples were collected to verify the absence or presence and location of subsurface contamination, and to assess the potential pollutant impacts to be encountered during the construction activities for ConnDOT Project 0301-0014, Union Station Parking Garage in New Haven, Connecticut.

A data quality assessment and a data usability evaluation were performed for the data generated in accordance with DEEP guidance and noted the following quality control non-conformances. Copies of the DQA and DUE worksheets are included in Appendix C.

Non-conformances related to LCS/LCSD, LCS/LCSD RPD, MS/MSD, Surrogates and Method Blanks do not have significant bearing on the accuracy and usability of the data for its intended uses. In all cases the non-conformances had no impact on the data usability and the data is of sufficient quality and precision for its intended use based on multiple lines of evidence.

Based on the above findings from the DQA and DUE, the analytical data is of adequate quality and of sufficient accuracy, precision and sensitivity to confirm that contaminants of concern are present in the soil at concentrations exceeding the DEEP RSRs. Task 310 Plans, Specifications and Estimate will be required to assess construction related activities (i.e. proper storage, classification, transport and disposal of contaminated materials), in relationship to the environmental conditions prevalent within the project limits, as well as to specify remedial work to be included in the Contract Bid Documents.

## **6.0 DISCUSSION OF AFFECTED RESOURCES**

Based upon the results of the laboratory analyses performed on soil and groundwater samples for this Task 210 investigation and the results from the previous environmental investigations conducted at the Site, the entire project limits has been designated Areas of Environmental Concern (AOECs) due to the widespread existence of soil contaminated with SVOCs, total arsenic, total lead, total mercury, leachable lead and 4-4'-DDT. Based on the results of the environmental investigations, no groundwater area of environmental concern (GW-AOEC) has been designated within the project limits.

### **6.1 Area of Environmental Concern (AOEC)**

#### AOEC-1, Entire Project Limits

Analytical results from the soil samples collected from within the project limits indicated the presence of widespread soil contaminated with SVOCs, total arsenic, total lead, total mercury, leachable lead and 4-4'-DDT. The contaminants were detected in the soil samples collected at depths of 1 to 4-feet below grade.

## **7.0 RECOMMENDATIONS**

The results of this Task 210 – SSIR and previous environmental investigations conducted in conjunction with proposed construction activities for ConnDOT Project 0301-0114, Union Station Parking Garage in New Haven, Connecticut indicated that soil at the Site is contaminated with SVOCs, total arsenic, total lead, total mercury, leachable lead and 4-4'-DDT. Based on these results, the entire project limits have been designated an Area of Environmental Concern (AOEC) for soil. Based on the results of the environmental investigations, no groundwater area of environmental concern (GW-AOEC) has been designated within the project limits.

Special considerations for the management, storage, and disposal of contaminated soil, and worker health and safety must be given to construction activities within the project limits in order to ensure compliance with all applicable local, State and Federal laws, regulations and guidance. Task 310 Plans, Specifications, and Estimate are therefore, recommended for the project for the management and disposal of controlled materials and worker health and safety.

## **8.0 LIMITATIONS**

All work product and reports provided by CDR Group Inc. in connection with the performance of this Task 210 - Subsurface Site Investigation Report are subject to the following limitations:

1. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services provided to ConnDOT.
2. In preparing this report, CDR Group has relied on certain information provided by State and local officials and information and representations made by other parties referenced therein, and on information contained in the files of State and/or local agencies made available to CDR Group at the time of this investigation. To the extent that such files are missing, incomplete or not provided to CDR Group, CDR Group is not responsible. Although there may have been some degree of overlap in the information provided by these various sources, CDR Group did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this investigation.
3. The conclusions and recommendations contained in this report are based in part upon the data from subsurface explorations. The nature and extent of variations between these explorations may not become evident until further explorations are completed. If variations or other latent conditions become evident, it will be necessary to re-evaluate the conclusions and recommendations of this report.
4. The water level readings made for this investigation were made at the times and conditions stated on the boring logs. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, passage of time and other factors. Should additional data become available in the future, these data should be reviewed by CDR Group, and the conclusions and recommendations presented herein modified accordingly.

5. Where quantitative laboratory analyses have been conducted by an outside certified laboratory, CDR Group has relied upon the data provided, and has evaluated the data in accordance with CTDEEP DQA/DUE Guidance, but has not conducted an independent evaluation of the reliability of these tests.
  
6. If the conclusions and recommendations contained in this report are based, in part, upon various types of chemical data, then the conclusions and recommendations are contingent upon the validity of such data. These data have been reviewed and interpretations made in the report. It should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by CDR Group and the conclusions and recommendations presented herein modified accordingly.
  
7. Chemical analyses were performed for specific parameters during the course of this investigation, as described in the text. However, it should be noted that testing for all known chemical constituents was not performed. The conclusions and recommendations contained in this report are based only upon the chemical constituents for which testing was accomplished.

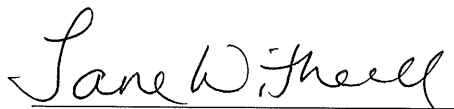
The following qualifications apply to the undersigned's opinion:

The activities described and opinions included herein are based on information gathered during this subsurface site investigation, which was limited in scope in adherence to the terms of our agreement. The professional opinion provided herein is based on the information described in this report.


The information contained herein was prepared for the use of ConnDOT solely in conjunction with the task descriptions for this assignment. The conclusions and recommendations set forth in

this report are based on site conditions at the time of the investigation. Future studies and findings could change the contents of this report. The professional opinions presented in this report have been developed by using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental engineering consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional opinions included in this report.

Prepared by:

  
Jane Witherell, PE, LEP, CHMM  
Principal Engineer

Reviewed by:

  
David R. Stock, P.E.  
Vice President

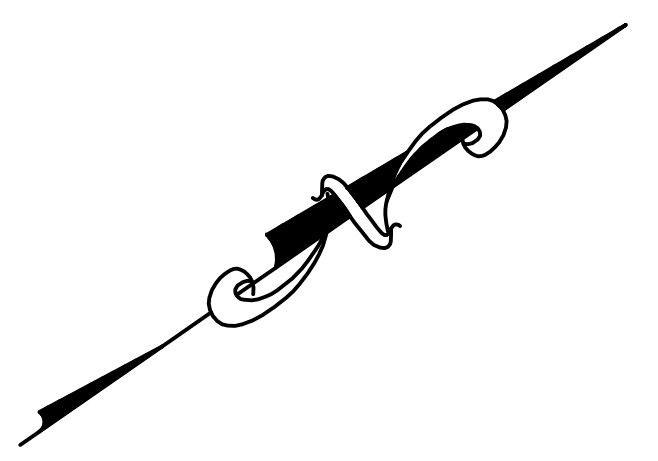


# FIGURE

**NOTES:**

- This map has been prepared pursuant to the Regulations of Connecticut State Agencies Sections 20-300b-1 through 20-300b-20 and the "Standards for Surveys and Maps in the State of Connecticut" as adopted by the Connecticut Association of Land Surveyors, Inc. on September 26, 1996.
  - Type of Survey: **Topographic**
  - Boundary Determination Category: **N/A**
  - Class of Accuracy: **T-2**
- The intent of this map is to depict topography and location of existing improvements along Union Street and the East Parking Lot area for the design of improvements.
- Horizontal datum is based on the North American Datum of 1927.
- Vertical datum is based on the National Geodetic Vertical Datum of 1929.
- Contour interval is one-half (1/2) foot.
- Topography was obtained in the field by David A. Hughes P.E., L.S. on March 11, 2013.

7. This survey does not include the location of any underground improvements or encroachments, subsurface utility lines or buried debris, other than the piping depicted as being "As-built". This survey does not include the location of any underground improvements or encroachments, subsurface utility lines or buried debris. Nor does it necessarily reflect the existence of any waste dumps or hazardous materials. The subsurface utility locations depicted on this survey have been interpreted from visible evidence or painted markings. However, the indicated existing utilities are based on limited information and all utilities may not be shown. The underground items depicted or noted are approximate and not guaranteed. Notify "CALL BEFORE YOU DIG" 1-800-922-4455 prior to any excavation operations.

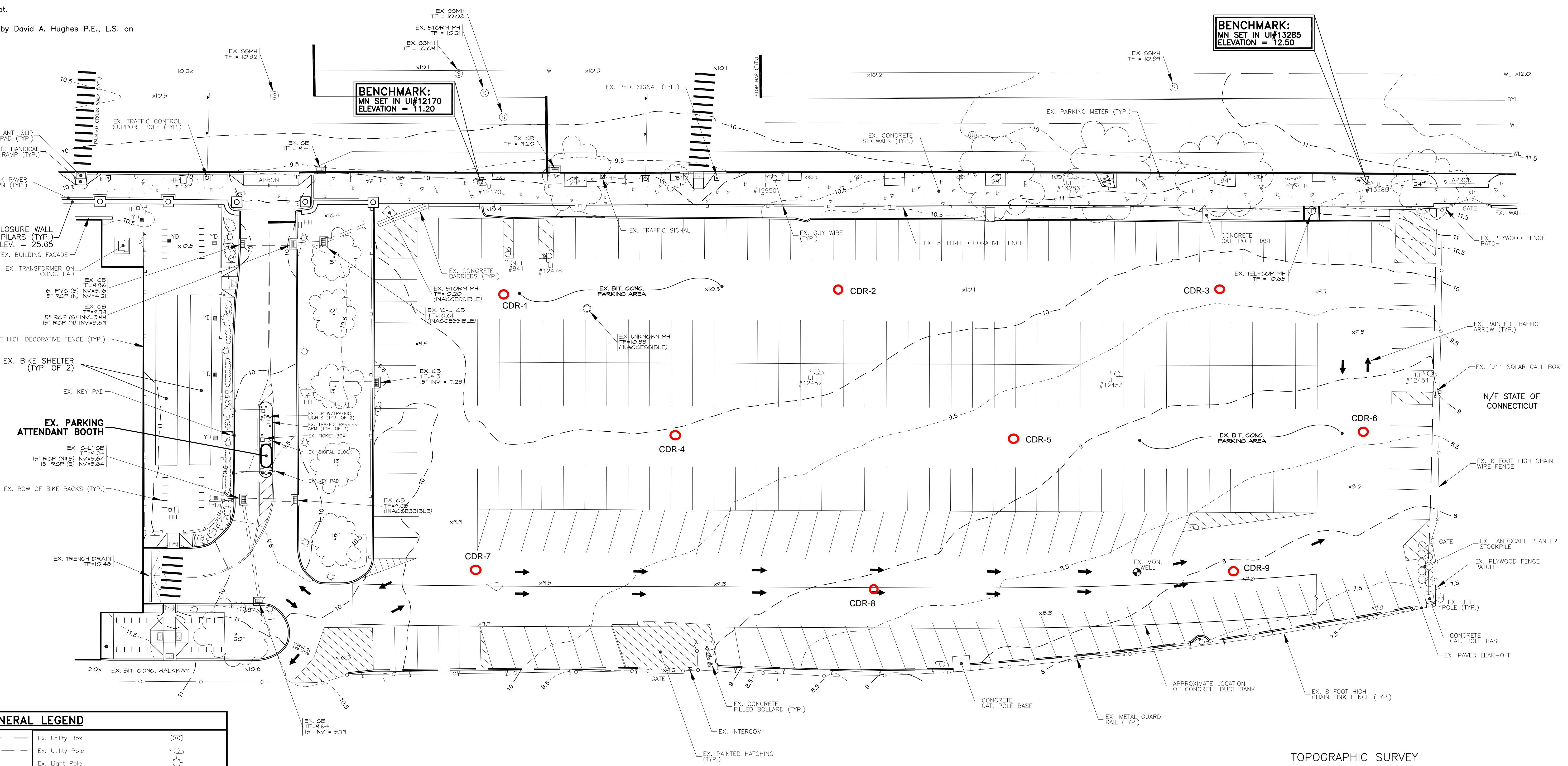


**UNION AVENUE (a.k.a. CT RT #1)**

**BENCHMARK:**  
MN SET IN UI#12170  
ELEVATION = 11.20

**BENCHMARK:**  
MN SET IN UI#13285  
ELEVATION = 12.50

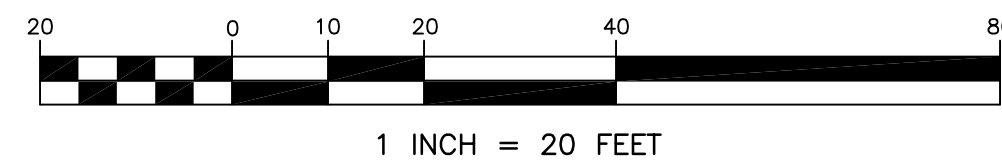
**UNION STATION  
PARKING GARAGE**



**GENERAL LEGEND**

Ex. 1' Contours	---000---	Ex. Utility Box	
Ex. 0.5' Contours	---000---	Ex. Utility Pole	
Ex. Spot Elevation	x000.0	Ex. Light Pole	
Ex. Edge of Pavement	=====	Ex. Soil Boring	
Ex. Bit. Curbing	=====	Overhead Electric	
Ex. Bluestone Curbing	=====	Water Main	
Ex. Granite Curbing	=====	Gas Main	
Ex. Well		Force Main	
Ex. Water Valve		Underground Electric	
Ex. Fire Hydrant		Wire Fence	
Ex. Gas Valve		Chain Link Fence	
Ex. Traffic Sign		Stockade Fence	
Ex. 'C' Catch Basin		Stone Wall	
Ex. 'C-L' Catch Basin		Treeline	
Ex. Drainage Manhole		Deciduous Tree	
Ex. Drainage Pipe		Coniferous Tree	
Ex. Sanitary Manhole		Hedge Row	
Ex. Sanitary Pipe			

To the best of my knowledge and belief, this map is substantially correct as noted herein.  
 #70111  
 DAVID A. HUGHES, L.S. REG. NO.  
 NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED HERETO



DATE	REVISION	FIELD BOOK NO.	013	PROJECT NO.	0218
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TOPOGRAPHIC SURVEY  
 OF  
 UNION STATION TRANSPORTATION CENTER  
 'EAST PARKING LOT'  
 PREPARED FOR  
**NEW HAVEN  
 PARKING AUTHORITY**  
 NHPA PROJECT #10-005 C  
 50 UNION AVENUE NEW HAVEN, CT  
 MARCH 11, 2013 SCALE: 1"=20'  
 SHEET 1 OF 1  
**TASK 210: SUBSURFACE SITE INVESTIGATION REPORT - BORING LOCATION PLAN**

**DAVID A. HUGHES**  
 PROFESSIONAL ENGINEER & LAND SURVEYOR  
 57 NORWAY STREET  
 OAKVILLE, CT 06779 (860) 945-6481

# **TABLES**

**TABLE 1(a) - Results of Geoprobe® Boring Soil Sample Analyses  
Union Station Parking Garage  
New Haven, Connecticut**

Boring I.D.:	CDR-1	CDR-2	CDR-3	CDR-4	CTDEEP PMC GB Groundwater Area	CTDEEP DEC Residential/ Commercial & Industrial
Sample Depth:	2'-4'	1'-3'	1'-3'	1'-3'		
Sample Date:	11/15/15	11/15/15	11/15/15	11/15/15		
CT ETPH - (mg/kg)	ND	ND	ND	ND	2,500 mg/kg	500/2,500 mg/kg
VOCs - Method 8260 (mg/kg)	ND	ND	ND	ND	VARIES	VARIES
SVOCs - Method 8270 (mg/kg)						
Acenaphthylene	ND	ND	ND	0.45	84 mg/kg	1,000/2,500 mg/kg
Anthracene	ND	0.31	ND	0.61	400 mg/kg	1,000/2,500 mg/kg
Benz(a)anthracene	0.66	0.78	ND	<b>1.5</b>	<b>1 mg/kg</b>	<b>1/7.8 mg/kg</b>
Benzo(a)pyrene	0.74	0.78	ND	<b>1.6</b>	<b>1 mg/kg</b>	<b>1/1 mg/kg</b>
Benzo(b)fluoranthene	0.71	0.8	ND	<b>1.7</b>	<b>1 mg/kg</b>	<b>1/7.8 mg/kg</b>
Benzo(g,h,i)perylene	0.47	0.41	ND	1.1	42 mg/kg	1,000/2,500 mg/kg
Benzo(k)fluoranthene	0.71	0.82	ND	<b>1.6</b>	<b>1 mg/kg</b>	8.4/78 mg/kg
Chrysene	0.75	0.88	ND	<b>1.9</b>	<b>1 mg/kg</b>	84/780 mg/kg
Fluoranthene	1.1	1.6	ND	4.1	56 mg/kg	1,000/2,500 mg/kg
Indeno(1,2,3-cd)pyrene	0.52	0.49	ND	<b>1.2</b>	<b>1 mg/kg</b>	<b>1/7.8 mg/kg</b>
Phenanthrene	0.43	1.7	ND	3.0	40 mg/kg	1,000/2,500 mg/kg
Pyrene	1.1	1.4	ND	3.2	40 mg/kg	1,000/2,500 mg/kg
Pesticides - Method 8081 (mg/kg)	ND	ND	ND	ND	VARIES	VARIES
PCBs - Method 8082 (mg/kg)	ND	ND	ND	ND	VARIES	VARIES
Herbicides - Method 8151 (mg/kg)	ND	ND	ND	ND	VARIES	VARIES
Total RCRA 8 Metals - (mg/kg)					Not Applicable	
Arsenic	2.7	5.1	3.9	4.1		10/10 mg/kg
Barium	64.1	220	79.2	39.5		4,700/140,000 mg/kg
Cadmium	<.33	0.46	0.97	0.67		34/1,000 mg/kg
Chromium	7.99	14.1	9.41	9.87		3,900/51,000 mg/kg
Lead	145	<b>526</b>	129	208		<b>400/1,000 mg/kg</b>
Mercury	0.57	4.57	0.42	0.33		20/610 mg/kg
Selenium	<1.3	<1.4	<1.3	<1.4		340/10,000 mg/kg
Silver	<0.33	0.51	<0.33	<0.36		340/10,000 mg/kg
TCLP RCRA 8 Metals - (mg/L)						Not Applicable
Arsenic	<0.10	<0.10	<0.10	<0.10	0.5 mg/L	
Barium	0.31	0.34	0.74	0.38	10.0 mg/L	
Cadmium	<0.05	<0.05	<0.05	<0.05	0.05 mg/L	
Chromium	<0.10	<0.10	<0.10	<0.10	0.5 mg/L	
Lead	0.11	<b>0.60</b>	<b>0.29</b>	<b>0.44</b>	<b>0.15 mg/L</b>	
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	0.02 mg/L	
Selenium	<0.10	<0.10	<0.10	<0.10	0.5 mg/L	
Silver	<0.10	<0.10	<0.10	<0.10	0.36 mg/L	

ND – Not Detected (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(b) - Results of Geoprobe® Boring Soil Sample Analyses  
Union Station Parking Garage  
New Haven, Connecticut**

Boring I.D.:	CDR-5	CDR-6	CDR-7	CDR-8	CTDEEP PMC GB Groundwater Area	CTDEEP DEC Residential/ Commercial & Industrial
Sample Depth:	1'-3'	1'-3'	2'-4'	1'-3'		
Sample Date:	11/15/15	11/15/15	11/15/15	11/15/15		
CT ETPH - (mg/kg)	480	ND	ND	ND	2,500 mg/kg	500/2,500 mg/kg
VOCs - Method 8260 (mg/kg)	ND	ND	ND	ND	VARIES	VARIES
SVOCs - Method 8270 (mg/kg)						
2-Methylnaphthalene	0.47	ND	ND	ND	9.8 mg/kg	474/2,500 mg/kg
Acenaphthylene	1.3	ND	ND	ND	84 mg/kg	1,000/2,500 mg/kg
Anthracene	0.92	ND	ND	ND	400 mg/kg	1,000/2,500 mg/kg
Benz(a)anthracene	<b>2.0</b>	ND	0.74	ND	<b>1 mg/kg</b>	<b>1/7.8 mg/kg</b>
Benzo(a)pyrene	<b>2.1</b>	ND	0.82	ND	<b>1 mg/kg</b>	<b>1/1 mg/kg</b>
Benzo(b)fluoranthene	<b>4.3</b>	ND	0.72	ND	<b>1 mg/kg</b>	<b>1/7.8 mg/kg</b>
Benzo(g,h,i)perylene	1.8	ND	0.44	ND	42 mg/kg	1,000/2,500 mg/kg
Benzo(k)fluoranthene	<b>2.9</b>	ND	0.68	ND	<b>1 mg/kg</b>	8.4/78 mg/kg
Chrysene	<b>3.1</b>	ND	0.81	ND	<b>1 mg/kg</b>	84/780 mg/kg
Dibenz(a,h)anthracene	0.46	ND	ND	ND	1 mg/kg	1/1 mg/kg
Fluoranthene	3.7	0.30	1.0	ND	56 mg/kg	1,000/2,500 mg/kg
Indeno(1,2,3-cd)pyrene	<b>2.1</b>	0.32	0.46	ND	<b>1 mg/kg</b>	<b>1/7.8 mg/kg</b>
Naphthalene	0.45	ND	ND	ND	56 mg/kg	1,000/2,500 mg/kg
Phenanthrene	1.2	ND	0.34	ND	40 mg/kg	1,000/2,500 mg/kg
Pyrene	3.2	0.29	0.89	ND	40 mg/kg	1,000/2,500 mg/kg
Pesticides - Method 8081 (mg/kg)						
4,4'-DDT	<b>0.03</b>	ND	ND	ND	<b>0.02 mg/kg</b>	1.8/17 mg/kg
PCBs - Method 8082 (mg/kg)	ND	ND	ND	ND	VARIES	VARIES
Herbicides - Method 8151 (mg/kg)	ND	ND	ND	ND	VARIES	VARIES
Total RCRA 8 Metals - (mg/kg)					Not Applicable	
Arsenic	<b>30.5</b>	6.2	<b>19.3</b>	6.2		<b>10/10 mg/kg</b>
Barium	116	123	107	59.8		4,700/140,000 mg/kg
Cadmium	1.62	0.41	0.79	0.44		34/1,000 mg/kg
Chromium	34	30.6	12.1	11.1		3,900/51,000 mg/kg
Lead	<b>485</b>	<b>921</b>	324	198		<b>400/1,000 mg/kg</b>
Mercury	1.51	<b>143</b>	9.11	2.15		<b>20/610 mg/kg</b>
Selenium	<1.4	<1.4	<1.4	<1.3		340/10,000 mg/kg
Silver	0.47	0.96	4.29	0.48		340/10,000 mg/kg
TCLP RCRA 8 Metals - (mg/L)						Not Applicable
Arsenic	<0.10	<0.10	<0.10	<0.10	0.5 mg/L	
Barium	0.57	0.94	0.52	0.69	10.0 mg/L	
Cadmium	<0.05	<0.05	<0.05	<0.05	0.05 mg/L	
Chromium	<0.10	<0.10	<0.10	<0.10	0.5 mg/L	
Lead	<0.10	<b>1.56</b>	0.14	<b>0.20</b>	<b>0.15 mg/L</b>	
Mercury	<0.0002	0.0002	0.0005	<0.0002	0.02 mg/L	
Selenium	<0.10	<0.10	<0.10	<0.10	0.5 mg/L	
Silver	<0.10	<0.10	<0.10	<0.10	0.36 mg/L	

ND – Not Detected (see laboratory reports for compound specific detection limits)

NE – Not Established

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(c) - Results of Geoprobe® Boring Soil Sample Analyses  
Union Station Parking Garage  
New Haven, Connecticut**

Boring I.D.:	CDR-9	CTDEEP PMC GB Groundwater Area	CTDEEP DEC Residential/ Commercial & Industrial
Sample Depth:	1'-3'		
Sample Date:	11/15/15		
CT ETPH - (mg/kg)	250	2,500 mg/kg	500/2,500 mg/kg
VOCs - Method 8260 (mg/kg)	ND	VARIES	VARIES
SVOCs - Method 8270 (mg/kg)			
2-Methylnaphthalene	0.41	9.8 mg/kg	474/2,500 mg/kg
Acenaphthylene	0.75	84 mg/kg	1,000/2,500 mg/kg
Anthracene	0.44	400 mg/kg	1,000/2,500 mg/kg
Benz(a)anthracene	<b>1.1</b>	<b>1 mg/kg</b>	<b>1/7.8 mg/kg</b>
Benzo(a)pyrene	<b>1.2</b>	<b>1 mg/kg</b>	<b>1/1 mg/kg</b>
Benzo(b)fluoranthene	<b>1.8</b>	<b>1 mg/kg</b>	<b>1/7.8 mg/kg</b>
Benzo(g,h,i)perylene	0.92	42 mg/kg	1,000/2,500 mg/kg
Benzo(k)fluoranthene	<b>1.6</b>	<b>1 mg/kg</b>	8.4/78 mg/kg
Chrysene	<b>1.6</b>	<b>1 mg/kg</b>	84/780 mg/kg
Dibenz(a,h)anthracene	ND	1 mg/kg	1/1 mg/kg
Fluoranthene	1.8	56 mg/kg	1,000/2,500 mg/kg
Indeno(1,2,3-cd)pyrene	<b>1.1</b>	<b>1 mg/kg</b>	<b>1/7.8 mg/kg</b>
Naphthalene	0.36	56 mg/kg	1,000/2,500 mg/kg
Phenanthrene	0.80	40 mg/kg	1,000/2,500 mg/kg
Pyrene	1.5	40 mg/kg	1,000/2,500 mg/kg
Pesticides - Method 8081 (mg/kg)	ND	VARIES	VARIES
PCBs - Method 8082 (mg/kg)	ND	VARIES	VARIES
Herbicides - Method 8151 (mg/kg)	ND	VARIES	VARIES
Total RCRA 8 Metals - (mg/kg)		Not Applicable	
Arsenic	<b>19.1</b>		<b>10/10 mg/kg</b>
Barium	113		4,700/140,000 mg/kg
Cadmium	1.3		34/1,000 mg/kg
Chromium	20.2		3,900/51,000 mg/kg
Lead	<b>509</b>		<b>400/1,000 mg/kg</b>
Mercury	4.38		20/610 mg/kg
Selenium	<1.6		340/10,000 mg/kg
Silver	<0.40		340/10,000 mg/kg
TCLP RCRA 8 Metals - (mg/L)			Not Applicable
Arsenic	<0.10	0.5 mg/L	
Barium	0.57	10.0 mg/L	
Cadmium	<0.05	0.05 mg/L	
Chromium	<0.10	0.5 mg/L	
Lead	<0.10	0.15 mg/L	
Mercury	<0.0002	0.02 mg/L	
Selenium	<0.10	0.5 mg/L	
Silver	<0.10	0.36 mg/L	

ND – Not Detected (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 2 - Results of Groundwater Grab Sample Analyses  
Union Station Parking Garage  
New Haven, Connecticut**

Sample I.D.:	CDR-1 GW	CDR-9 GW	CTDEEP GP to "A" Surface Water Effluent Limits	CTDEEP GP to Sanitary Sewer Effluent Limits
Depth to GW (ft. below grade)	7.0'	7.0'		
Sample Date:	11/15/15	11/15/15		
CT ETPH (mg/L)	ND	ND	5 mg/L	100 mg/L
VOCs - Method 8260 (ug/L)	ND	ND	VARIES	VARIES
SVOCs - Method 8270 (mg/kg)	ND	ND	VARIES	VARIES
Pesticides - Method 8081 (ug/L)	ND	ND	VARIES	VARIES
Herbicides – Method 8151 (ug/L)	ND	ND	VARIES	VARIES
PCBs - Method 8082 (ug/L)	ND	ND	VARIES	VARIES
Total RCRA 8 Metals –mg/L				
Arsenic	<0.004	<0.004	0.004 mg/L	0.1 mg/L
Barium	0.24	0.117	NE	5.0 mg/L
Cadmium	<0.001	<0.001	0.010 mg/L	0.1 mg/L
Chromium	0.002	0.005	0.342 mg/L	1.0 mg/L
Lead	<0.002	0.006	0.0098 mg/L	0.1 mg/L
Mercury	<0.0002	<0.0002	0.001 mg/L	0.005 mg/L
Selenium	<0.010	<0.010	0.04 mg/L	1.0 mg/L
Silver	<0.001	<0.001	0.005 mg/L	0.1 mg/L
Dissolved RCRA 8 Metals – mg/L				
Arsenic	<0.004	<0.004	0.004 mg/L	0.1 mg/L
Barium	0.217	0.096	NE	5.0 mg/L
Cadmium	<0.001	<0.001	0.010 mg/L	0.1 mg/L
Chromium	<0.001	<0.001	0.342 mg/L	1.0 mg/L
Lead	<0.002	0.003	0.0098 mg/L	0.1 mg/L
Mercury	<0.0002	<0.0002	0.001 mg/L	0.005 mg/L
Selenium	<0.010	<0.010	0.04 mg/L	1.0 mg/L
Silver	<0.001	<0.001	0.005 mg/L	0.1 mg/L

ND – Not Detected (see laboratory reports for compound specific detection limits)

NE – None Established

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 3(a) - Results of QA/QC Sample Analyses  
 Trip Blank Sample  
 Union Station Parking Garage  
 New Haven, Connecticut**

Sample I.D.:	TB-LOW	TB-HIGH	TB-1
Matrix:	Soil	Soil	Water
Sample Date:	11/15/15	11/15/15	11/15/15
VOCs – EPA Method 8260	ND	ND	ND

**TABLE 3(b) - Results of QA/QC Sample Analyses  
 Field Blank Sample  
 Union Station Parking Garage  
 New Haven, Connecticut**

Sample I.D.:	FB-1
Matrix:	Water
Sample Date:	11/15/15
CT ETPH (ug/L)	ND
VOCs - Method 8260 (ug/L)	
Toluene	2.4
Total Xylenes	1.1
Total VOCs	3.5
SVOCs - Method 8270 (ug/L)	ND
Pesticides - Method 8081 (ug/L)	ND
PCBs - Method 8082 (ug/L)	ND
Herbicides - Method 8151 (ug/L)	ND
Total RCRA 8 Metals –mg/L	ND
Dissolved RCRA 8 Metals –mg/L	ND

ND - Not Detected at a concentration exceeding the laboratory's detection limit (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.



# **APPENDIX A – BORING LOGS**

# SOIL BORING LOG

<b>Project:</b> Union Street Parking Garage	<b>Boring:</b> CDR-1
<b>Location:</b> New Haven, CT	<b>Inspector:</b> J. Buehler
<b>Client:</b> CDR Group, Inc.	<b>Date:</b> 11-15-15



**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084

*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		ASPHALT - 3"	-0.3		
		Black ASH & CINDERS	-1.0		
1.0					
2.0				1.0	Macro Core 0'-4'
3.0		Red-Brown fine to coarse SAND trace Silt & fine Gravel, mixed with Black Ash & Cinders with fine to medium Sand			
4.0					
5.0			-5.0		
6.0		Red-Brown fine to medium SAND, trace Silt (wet at 7')		0.6	Macro Core 4'-8'
7.0					
8.0			-8.0		
9.0					
10.0		End of Boring at 8' - Groundwater Grab Sample			
11.0					
12.0					

**Driller:** W. Lineberry

**Depth to Water:** 7'

**Boring Dia.:** 2"

**Rig:** Geoprobe 540U

**Boring Depth:** 8'

**Page:** 1 of 1

# SOIL BORING LOG

<u>Project:</u> Union Street Parking Garage	<u>Boring:</u> CDR-2
<u>Location:</u> New Haven, CT	<u>Inspector:</u> J. Buehler
<u>Client:</u> CDR Group, Inc.	<u>Date:</u> 11-15-15



**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084

*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval	
0.0		Ground Surface	0.0			
	[Symbol]	ASPHALT - 3"	-0.3			
1.0	[Symbol]	Black ASH & CINDERS trace Asphalt	-1.0			
2.0	[Symbol]	Black to Gray ASH & CINDERS , little fine to coarse Sand, trace fine to coarse Gravel		1.0	Macro Core 0'-4'	
3.0	[Symbol]					
4.0	[Symbol]					
5.0	[Symbol]	Brown fine to coarse SAND, trace Silt & fine to coarse Gravel (wet at 7.5')				
6.0	[Symbol]			-4.5	0.9	Macro Core 4'-8'
7.0	[Symbol]					
8.0	[Symbol]					
9.0		End of Boring at 8'				
10.0						
11.0						
12.0						

Driller: W. Lineberry

Depth to Water: 7.5'

Boring Dia.: 2"

Rig: Geoprobe 540U

Boring Depth: 8'

Page: 1 of 1

# SOIL BORING LOG

<u>Project:</u> Union Street Parking Garage	<u>Boring:</u> CDR-3
<u>Location:</u> New Haven, CT	<u>Inspector:</u> J. Buehler
<u>Client:</u> CDR Group, Inc.	<u>Date:</u> 11-15-15



**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084

*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
	[Symbol]	ASPHALT - 3"	-0.3		
1.0	[Symbol]	Black ASH & CINDERS trace Asphalt	-1.0		
2.0	[Symbol]	Black to Gray ASH & CINDERS , little fine to coarse Sand, trace fine to coarse Gravel		1.7	Macro Core 0'-4'
3.0	[Symbol]				
4.0	[Symbol]				
5.0	[Symbol]	Brown fine to coarse SAND, trace Silt & fine to coarse Gravel (wet at 7.5')	-4.5		
6.0	[Symbol]			0.6	Macro Core 4'-8'
7.0	[Symbol]				
8.0	[Symbol]			-8.0	
9.0		End of Boring at 8'			
10.0					
11.0					
12.0					

Driller: W. Lineberry

Depth to Water: 7.5'

Boring Dia.: 2"

Rig: Geoprobe 540U

Boring Depth: 8'

Page: 1 of 1

# SOIL BORING LOG

<u>Project:</u> Union Street Parking Garage	<u>Boring:</u> CDR-4
<u>Location:</u> New Haven, CT	<u>Inspector:</u> J. Buehler
<u>Client:</u> CDR Group, Inc.	<u>Date:</u> 11-15-15



**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084  
*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		ASPHALT - 3"	-0.3		
		Black ASH & CINDERS trace Asphalt			
1.0					
2.0				1.3	Macro Core 0'-4'
3.0					
4.0		Red-Brown fine to coarse SAND, trace Silt & fine to coarse Gravel mixed with Black Ash & Cinders (wet at 7')			
5.0					
6.0				1.0	Macro Core 4'-8'
7.0					
8.0			-8.0		
9.0		End of Boring at 8'			
10.0					
11.0					
12.0					

Driller: W. Lineberry

Depth to Water: 7'

Boring Dia.: 2"

Rig: Geoprobe 540U

Boring Depth: 8'

Page: 1 of 1

# SOIL BORING LOG

<u>Project:</u> Union Street Parking Garage	<u>Boring:</u> CDR-5
<u>Location:</u> New Haven, CT	<u>Inspector:</u> J. Buehler
<u>Client:</u> CDR Group, Inc.	<u>Date:</u> 11-15-15



**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084

*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		ASPHALT - 3"	-0.3		
1.0		Dark-Gray to Black fine to medium SAND, little Ash & Cinders, trace fine to coarse Gravel & Cobble			
2.0				1.0	Macro Core 0'-4'
3.0			-3.0		
4.0		Dark-Gray SILT, mixed with Black Ash & Cinders (wet at 7')			
5.0					
6.0			0.9	Macro Core 4'-8'	
7.0					
8.0			-8.0		
9.0		End of Boring at 8'			
10.0					
11.0					
12.0					

Driller: W. Lineberry

Depth to Water: 7'

Boring Dia.: 2"

Rig: Geoprobe 540U

Boring Depth: 8'

Page: 1 of 1

# SOIL BORING LOG

<b>Project:</b> Union Street Parking Garage	<b>Boring:</b> CDR-6
<b>Location:</b> New Haven, CT	<b>Inspector:</b> J. Buehler
<b>Client:</b> CDR Group, Inc.	<b>Date:</b> 11-15-15



**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084

*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		ASPHALT - 3"	-0.3		
1.0		Brown fine to medium SAND mixed with Black Ash & Cinders, trace fine to coarse Gravel		0.2	Macro Core 0'-4'
2.0					
3.0					
4.0					
5.0		Brown fine to coarse SAND, trace Silt & fine Gravel (wet at 8')	-5.0		Macro Core 4'-8'
6.0				0.1	
7.0					
8.0				-8.0	
9.0		End of Boring at 8'			
10.0					
11.0					
12.0					

**Driller:** W. Lineberry

**Depth to Water:** 8'

**Boring Dia.:** 2"

**Rig:** Geoprobe 540U

**Boring Depth:** 8'

**Page:** 1 of 1

# SOIL BORING LOG

<b>Project:</b> Union Street Parking Garage	<b>Boring:</b> CDR-7
<b>Location:</b> New Haven, CT	<b>Inspector:</b> J. Buehler
<b>Client:</b> CDR Group, Inc.	<b>Date:</b> 11-15-15



**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084  
*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
	[Solid Black]	ASPHALT - 3"	-0.3		
	[Cross-hatch]	CONCRETE - 2"			
1.0	[Dotted]	Brown fine to medium SAND, mixed with Black little Ash & Cinders, trace fine to coarse Gravel		1.1	Macro Core 0'-4'
2.0					
3.0			-3.0		
4.0	[Dotted]	Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt (wet at 7')		0.6	Macro Core 4'-8'
5.0					
6.0					
7.0					
8.0			-8.0		
9.0		End of Boring at 8'			
10.0					
11.0					
12.0					

**Driller:** W. Lineberry

**Depth to Water:** 7'

**Boring Dia.:** 2"

**Rig:** Geoprobe 540U

**Boring Depth:** 8'

**Page:** 1 of 1



# SOIL BORING LOG

<u>Project:</u> Union Street Parking Garage	<u>Boring:</u> CDR-8
<u>Location:</u> New Haven, CT	<u>Inspector:</u> J. Buehler
<u>Client:</u> CDR Group, Inc.	<u>Date:</u> 11-15-15



**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084

*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		ASPHALT - 3"	-0.3		
1.0		Dark-Gray to Black fine to medium SAND, little Ash & Cinders, trace fine to coarse Gravel & Cobble			
2.0			-2.0	1.2	Macro Core 0'-4'
3.0					
4.0					
5.0		Red-Brown fine to coarse SAND, trace fine to coarse Gravel & Silt (wet at 7')			
6.0				1.1	Macro Core 4'-8'
7.0					
8.0			-8.0		
9.0		End of Boring at 8'			
10.0					
11.0					
12.0					

Driller: W. Lineberry

Depth to Water: 7'

Boring Dia.: 2"

Rig: Geoprobe 540U

Boring Depth: 8'

Page: 1 of 1

# SOIL BORING LOG

<u>Project:</u> Union Street Parking Garage	<u>Boring:</u> CDR-9
<u>Location:</u> New Haven, CT	<u>Inspector:</u> J. Buehler
<u>Client:</u> CDR Group, Inc.	<u>Date:</u> 11-15-15



**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084

*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		ASPHALT - 3"	-0.3		
1.0		Dark Gray to Black fine to medium SAND, little Ash & Cinders, trace fine to coarse Gravel & Cobble			
2.0				0.9	Macro Core 0'-4'
3.0			-3.0		
4.0		Dark-Gray SILT, mixed with Black Ash & Cinders (wet at 7')			
5.0					
6.0				0.4	Macro Core 4'-8'
7.0					
8.0			-8.0		
9.0		End of Boring at 8' - Groundwater Grab Sample			
10.0					
11.0					
12.0					

Driller: W. Lineberry

Depth to Water: 7'

Boring Dia.: 2"

Rig: Geoprobe 540U

Boring Depth: 8'

Page: 1 of 1

# **APPENDIX B – LABORATORY REPORTS**



Wednesday, November 25, 2015

Attn: Ms Jane Witherell  
CDR Group Inc.  
2080 Silas Deane Highway  
Rocky Hill, CT 06067

Project ID: NEW HAVEN UNION STATION GARAGE  
Sample ID#s: BK23143 - BK23157

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, solids 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 that reads "Phyllis Shiller". The signature is written in a cursive style.

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



## SDG Comments

November 25, 2015

SDG I.D.: GBK23143

---

Volatile 8260 analysis:

The reporting level for Acrylonitrile is above the GWP criteria.

1,2-Dibromoethane does not meet GWP criteria, this compound is analyzed by GC/ECD to achieve this criteria.



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 25, 2015

FOR: Attn: Ms Jane Witherell  
 CDR Group Inc.  
 2080 Silas Deane Highway  
 Rocky Hill, CT 06067

Sample Information

Matrix: SOLID  
 Location Code: MAGU-DAS  
 Rush Request: Standard  
 P.O.#:

Custody Information

Collected by: CK  
 Received by: LK  
 Analyzed by: see "By" below

Date

11/15/15  
 11/16/15

Time

21:15  
 8:10

Laboratory Data

SDG ID: GBK23143  
 Phoenix ID: BK23143

Project ID: NEW HAVEN UNION STATION GARAGE  
 Client ID: CDR-1 2-4 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.33	0.33	mg/Kg	1	11/17/15	LK	SW6010C
Arsenic	2.7	0.7	mg/Kg	1	11/17/15	LK	SW6010C
Barium	64.1	0.33	mg/Kg	1	11/17/15	LK	SW6010C
Cadmium	< 0.33	0.33	mg/Kg	1	11/17/15	LK	SW6010C
Chromium	7.99	0.33	mg/Kg	1	11/17/15	LK	SW6010C
Mercury	0.57	0.03	mg/Kg	1	11/17/15	RS	SW7471B
Lead	145	3.3	mg/Kg	10	11/17/15	LK	SW6010C
Selenium	< 1.3	1.3	mg/Kg	1	11/17/15	LK	SW6010C
TCLP Silver	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Barium	0.31	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Cadmium	< 0.050	0.050	mg/L	1	11/17/15	LK	SW6010C
TCLP Chromium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Mercury	< 0.0002	0.0002	mg/L	1	11/17/15	RS	SW7470A
TCLP Lead	0.11	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Selenium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Metals Digestion	Completed				11/17/15	W/W	SW3005A
Percent Solid	90		%		11/16/15	W	SW846-%Solid
Soil Extraction for PCB	Completed				11/16/15	BB	SW3545A
Soil Extraction for Pesticide	Completed				11/16/15	BB/V	SW3545A
Soil Extraction for SVOA	Completed				11/16/15	BJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/16/15	BC/CKV	SW3545A
Mercury Digestion	Completed				11/17/15	W/W	SW7471B
Soil Extraction for Herbicide	Completed				11/16/15	Q/D	SW8151A
TCLP Digestion Mercury	Completed				11/17/15	W/W	SW7470A
TCLP Extraction for Metals	Completed				11/16/15	W	SW1311
Total Metals Digest	Completed				11/16/15	G/AG	SW3050B
Field Extraction	Completed				11/15/15		SW5035A

B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>Chlorinated Herbicides</u></b>							
2,4,5-T	ND	46	ug/Kg	10	11/17/15	BB	SW8151A
2,4,5-TP (Silvex)	ND	46	ug/Kg	10	11/17/15	BB	SW8151A
2,4-D	ND	46	ug/Kg	10	11/17/15	BB	SW8151A
2,4-DB	ND	460	ug/Kg	10	11/17/15	BB	SW8151A
Dalapon	ND	46	ug/Kg	10	11/17/15	BB	SW8151A
Dicamba	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
Dichloroprop	ND	46	ug/Kg	10	11/17/15	BB	SW8151A
Dinoseb	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
<b><u>QA/QC Surrogates</u></b>							
% DCAA	71		%	10	11/17/15	BB	30 - 150 %
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum HC	ND	55	mg/Kg	1	11/17/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	11/17/15	JRB	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	81		%	1	11/17/15	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1221	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1232	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1242	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1248	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1254	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1260	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1262	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1268	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	88		%	10	11/17/15	AW	30 - 150 %
% TCMX	75		%	10	11/17/15	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDE	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDT	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
a-BHC	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Alachlor	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Aldrin	ND	3.7	ug/Kg	2	11/17/15	CE	SW8081B
b-BHC	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Chlordane	ND	37	ug/Kg	2	11/17/15	CE	SW8081B
d-BHC	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Dieldrin	ND	3.7	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan I	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan II	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan sulfate	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Endrin	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Endrin aldehyde	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Endrin ketone	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B

Client ID: CDR-1 2-4 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
g-BHC	ND	1.5	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Methoxychlor	ND	37	ug/Kg	2	11/17/15	CE	SW8081B
Toxaphene	ND	150	ug/Kg	2	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	68		%	2	11/17/15	CE	30 - 150 %
% TCMX	54		%	2	11/17/15	CE	30 - 150 %

**Volatiles**

1,1,1,2-Tetrachloroethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.7	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
2-Chlorotoluene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
2-Hexanone	ND	23	ug/Kg	1	11/16/15	JLI	SW8260C
2-Isopropyltoluene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
4-Chlorotoluene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
4-Methyl-2-pentanone	ND	23	ug/Kg	1	11/16/15	JLI	SW8260C
Acetone	ND	230	ug/Kg	1	11/16/15	JLI	SW8260C
Acrylonitrile	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Benzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Bromobenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Bromochloromethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Bromodichloromethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Bromoform	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Bromomethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon Disulfide	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon tetrachloride	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Chlorobenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroform	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Chloromethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C



Client ID: CDR-1 2-4 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,2-Dichloroethene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromochloromethane	ND	2.7	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromomethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Ethylbenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Hexachlorobutadiene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Isopropylbenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
m&p-Xylene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	27	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	9.0	ug/Kg	1	11/16/15	JLI	SW8260C
Methylene chloride	ND	9.0	ug/Kg	1	11/16/15	JLI	SW8260C
Naphthalene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
n-Butylbenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
n-Propylbenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
o-Xylene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
p-Isopropyltoluene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
sec-Butylbenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Styrene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
tert-Butylbenzene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrachloroethene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	9.0	ug/Kg	1	11/16/15	JLI	SW8260C
Toluene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Total Xylenes	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	9.0	ug/Kg	1	11/16/15	JLI	SW8260C
Trichloroethene	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
Vinyl chloride	ND	4.5	ug/Kg	1	11/16/15	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	104		%	1	11/16/15	JLI	70 - 130 %
% Bromofluorobenzene	81		%	1	11/16/15	JLI	70 - 130 %
% Dibromofluoromethane	100		%	1	11/16/15	JLI	70 - 130 %
% Toluene-d8	90		%	1	11/16/15	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
1,2-Dichlorobenzene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	370	ug/Kg	1	11/16/15	DD	SW8270D
1,3-Dichlorobenzene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
1,4-Dichlorobenzene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
2,4-Dichlorophenol	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
2,4-Dimethylphenol	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
2,4-Dinitrophenol	ND	580	ug/Kg	1	11/16/15	DD	SW8270D
2,4-Dinitrotoluene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,6-Dinitrotoluene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
2-Chloronaphthalene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
2-Chlorophenol	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
2-Methylnaphthalene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
2-Nitroaniline	ND	580	ug/Kg	1	11/16/15	DD	SW8270D
2-Nitrophenol	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	370	ug/Kg	1	11/16/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
3-Nitroaniline	ND	580	ug/Kg	1	11/16/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	1	11/16/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	370	ug/Kg	1	11/16/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
4-Chloroaniline	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
4-Nitroaniline	ND	580	ug/Kg	1	11/16/15	DD	SW8270D
4-Nitrophenol	ND	1100	ug/Kg	1	11/16/15	DD	SW8270D
Acenaphthene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Acenaphthylene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Acetophenone	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Aniline	ND	1100	ug/Kg	1	11/16/15	DD	SW8270D
Anthracene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Benz(a)anthracene	660	260	ug/Kg	1	11/16/15	DD	SW8270D
Benzidine	ND	440	ug/Kg	1	11/16/15	DD	SW8270D
Benzo(a)pyrene	740	260	ug/Kg	1	11/16/15	DD	SW8270D
Benzo(b)fluoranthene	710	260	ug/Kg	1	11/16/15	DD	SW8270D
Benzo(ghi)perylene	470	260	ug/Kg	1	11/16/15	DD	SW8270D
Benzo(k)fluoranthene	710	260	ug/Kg	1	11/16/15	DD	SW8270D
Benzoic acid	ND	1100	ug/Kg	1	11/16/15	DD	SW8270D
Benzyl butyl phthalate	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	370	ug/Kg	1	11/16/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Carbazole	ND	550	ug/Kg	1	11/16/15	DD	SW8270D
Chrysene	750	260	ug/Kg	1	11/16/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Dibenzofuran	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Diethyl phthalate	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Dimethylphthalate	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Di-n-butylphthalate	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Di-n-octylphthalate	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Fluoranthene	1100	260	ug/Kg	1	11/16/15	DD	SW8270D
Fluorene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Hexachlorobenzene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Hexachlorobutadiene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Hexachloroethane	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	520	260	ug/Kg	1	11/16/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Isophorone	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Naphthalene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Nitrobenzene	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
N-Nitrosodimethylamine	ND	370	ug/Kg	1	11/16/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	370	ug/Kg	1	11/16/15	DD	SW8270D
Pentachloronitrobenzene	ND	370	ug/Kg	1	11/16/15	DD	SW8270D
Pentachlorophenol	ND	370	ug/Kg	1	11/16/15	DD	SW8270D
Phenanthrene	430	260	ug/Kg	1	11/16/15	DD	SW8270D
Phenol	ND	260	ug/Kg	1	11/16/15	DD	SW8270D
Pyrene	1100	260	ug/Kg	1	11/16/15	DD	SW8270D
Pyridine	ND	370	ug/Kg	1	11/16/15	DD	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	69		%	1	11/16/15	DD	30 - 130 %
% 2-Fluorobiphenyl	48		%	1	11/16/15	DD	30 - 130 %
% 2-Fluorophenol	35		%	1	11/16/15	DD	30 - 130 %
% Nitrobenzene-d5	47		%	1	11/16/15	DD	30 - 130 %
% Phenol-d5	44		%	1	11/16/15	DD	30 - 130 %
% Terphenyl-d14	56		%	1	11/16/15	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

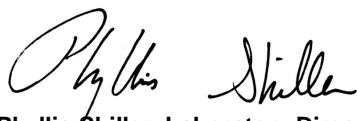
**Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 25, 2015

FOR: Attn: Ms Jane Witherell  
 CDR Group Inc.  
 2080 Silas Deane Highway  
 Rocky Hill, CT 06067

Sample Information

Matrix: SOLID  
 Location Code: MAGU-DAS  
 Rush Request: Standard  
 P.O.#:

Custody Information

Collected by: CK  
 Received by: LK  
 Analyzed by: see "By" below

Date

11/15/15  
 11/16/15

Time

20:55  
 8:10

Laboratory Data

SDG ID: GBK23143  
 Phoenix ID: BK23144

Project ID: NEW HAVEN UNION STATION GARAGE  
 Client ID: CDR-2 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	0.51	0.35	mg/Kg	1	11/17/15	LK	SW6010C
Arsenic	5.1	0.7	mg/Kg	1	11/17/15	LK	SW6010C
Barium	220	0.35	mg/Kg	1	11/17/15	LK	SW6010C
Cadmium	0.46	0.35	mg/Kg	1	11/17/15	LK	SW6010C
Chromium	14.1	0.35	mg/Kg	1	11/17/15	LK	SW6010C
Mercury	4.57	0.30	mg/Kg	1	11/17/15	RS	SW7471B
Lead	526	3.5	mg/Kg	10	11/17/15	LK	SW6010C
Selenium	< 1.4	1.4	mg/Kg	1	11/17/15	LK	SW6010C
TCLP Silver	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Barium	1.34	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Cadmium	< 0.050	0.050	mg/L	1	11/17/15	LK	SW6010C
TCLP Chromium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Mercury	< 0.0002	0.0002	mg/L	1	11/17/15	RS	SW7470A
TCLP Lead	0.60	0.10	mg/L	1	11/24/15	LK	SW6010C
TCLP Selenium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Metals Digestion	Completed				11/17/15	W/W	SW3005A
Percent Solid	86		%		11/16/15	W	SW846-%Solid
Soil Extraction for PCB	Completed				11/16/15	BB	SW3545A
Soil Extraction for Pesticide	Completed				11/16/15	BB/V	SW3545A
Soil Extraction for SVOA	Completed				11/16/15	BJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/16/15	BC/CKV	SW3545A
Mercury Digestion	Completed				11/17/15	W/W	SW7471B
Soil Extraction for Herbicide	Completed				11/16/15	Q/D	SW8151A
TCLP Digestion Mercury	Completed				11/17/15	W/W	SW7470A
TCLP Extraction for Metals	Completed				11/23/15	W	SW1311
Total Metals Digest	Completed				11/16/15	G/AG	SW3050B
Field Extraction	Completed				11/15/15		SW5035A

B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>Chlorinated Herbicides</u></b>							
2,4,5-T	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
2,4,5-TP (Silvex)	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
2,4-D	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
2,4-DB	ND	920	ug/Kg	10	11/17/15	BB	SW8151A
Dalapon	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
Dicamba	ND	180	ug/Kg	10	11/17/15	BB	SW8151A
Dichloroprop	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
Dinoseb	ND	180	ug/Kg	10	11/17/15	BB	SW8151A
<b><u>QA/QC Surrogates</u></b>							
% DCAA	65		%	10	11/17/15	BB	30 - 150 %
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum HC	ND	58	mg/Kg	1	11/17/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	11/17/15	JRB	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	84		%	1	11/17/15	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1221	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1232	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1242	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1248	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1254	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1260	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1262	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1268	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	108		%	10	11/17/15	AW	30 - 150 %
% TCMX	96		%	10	11/17/15	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDE	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDT	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
a-BHC	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
Alachlor	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
Aldrin	ND	3.8	ug/Kg	2	11/17/15	CE	SW8081B
b-BHC	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
Chlordane	ND	38	ug/Kg	2	11/17/15	CE	SW8081B
d-BHC	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
Dieldrin	ND	3.8	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan I	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan II	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan sulfate	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
Endrin	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
Endrin aldehyde	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
Endrin ketone	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
g-BHC	ND	1.5	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	7.7	ug/Kg	2	11/17/15	CE	SW8081B
Methoxychlor	ND	38	ug/Kg	2	11/17/15	CE	SW8081B
Toxaphene	ND	150	ug/Kg	2	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	81		%	2	11/17/15	CE	30 - 150 %
% TCMX	65		%	2	11/17/15	CE	30 - 150 %

**Volatiles**

1,1,1,2-Tetrachloroethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
2-Chlorotoluene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
2-Hexanone	ND	25	ug/Kg	1	11/16/15	JLI	SW8260C
2-Isopropyltoluene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
4-Chlorotoluene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
4-Methyl-2-pentanone	ND	25	ug/Kg	1	11/16/15	JLI	SW8260C
Acetone	ND	250	ug/Kg	1	11/16/15	JLI	SW8260C
Acrylonitrile	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Benzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Bromobenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Bromochloromethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Bromodichloromethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Bromoform	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Bromomethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon Disulfide	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon tetrachloride	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroform	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Chloromethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromochloromethane	ND	3.0	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromomethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Ethylbenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Hexachlorobutadiene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Isopropylbenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
m&p-Xylene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	30	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	11/16/15	JLI	SW8260C
Methylene chloride	ND	10	ug/Kg	1	11/16/15	JLI	SW8260C
Naphthalene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
n-Butylbenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
n-Propylbenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
o-Xylene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
sec-Butylbenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Styrene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
tert-Butylbenzene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrachloroethene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	10	ug/Kg	1	11/16/15	JLI	SW8260C
Toluene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Total Xylenes	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	11/16/15	JLI	SW8260C
Trichloroethene	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
Vinyl chloride	ND	5.0	ug/Kg	1	11/16/15	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	96		%	1	11/16/15	JLI	70 - 130 %
% Bromofluorobenzene	95		%	1	11/16/15	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	11/16/15	JLI	70 - 130 %
% Toluene-d8	91		%	1	11/16/15	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
1,2-Dichlorobenzene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	380	ug/Kg	1	11/16/15	DD	SW8270D
1,3-Dichlorobenzene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
1,4-Dichlorobenzene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
2,4-Dichlorophenol	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
2,4-Dimethylphenol	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
2,4-Dinitrophenol	ND	610	ug/Kg	1	11/16/15	DD	SW8270D
2,4-Dinitrotoluene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,6-Dinitrotoluene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
2-Chloronaphthalene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
2-Chlorophenol	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
2-Methylnaphthalene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
2-Nitroaniline	ND	610	ug/Kg	1	11/16/15	DD	SW8270D
2-Nitrophenol	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	380	ug/Kg	1	11/16/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
3-Nitroaniline	ND	610	ug/Kg	1	11/16/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	1	11/16/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	380	ug/Kg	1	11/16/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
4-Chloroaniline	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
4-Nitroaniline	ND	610	ug/Kg	1	11/16/15	DD	SW8270D
4-Nitrophenol	ND	1100	ug/Kg	1	11/16/15	DD	SW8270D
Acenaphthene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Acetophenone	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Aniline	ND	1100	ug/Kg	1	11/16/15	DD	SW8270D
Anthracene	310	270	ug/Kg	1	11/16/15	DD	SW8270D
Benz(a)anthracene	780	270	ug/Kg	1	11/16/15	DD	SW8270D
Benzidine	ND	460	ug/Kg	1	11/16/15	DD	SW8270D
Benzo(a)pyrene	780	270	ug/Kg	1	11/16/15	DD	SW8270D
Benzo(b)fluoranthene	800	270	ug/Kg	1	11/16/15	DD	SW8270D
Benzo(ghi)perylene	410	270	ug/Kg	1	11/16/15	DD	SW8270D
Benzo(k)fluoranthene	820	270	ug/Kg	1	11/16/15	DD	SW8270D
Benzoic acid	ND	1100	ug/Kg	1	11/16/15	DD	SW8270D
Benzyl butyl phthalate	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	380	ug/Kg	1	11/16/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Carbazole	ND	570	ug/Kg	1	11/16/15	DD	SW8270D
Chrysene	880	270	ug/Kg	1	11/16/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Dibenzofuran	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Diethyl phthalate	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Dimethylphthalate	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Di-n-butylphthalate	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Di-n-octylphthalate	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Fluoranthene	1600	270	ug/Kg	1	11/16/15	DD	SW8270D
Fluorene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Hexachlorobenzene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Hexachlorobutadiene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Hexachloroethane	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	490	270	ug/Kg	1	11/16/15	DD	SW8270D



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Isophorone	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Naphthalene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Nitrobenzene	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
N-Nitrosodimethylamine	ND	380	ug/Kg	1	11/16/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	380	ug/Kg	1	11/16/15	DD	SW8270D
Pentachloronitrobenzene	ND	380	ug/Kg	1	11/16/15	DD	SW8270D
Pentachlorophenol	ND	380	ug/Kg	1	11/16/15	DD	SW8270D
Phenanthrene	1700	270	ug/Kg	1	11/16/15	DD	SW8270D
Phenol	ND	270	ug/Kg	1	11/16/15	DD	SW8270D
Pyrene	1400	270	ug/Kg	1	11/16/15	DD	SW8270D
Pyridine	ND	380	ug/Kg	1	11/16/15	DD	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	86		%	1	11/16/15	DD	30 - 130 %
% 2-Fluorobiphenyl	75		%	1	11/16/15	DD	30 - 130 %
% 2-Fluorophenol	55		%	1	11/16/15	DD	30 - 130 %
% Nitrobenzene-d5	75		%	1	11/16/15	DD	30 - 130 %
% Phenol-d5	69		%	1	11/16/15	DD	30 - 130 %
% Terphenyl-d14	73		%	1	11/16/15	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

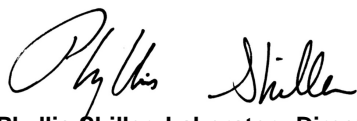
**Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 25, 2015

FOR: Attn: Ms Jane Witherell  
 CDR Group Inc.  
 2080 Silas Deane Highway  
 Rocky Hill, CT 06067

Sample Information

Matrix: SOLID  
 Location Code: MAGU-DAS  
 Rush Request: Standard  
 P.O.#:

Custody Information

Collected by: CK  
 Received by: LK  
 Analyzed by: see "By" below

Date

11/15/15  
 11/16/15

Time

20:40  
 8:10

Laboratory Data

SDG ID: GBK23143  
 Phoenix ID: BK23145

Project ID: NEW HAVEN UNION STATION GARAGE  
 Client ID: CDR-3 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.33	0.33	mg/Kg	1	11/17/15	LK	SW6010C
Arsenic	3.9	0.7	mg/Kg	1	11/17/15	LK	SW6010C
Barium	79.2	0.33	mg/Kg	1	11/17/15	LK	SW6010C
Cadmium	0.97	0.33	mg/Kg	1	11/17/15	LK	SW6010C
Chromium	9.41	0.33	mg/Kg	1	11/17/15	LK	SW6010C
Mercury	0.42	0.03	mg/Kg	1	11/17/15	RS	SW7471B
Lead	129	0.33	mg/Kg	1	11/17/15	LK	SW6010C
Selenium	< 1.3	1.3	mg/Kg	1	11/17/15	LK	SW6010C
TCLP Silver	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Barium	0.74	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Cadmium	< 0.050	0.050	mg/L	1	11/17/15	LK	SW6010C
TCLP Chromium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Mercury	< 0.0002	0.0002	mg/L	1	11/17/15	RS	SW7470A
TCLP Lead	0.29	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Selenium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Metals Digestion	Completed				11/17/15	W/W	SW3005A
Percent Solid	90		%		11/16/15	W	SW846-%Solid
Soil Extraction for PCB	Completed				11/16/15	BB	SW3545A
Soil Extraction for Pesticide	Completed				11/16/15	BB/V	SW3545A
Soil Extraction for SVOA	Completed				11/16/15	BJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/16/15	BC/CKV	SW3545A
Mercury Digestion	Completed				11/17/15	W/W	SW7471B
Soil Extraction for Herbicide	Completed				11/16/15	Q/D	SW8151A
TCLP Digestion Mercury	Completed				11/17/15	W/W	SW7470A
TCLP Extraction for Metals	Completed				11/16/15	W	SW1311
Total Metals Digest	Completed				11/16/15	G/AG	SW3050B
Field Extraction	Completed				11/15/15		SW5035A

B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>Chlorinated Herbicides</u></b>							
2,4,5-T	ND	90	ug/Kg	10	11/17/15	BB	SW8151A
2,4,5-TP (Silvex)	ND	90	ug/Kg	10	11/17/15	BB	SW8151A
2,4-D	ND	90	ug/Kg	10	11/17/15	BB	SW8151A
2,4-DB	ND	900	ug/Kg	10	11/17/15	BB	SW8151A
Dalapon	ND	90	ug/Kg	10	11/17/15	BB	SW8151A
Dicamba	ND	180	ug/Kg	10	11/17/15	BB	SW8151A
Dichloroprop	ND	90	ug/Kg	10	11/17/15	BB	SW8151A
Dinoseb	ND	180	ug/Kg	10	11/17/15	BB	SW8151A
<b><u>QA/QC Surrogates</u></b>							
% DCAA	71		%	10	11/17/15	BB	30 - 150 %
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum HC	ND	55	mg/Kg	1	11/17/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	11/17/15	JRB	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	75		%	1	11/17/15	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	360	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1221	ND	360	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1232	ND	360	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1242	ND	360	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1248	ND	360	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1254	ND	360	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1260	ND	360	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1262	ND	360	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1268	ND	360	ug/Kg	10	11/17/15	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	108		%	10	11/17/15	AW	30 - 150 %
% TCMX	100		%	10	11/17/15	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDE	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDT	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
a-BHC	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Alachlor	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Aldrin	ND	3.6	ug/Kg	2	11/17/15	CE	SW8081B
b-BHC	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Chlordane	ND	36	ug/Kg	2	11/17/15	CE	SW8081B
d-BHC	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Dieldrin	ND	3.6	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan I	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan II	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan sulfate	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Endrin	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Endrin aldehyde	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Endrin ketone	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
g-BHC	ND	1.4	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Methoxychlor	ND	36	ug/Kg	2	11/17/15	CE	SW8081B
Toxaphene	ND	140	ug/Kg	2	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	97		%	2	11/17/15	CE	30 - 150 %
% TCMX	80		%	2	11/17/15	CE	30 - 150 %

**Volatiles**

1,1,1,2-Tetrachloroethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloropropene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromoethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloroethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloropropane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichloropropane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
2,2-Dichloropropane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
2-Chlorotoluene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
2-Hexanone	ND	31	ug/Kg	1	11/16/15	JLI	SW8260C
2-Isopropyltoluene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
4-Chlorotoluene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
4-Methyl-2-pentanone	ND	31	ug/Kg	1	11/16/15	JLI	SW8260C
Acetone	ND	310	ug/Kg	1	11/16/15	JLI	SW8260C
Acrylonitrile	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Benzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Bromobenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Bromochloromethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Bromodichloromethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Bromoform	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Bromomethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon Disulfide	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon tetrachloride	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Chlorobenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroform	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Chloromethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C

Client ID: CDR-3 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,2-Dichloroethene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromochloromethane	ND	3.8	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromomethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Dichlorodifluoromethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Ethylbenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Hexachlorobutadiene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Isopropylbenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
m&p-Xylene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	38	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	13	ug/Kg	1	11/16/15	JLI	SW8260C
Methylene chloride	ND	13	ug/Kg	1	11/16/15	JLI	SW8260C
Naphthalene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
n-Butylbenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
n-Propylbenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
o-Xylene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
p-Isopropyltoluene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
sec-Butylbenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Styrene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
tert-Butylbenzene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrachloroethene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/Kg	1	11/16/15	JLI	SW8260C
Toluene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Total Xylenes	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	13	ug/Kg	1	11/16/15	JLI	SW8260C
Trichloroethene	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorofluoromethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
Vinyl chloride	ND	6.3	ug/Kg	1	11/16/15	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	98		%	1	11/16/15	JLI	70 - 130 %
% Bromofluorobenzene	91		%	1	11/16/15	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	11/16/15	JLI	70 - 130 %
% Toluene-d8	91		%	1	11/16/15	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Dichlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
1,3-Dichlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
1,4-Dichlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dichlorophenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dimethylphenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrophenol	ND	590	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrotoluene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D

Client ID: CDR-3 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,6-Dinitrotoluene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2-Chloronaphthalene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2-Chlorophenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylnaphthalene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitroaniline	ND	590	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitrophenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
3-Nitroaniline	ND	590	ug/Kg	1	11/17/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloroaniline	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitroaniline	ND	590	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitrophenol	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthylene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Acetophenone	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Aniline	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Anthracene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Benz(a)anthracene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Benzidine	ND	440	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(a)pyrene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(b)fluoranthene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(ghi)perylene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(k)fluoranthene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Benzoic acid	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Benzyl butyl phthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Carbazole	ND	550	ug/Kg	1	11/17/15	DD	SW8270D
Chrysene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Dibenzofuran	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Diethyl phthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Dimethylphthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-butylphthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-octylphthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Fluoranthene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Fluorene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobutadiene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Hexachloroethane	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Isophorone	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Naphthalene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Nitrobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodimethylamine	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
Pentachloronitrobenzene	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
Pentachlorophenol	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
Phenanthrene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Phenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Pyrene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Pyridine	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	50		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorobiphenyl	51		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorophenol	38		%	1	11/17/15	DD	30 - 130 %
% Nitrobenzene-d5	48		%	1	11/17/15	DD	30 - 130 %
% Phenol-d5	46		%	1	11/17/15	DD	30 - 130 %
% Terphenyl-d14	53		%	1	11/17/15	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

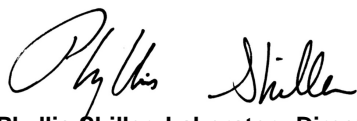
**Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 25, 2015

FOR: Attn: Ms Jane Witherell  
 CDR Group Inc.  
 2080 Silas Deane Highway  
 Rocky Hill, CT 06067

Sample Information

Matrix: SOLID  
 Location Code: MAGU-DAS  
 Rush Request: Standard  
 P.O.#:

Custody Information

Collected by: CK  
 Received by: LK  
 Analyzed by: see "By" below

Date

11/15/15  
 11/16/15

Time

21:55  
 8:10

Laboratory Data

SDG ID: GBK23143  
 Phoenix ID: BK23146

Project ID: NEW HAVEN UNION STATION GARAGE  
 Client ID: CDR-4 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.36	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Arsenic	4.1	0.7	mg/Kg	1	11/17/15	LK	SW6010C
Barium	39.5	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Cadmium	0.67	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Chromium	9.87	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Mercury	0.33	0.03	mg/Kg	1	11/17/15	RS	SW7471B
Lead	208	3.6	mg/Kg	10	11/17/15	LK	SW6010C
Selenium	< 1.4	1.4	mg/Kg	1	11/17/15	LK	SW6010C
TCLP Silver	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Barium	0.38	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Cadmium	< 0.050	0.050	mg/L	1	11/17/15	LK	SW6010C
TCLP Chromium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Mercury	< 0.0002	0.0002	mg/L	1	11/17/15	RS	SW7470A
TCLP Lead	0.44	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Selenium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Metals Digestion	Completed				11/17/15	W/W	SW3005A
Percent Solid	88		%		11/16/15	W	SW846-%Solid
Soil Extraction for PCB	Completed				11/16/15	BB	SW3545A
Soil Extraction for Pesticide	Completed				11/16/15	BB/V	SW3545A
Soil Extraction for SVOA	Completed				11/16/15	BJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/16/15	BC/CKV	SW3545A
Mercury Digestion	Completed				11/17/15	W/W	SW7471B
Soil Extraction for Herbicide	Completed				11/16/15	Q/D	SW8151A
TCLP Digestion Mercury	Completed				11/17/15	W/W	SW7470A
TCLP Extraction for Metals	Completed				11/16/15	W	SW1311
Total Metals Digest	Completed				11/16/15	G/AG	SW3050B
Field Extraction	Completed				11/15/15		SW5035A

B



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>Chlorinated Herbicides</u></b>							
2,4,5-T	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
2,4,5-TP (Silvex)	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
2,4-D	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
2,4-DB	ND	920	ug/Kg	10	11/17/15	BB	SW8151A
Dalapon	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
Dicamba	ND	180	ug/Kg	10	11/17/15	BB	SW8151A
Dichloroprop	ND	92	ug/Kg	10	11/17/15	BB	SW8151A
Dinoseb	ND	180	ug/Kg	10	11/17/15	BB	SW8151A
<b><u>QA/QC Surrogates</u></b>							
% DCAA	68		%	10	11/17/15	BB	30 - 150 %
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum HC	ND	280	mg/Kg	5	11/17/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	5	11/17/15	JRB	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	64		%	5	11/17/15	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1221	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1232	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1242	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1248	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1254	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1260	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1262	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1268	ND	370	ug/Kg	10	11/17/15	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	105		%	10	11/17/15	AW	30 - 150 %
% TCMX	98		%	10	11/17/15	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDE	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDT	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
a-BHC	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
Alachlor	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
Aldrin	ND	3.7	ug/Kg	2	11/17/15	CE	SW8081B
b-BHC	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
Chlordane	ND	37	ug/Kg	2	11/17/15	CE	SW8081B
d-BHC	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
Dieldrin	ND	3.7	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan I	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan II	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan sulfate	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
Endrin	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
Endrin aldehyde	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
Endrin ketone	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B

Client ID: CDR-4 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
g-BHC	ND	1.5	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor	ND	7.4	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	12	ug/Kg	2	11/17/15	CE	SW8081B
Methoxychlor	ND	37	ug/Kg	2	11/17/15	CE	SW8081B
Toxaphene	ND	150	ug/Kg	2	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	93		%	2	11/17/15	CE	30 - 150 %
% TCMX	78		%	2	11/17/15	CE	30 - 150 %

**Volatiles**

1,1,1,2-Tetrachloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.3	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
2-Chlorotoluene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
2-Hexanone	ND	28	ug/Kg	1	11/16/15	JLI	SW8260C
2-Isopropyltoluene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
4-Chlorotoluene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
4-Methyl-2-pentanone	ND	28	ug/Kg	1	11/16/15	JLI	SW8260C
Acetone	ND	280	ug/Kg	1	11/16/15	JLI	SW8260C
Acrylonitrile	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Benzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Bromobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Bromochloromethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Bromodichloromethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Bromoform	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Bromomethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon Disulfide	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon tetrachloride	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Chlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroform	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Chloromethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,2-Dichloroethene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromochloromethane	ND	3.3	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromomethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Ethylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Hexachlorobutadiene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Isopropylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
m&p-Xylene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	33	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	1	11/16/15	JLI	SW8260C
Methylene chloride	ND	11	ug/Kg	1	11/16/15	JLI	SW8260C
Naphthalene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
n-Butylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
n-Propylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
o-Xylene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
sec-Butylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Styrene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
tert-Butylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrachloroethene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	11	ug/Kg	1	11/16/15	JLI	SW8260C
Toluene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Total Xylenes	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	11/16/15	JLI	SW8260C
Trichloroethene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Vinyl chloride	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	97		%	1	11/16/15	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	11/16/15	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	11/16/15	JLI	70 - 130 %
% Toluene-d8	92		%	1	11/16/15	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Dichlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
1,3-Dichlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
1,4-Dichlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dichlorophenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dimethylphenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrophenol	ND	600	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrotoluene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D

Client ID: CDR-4 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,6-Dinitrotoluene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2-Chloronaphthalene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2-Chlorophenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylnaphthalene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitroaniline	ND	600	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitrophenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
3-Nitroaniline	ND	600	ug/Kg	1	11/17/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloroaniline	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitroaniline	ND	600	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitrophenol	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthylene	450	260	ug/Kg	1	11/17/15	DD	SW8270D
Acetophenone	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Aniline	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Anthracene	610	260	ug/Kg	1	11/17/15	DD	SW8270D
Benz(a)anthracene	1500	260	ug/Kg	1	11/17/15	DD	SW8270D
Benzidine	ND	450	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(a)pyrene	1600	260	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(b)fluoranthene	1700	260	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(ghi)perylene	1100	260	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(k)fluoranthene	1600	260	ug/Kg	1	11/17/15	DD	SW8270D
Benzoic acid	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Benzyl butyl phthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Carbazole	ND	560	ug/Kg	1	11/17/15	DD	SW8270D
Chrysene	1900	260	ug/Kg	1	11/17/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Dibenzofuran	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Diethyl phthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Dimethylphthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-butylphthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-octylphthalate	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Fluoranthene	4100	260	ug/Kg	1	11/17/15	DD	SW8270D
Fluorene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobutadiene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Hexachloroethane	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	1200	260	ug/Kg	1	11/17/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Isophorone	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Naphthalene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Nitrobenzene	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodimethylamine	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
Pentachloronitrobenzene	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
Pentachlorophenol	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
Phenanthrene	3000	260	ug/Kg	1	11/17/15	DD	SW8270D
Phenol	ND	260	ug/Kg	1	11/17/15	DD	SW8270D
Pyrene	3200	260	ug/Kg	1	11/17/15	DD	SW8270D
Pyridine	ND	370	ug/Kg	1	11/17/15	DD	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	67		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorobiphenyl	63		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorophenol	43		%	1	11/17/15	DD	30 - 130 %
% Nitrobenzene-d5	60		%	1	11/17/15	DD	30 - 130 %
% Phenol-d5	54		%	1	11/17/15	DD	30 - 130 %
% Terphenyl-d14	61		%	1	11/17/15	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

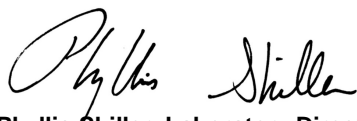
**Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

This report must not be reproduced except in full as defined by the attached chain of custody.



**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 25, 2015

FOR: Attn: Ms Jane Witherell  
 CDR Group Inc.  
 2080 Silas Deane Highway  
 Rocky Hill, CT 06067

Sample Information

Matrix: SOLID  
 Location Code: MAGU-DAS  
 Rush Request: Standard  
 P.O.#:

Custody Information

Collected by: CK  
 Received by: LK  
 Analyzed by: see "By" below

Date

11/15/15  
 11/16/15

Time

22:10  
 8:10

Laboratory Data

SDG ID: GBK23143  
 Phoenix ID: BK23147

Project ID: NEW HAVEN UNION STATION GARAGE  
 Client ID: CDR-5 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	0.47	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Arsenic	30.5	0.7	mg/Kg	1	11/17/15	LK	SW6010C
Barium	116	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Cadmium	1.62	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Chromium	34.0	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Mercury	1.51	0.03	mg/Kg	1	11/17/15	RS	SW7471B
Lead	485	3.6	mg/Kg	10	11/17/15	LK	SW6010C
Selenium	< 1.4	1.4	mg/Kg	1	11/17/15	LK	SW6010C
TCLP Silver	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Barium	0.57	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Cadmium	< 0.050	0.050	mg/L	1	11/17/15	LK	SW6010C
TCLP Chromium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Mercury	< 0.0002	0.0002	mg/L	1	11/17/15	RS	SW7470A
TCLP Lead	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Selenium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Metals Digestion	Completed				11/17/15	W/W	SW3005A
Percent Solid	85		%		11/16/15	W	SW846-%Solid
Soil Extraction for PCB	Completed				11/16/15	BC	SW3545A
Soil Extraction for Pesticide	Completed				11/16/15	BC/V	SW3545A
Soil Extraction for SVOA	Completed				11/16/15	BJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/16/15	BC/CKV	SW3545A
Mercury Digestion	Completed				11/17/15	W/W	SW7471B
Soil Extraction for Herbicide	Completed				11/16/15	Q/D	SW8151A
TCLP Digestion Mercury	Completed				11/17/15	W/W	SW7470A
TCLP Extraction for Metals	Completed				11/16/15	W	SW1311
Total Metals Digest	Completed				11/16/15	G/AG	SW3050B
Field Extraction	Completed				11/15/15		SW5035A

B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>Chlorinated Herbicides</u></b>							
2,4,5-T	ND	49	ug/Kg	10	11/17/15	BB	SW8151A
2,4,5-TP (Silvex)	ND	49	ug/Kg	10	11/17/15	BB	SW8151A
2,4-D	ND	49	ug/Kg	10	11/17/15	BB	SW8151A
2,4-DB	ND	490	ug/Kg	10	11/17/15	BB	SW8151A
Dalapon	ND	49	ug/Kg	10	11/17/15	BB	SW8151A
Dicamba	ND	98	ug/Kg	10	11/17/15	BB	SW8151A
Dichloroprop	ND	49	ug/Kg	10	11/17/15	BB	SW8151A
Dinoseb	ND	98	ug/Kg	10	11/17/15	BB	SW8151A
<b><u>QA/QC Surrogates</u></b>							
% DCAA	56		%	10	11/17/15	BB	30 - 150 %
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum HC	480	58	mg/Kg	1	11/18/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	11/18/15	JRB	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	83		%	1	11/18/15	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1221	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1232	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1242	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1248	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1254	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1260	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1262	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
PCB-1268	ND	380	ug/Kg	10	11/17/15	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	88		%	10	11/17/15	AW	30 - 150 %
% TCMX	80		%	10	11/17/15	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDE	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDT	30	7.6	ug/Kg	2	11/17/15	CE	SW8081B
a-BHC	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Alachlor	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Aldrin	ND	3.8	ug/Kg	2	11/17/15	CE	SW8081B
b-BHC	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Chlordane	ND	38	ug/Kg	2	11/17/15	CE	SW8081B
d-BHC	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Dieldrin	ND	3.8	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan I	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan II	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan sulfate	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Endrin	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Endrin aldehyde	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Endrin ketone	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B

Client ID: CDR-5 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
g-BHC	ND	5.0	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Methoxychlor	ND	38	ug/Kg	2	11/17/15	CE	SW8081B
Toxaphene	ND	150	ug/Kg	2	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	98		%	2	11/17/15	CE	30 - 150 %
% TCMX	101		%	2	11/17/15	CE	30 - 150 %

**Volatiles**

1,1,1,2-Tetrachloroethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.5	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
2-Chlorotoluene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
2-Hexanone	ND	29	ug/Kg	1	11/16/15	JLI	SW8260C
2-Isopropyltoluene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
4-Chlorotoluene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
4-Methyl-2-pentanone	ND	29	ug/Kg	1	11/16/15	JLI	SW8260C
Acetone	ND	290	ug/Kg	1	11/16/15	JLI	SW8260C
Acrylonitrile	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Benzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Bromobenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Bromochloromethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Bromodichloromethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Bromoform	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Bromomethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon Disulfide	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon tetrachloride	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Chlorobenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroform	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Chloromethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,2-Dichloroethene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromochloromethane	ND	3.5	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromomethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Ethylbenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Hexachlorobutadiene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Isopropylbenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
m&p-Xylene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	35	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	12	ug/Kg	1	11/16/15	JLI	SW8260C
Methylene chloride	ND	12	ug/Kg	1	11/16/15	JLI	SW8260C
Naphthalene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
n-Butylbenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
n-Propylbenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
o-Xylene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
sec-Butylbenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Styrene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
tert-Butylbenzene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrachloroethene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	12	ug/Kg	1	11/16/15	JLI	SW8260C
Toluene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Total Xylenes	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	12	ug/Kg	1	11/16/15	JLI	SW8260C
Trichloroethene	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
Vinyl chloride	ND	5.8	ug/Kg	1	11/16/15	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	101		%	1	11/16/15	JLI	70 - 130 %
% Bromofluorobenzene	91		%	1	11/16/15	JLI	70 - 130 %
% Dibromofluoromethane	94		%	1	11/16/15	JLI	70 - 130 %
% Toluene-d8	89		%	1	11/16/15	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Dichlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	380	ug/Kg	1	11/17/15	DD	SW8270D
1,3-Dichlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
1,4-Dichlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dichlorophenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dimethylphenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrophenol	ND	620	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrotoluene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,6-Dinitrotoluene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2-Chloronaphthalene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2-Chlorophenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylnaphthalene	470	270	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitroaniline	ND	620	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitrophenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	380	ug/Kg	1	11/17/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
3-Nitroaniline	ND	620	ug/Kg	1	11/17/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	380	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloroaniline	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitroaniline	ND	620	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitrophenol	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthylene	1300	270	ug/Kg	1	11/17/15	DD	SW8270D
Acetophenone	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Aniline	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Anthracene	920	270	ug/Kg	1	11/17/15	DD	SW8270D
Benz(a)anthracene	2000	270	ug/Kg	1	11/17/15	DD	SW8270D
Benzidine	ND	460	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(a)pyrene	2100	270	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(b)fluoranthene	4300	270	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(ghi)perylene	1800	270	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(k)fluoranthene	2900	270	ug/Kg	1	11/17/15	DD	SW8270D
Benzoic acid	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Benzyl butyl phthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	380	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Carbazole	ND	580	ug/Kg	1	11/17/15	DD	SW8270D
Chrysene	3100	270	ug/Kg	1	11/17/15	DD	SW8270D
Dibenz(a,h)anthracene	460	270	ug/Kg	1	11/17/15	DD	SW8270D
Dibenzofuran	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Diethyl phthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Dimethylphthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-butylphthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-octylphthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Fluoranthene	3700	270	ug/Kg	1	11/17/15	DD	SW8270D
Fluorene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobutadiene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Hexachloroethane	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	2100	270	ug/Kg	1	11/17/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Isophorone	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Naphthalene	450	270	ug/Kg	1	11/17/15	DD	SW8270D
Nitrobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodimethylamine	ND	380	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	380	ug/Kg	1	11/17/15	DD	SW8270D
Pentachloronitrobenzene	ND	380	ug/Kg	1	11/17/15	DD	SW8270D
Pentachlorophenol	ND	380	ug/Kg	1	11/17/15	DD	SW8270D
Phenanthrene	1200	270	ug/Kg	1	11/17/15	DD	SW8270D
Phenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Pyrene	3200	270	ug/Kg	1	11/17/15	DD	SW8270D
Pyridine	ND	380	ug/Kg	1	11/17/15	DD	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	81		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorobiphenyl	65		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorophenol	54		%	1	11/17/15	DD	30 - 130 %
% Nitrobenzene-d5	71		%	1	11/17/15	DD	30 - 130 %
% Phenol-d5	64		%	1	11/17/15	DD	30 - 130 %
% Terphenyl-d14	66		%	1	11/17/15	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

TPH Comment:

\*\*Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.  
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**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 25, 2015

FOR: Attn: Ms Jane Witherell  
 CDR Group Inc.  
 2080 Silas Deane Highway  
 Rocky Hill, CT 06067

Sample Information

Matrix: SOLID  
 Location Code: MAGU-DAS  
 Rush Request: Standard  
 P.O.#:

Custody Information

Collected by: CK  
 Received by: LK  
 Analyzed by: see "By" below

Date

11/15/15  
 11/16/15

Time

20:15  
 8:10

Laboratory Data

SDG ID: GBK23143  
 Phoenix ID: BK23148

Project ID: NEW HAVEN UNION STATION GARAGE  
 Client ID: CDR-6 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	0.96	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Arsenic	6.2	0.7	mg/Kg	1	11/17/15	LK	SW6010C
Barium	123	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Cadmium	0.41	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Chromium	30.6	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Mercury	143	2.9	mg/Kg	1	11/17/15	RS	SW7471B
Lead	921	3.6	mg/Kg	10	11/17/15	EK	SW6010C
Selenium	< 1.4	1.4	mg/Kg	1	11/17/15	LK	SW6010C
TCLP Silver	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Barium	0.94	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Cadmium	< 0.050	0.050	mg/L	1	11/17/15	LK	SW6010C
TCLP Chromium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Mercury	0.0002	0.0002	mg/L	1	11/17/15	RS	SW7470A
TCLP Lead	1.56	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Selenium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Metals Digestion	Completed				11/17/15	W/W	SW3005A
Percent Solid	85		%		11/16/15	W	SW846-%Solid
Soil Extraction for PCB	Completed				11/16/15	BC	SW3545A
Soil Extraction for Pesticide	Completed				11/16/15	BC/V	SW3545A
Soil Extraction for SVOA	Completed				11/16/15	BJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/16/15	BC/CKV	SW3545A
Mercury Digestion	Completed				11/17/15	W/W	SW7471B
Soil Extraction for Herbicide	Completed				11/16/15	Q/D	SW8151A
TCLP Digestion Mercury	Completed				11/17/15	W/W	SW7470A
TCLP Extraction for Metals	Completed				11/16/15	W	SW1311
Total Metals Digest	Completed				11/16/15	G/AG	SW3050B
Field Extraction	Completed				11/15/15		SW5035A

B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>Chlorinated Herbicides</u></b>							
2,4,5-T	ND	97	ug/Kg	10	11/17/15	BB	SW8151A
2,4,5-TP (Silvex)	ND	97	ug/Kg	10	11/17/15	BB	SW8151A
2,4-D	ND	97	ug/Kg	10	11/17/15	BB	SW8151A
2,4-DB	ND	970	ug/Kg	10	11/17/15	BB	SW8151A
Dalapon	ND	97	ug/Kg	10	11/17/15	BB	SW8151A
Dicamba	ND	190	ug/Kg	10	11/17/15	BB	SW8151A
Dichloroprop	ND	97	ug/Kg	10	11/17/15	BB	SW8151A
Dinoseb	ND	190	ug/Kg	10	11/17/15	BB	SW8151A
<b><u>QA/QC Surrogates</u></b>							
% DCAA	72		%	10	11/17/15	BB	30 - 150 %
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum HC	ND	290	mg/Kg	5	11/17/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	5	11/17/15	JRB	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	53		%	5	11/17/15	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	380	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1221	ND	380	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1232	ND	380	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1242	ND	380	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1248	ND	380	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1254	ND	380	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1260	ND	380	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1262	ND	380	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1268	ND	380	ug/Kg	10	11/18/15	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	108		%	10	11/18/15	AW	30 - 150 %
% TCMX	99		%	10	11/18/15	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDE	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDT	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
a-BHC	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Alachlor	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Aldrin	ND	3.8	ug/Kg	2	11/17/15	CE	SW8081B
b-BHC	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Chlordane	ND	38	ug/Kg	2	11/17/15	CE	SW8081B
d-BHC	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Dieldrin	ND	3.8	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan I	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan II	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan sulfate	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Endrin	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Endrin aldehyde	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Endrin ketone	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B

Client ID: CDR-6 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
g-BHC	ND	3.0	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	7.6	ug/Kg	2	11/17/15	CE	SW8081B
Methoxychlor	ND	38	ug/Kg	2	11/17/15	CE	SW8081B
Toxaphene	ND	150	ug/Kg	2	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	125		%	2	11/17/15	CE	30 - 150 %
% TCMX	97		%	2	11/17/15	CE	30 - 150 %

**Volatiles**

1,1,1,2-Tetrachloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.4	ug/Kg	1	11/16/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
2-Chlorotoluene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
2-Hexanone	ND	28	ug/Kg	1	11/16/15	JLI	SW8260C
2-Isopropyltoluene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
4-Chlorotoluene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
4-Methyl-2-pentanone	ND	28	ug/Kg	1	11/16/15	JLI	SW8260C
Acetone	ND	280	ug/Kg	1	11/16/15	JLI	SW8260C
Acrylonitrile	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Benzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Bromobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Bromochloromethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Bromodichloromethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Bromoform	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Bromomethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon Disulfide	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Carbon tetrachloride	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Chlorobenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Chloroform	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Chloromethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,2-Dichloroethene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromochloromethane	ND	3.4	ug/Kg	1	11/16/15	JLI	SW8260C
Dibromomethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Ethylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Hexachlorobutadiene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Isopropylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
m&p-Xylene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	34	ug/Kg	1	11/16/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	1	11/16/15	JLI	SW8260C
Methylene chloride	ND	11	ug/Kg	1	11/16/15	JLI	SW8260C
Naphthalene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
n-Butylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
n-Propylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
o-Xylene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
sec-Butylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Styrene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
tert-Butylbenzene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrachloroethene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	11	ug/Kg	1	11/16/15	JLI	SW8260C
Toluene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Total Xylenes	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	11/16/15	JLI	SW8260C
Trichloroethene	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
Vinyl chloride	ND	5.6	ug/Kg	1	11/16/15	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	106		%	1	11/16/15	JLI	70 - 130 %
% Bromofluorobenzene	89		%	1	11/16/15	JLI	70 - 130 %
% Dibromofluoromethane	96		%	1	11/16/15	JLI	70 - 130 %
% Toluene-d8	90		%	1	11/16/15	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Dichlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	390	ug/Kg	1	11/17/15	DD	SW8270D
1,3-Dichlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
1,4-Dichlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dichlorophenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dimethylphenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrophenol	ND	630	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrotoluene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D

Client ID: CDR-6 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,6-Dinitrotoluene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2-Chloronaphthalene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2-Chlorophenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylnaphthalene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitroaniline	ND	630	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitrophenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	390	ug/Kg	1	11/17/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
3-Nitroaniline	ND	630	ug/Kg	1	11/17/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	390	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloroaniline	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitroaniline	ND	630	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitrophenol	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Acetophenone	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Aniline	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Anthracene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Benz(a)anthracene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Benzidine	ND	470	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(a)pyrene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(b)fluoranthene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(ghi)perylene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(k)fluoranthene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Benzoic acid	ND	1100	ug/Kg	1	11/17/15	DD	SW8270D
Benzyl butyl phthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	390	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Carbazole	ND	590	ug/Kg	1	11/17/15	DD	SW8270D
Chrysene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Dibenzofuran	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Diethyl phthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Dimethylphthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-butylphthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-octylphthalate	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Fluoranthene	300	270	ug/Kg	1	11/17/15	DD	SW8270D
Fluorene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobutadiene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Hexachloroethane	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	320	270	ug/Kg	1	11/17/15	DD	SW8270D



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Isophorone	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Naphthalene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Nitrobenzene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodimethylamine	ND	390	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	390	ug/Kg	1	11/17/15	DD	SW8270D
Pentachloronitrobenzene	ND	390	ug/Kg	1	11/17/15	DD	SW8270D
Pentachlorophenol	ND	390	ug/Kg	1	11/17/15	DD	SW8270D
Phenanthrene	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Phenol	ND	270	ug/Kg	1	11/17/15	DD	SW8270D
Pyrene	290	270	ug/Kg	1	11/17/15	DD	SW8270D
Pyridine	ND	390	ug/Kg	1	11/17/15	DD	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	70		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorobiphenyl	51		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorophenol	40		%	1	11/17/15	DD	30 - 130 %
% Nitrobenzene-d5	55		%	1	11/17/15	DD	30 - 130 %
% Phenol-d5	48		%	1	11/17/15	DD	30 - 130 %
% Terphenyl-d14	54		%	1	11/17/15	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

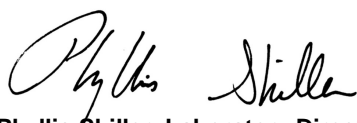
**Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

This report must not be reproduced except in full as defined by the attached chain of custody.



**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 25, 2015

FOR: Attn: Ms Jane Witherell  
 CDR Group Inc.  
 2080 Silas Deane Highway  
 Rocky Hill, CT 06067

Sample Information

Matrix: SOLID  
 Location Code: MAGU-DAS  
 Rush Request: Standard  
 P.O.#:

Custody Information

Collected by: CK  
 Received by: LK  
 Analyzed by: see "By" below

Date

11/15/15  
 11/16/15

Time

23:15  
 8:10

Laboratory Data

SDG ID: GBK23143  
 Phoenix ID: BK23149

Project ID: NEW HAVEN UNION STATION GARAGE  
 Client ID: CDR-7 2-4 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	4.29	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Arsenic	19.3	0.7	mg/Kg	1	11/17/15	LK	SW6010C
Barium	107	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Cadmium	0.79	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Chromium	12.1	0.36	mg/Kg	1	11/17/15	LK	SW6010C
Mercury	9.11	0.27	mg/Kg	1	11/17/15	RS	SW7471B
Lead	324	3.6	mg/Kg	10	11/17/15	EK	SW6010C
Selenium	< 1.4	1.4	mg/Kg	1	11/17/15	LK	SW6010C
TCLP Silver	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Barium	0.52	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Cadmium	< 0.050	0.050	mg/L	1	11/17/15	LK	SW6010C
TCLP Chromium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Mercury	0.0005	0.0002	mg/L	1	11/17/15	RS	SW7470A
TCLP Lead	0.14	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Selenium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Metals Digestion	Completed				11/17/15	W/W	SW3005A
Percent Solid	90		%		11/16/15	W	SW846-%Solid
Soil Extraction for PCB	Completed				11/16/15	BC	SW3545A
Soil Extraction for Pesticide	Completed				11/16/15	BC/V	SW3545A
Soil Extraction for SVOA	Completed				11/16/15	BJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/16/15	BC/CKV	SW3545A
Mercury Digestion	Completed				11/17/15	W/W	SW7471B
Soil Extraction for Herbicide	Completed				11/16/15	Q/D	SW8151A
TCLP Digestion Mercury	Completed				11/17/15	W/W	SW7470A
TCLP Extraction for Metals	Completed				11/16/15	W	SW1311
Total Metals Digest	Completed				11/16/15	G/AG	SW3050B
Field Extraction	Completed				11/15/15		SW5035A

B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>Chlorinated Herbicides</u></b>							
2,4,5-T	ND	91	ug/Kg	10	11/17/15	BB	SW8151A
2,4,5-TP (Silvex)	ND	91	ug/Kg	10	11/17/15	BB	SW8151A
2,4-D	ND	91	ug/Kg	10	11/17/15	BB	SW8151A
2,4-DB	ND	910	ug/Kg	10	11/17/15	BB	SW8151A
Dalapon	ND	91	ug/Kg	10	11/17/15	BB	SW8151A
Dicamba	ND	180	ug/Kg	10	11/17/15	BB	SW8151A
Dichloroprop	ND	91	ug/Kg	10	11/17/15	BB	SW8151A
Dinoseb	ND	180	ug/Kg	10	11/17/15	BB	SW8151A
<b><u>QA/QC Surrogates</u></b>							
% DCAA	52		%	10	11/17/15	BB	30 - 150 %
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum HC	ND	55	mg/Kg	1	11/17/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	11/17/15	JRB	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	84		%	1	11/17/15	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1221	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1232	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1242	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1248	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1254	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1260	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1262	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1268	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	106		%	10	11/18/15	AW	30 - 150 %
% TCMX	96		%	10	11/18/15	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDE	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDT	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
a-BHC	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Alachlor	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Aldrin	ND	3.6	ug/Kg	2	11/17/15	CE	SW8081B
b-BHC	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Chlordane	ND	36	ug/Kg	2	11/17/15	CE	SW8081B
d-BHC	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Dieldrin	ND	3.6	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan I	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan II	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan sulfate	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Endrin	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Endrin aldehyde	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Endrin ketone	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B

Client ID: CDR-7 2-4 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
g-BHC	ND	8.0	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	7.3	ug/Kg	2	11/17/15	CE	SW8081B
Methoxychlor	ND	36	ug/Kg	2	11/17/15	CE	SW8081B
Toxaphene	ND	150	ug/Kg	2	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	125		%	2	11/17/15	CE	30 - 150 %
% TCMX	101		%	2	11/17/15	CE	30 - 150 %

**Volatiles**

1,1,1,2-Tetrachloroethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
2-Chlorotoluene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
2-Hexanone	ND	24	ug/Kg	1	11/17/15	JLI	SW8260C
2-Isopropyltoluene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
4-Chlorotoluene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
4-Methyl-2-pentanone	ND	24	ug/Kg	1	11/17/15	JLI	SW8260C
Acetone	ND	240	ug/Kg	1	11/17/15	JLI	SW8260C
Acrylonitrile	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Benzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Bromobenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Bromochloromethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Bromodichloromethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Bromoform	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Bromomethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Carbon Disulfide	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Carbon tetrachloride	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Chlorobenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Chloroethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Chloroform	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Chloromethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,2-Dichloroethene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Dibromochloromethane	ND	2.9	ug/Kg	1	11/17/15	JLI	SW8260C
Dibromomethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Ethylbenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Hexachlorobutadiene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Isopropylbenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
m&p-Xylene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	29	ug/Kg	1	11/17/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	9.8	ug/Kg	1	11/17/15	JLI	SW8260C
Methylene chloride	ND	9.8	ug/Kg	1	11/17/15	JLI	SW8260C
Naphthalene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
n-Butylbenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
n-Propylbenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
o-Xylene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
p-Isopropyltoluene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
sec-Butylbenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Styrene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
tert-Butylbenzene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Tetrachloroethene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	9.8	ug/Kg	1	11/17/15	JLI	SW8260C
Toluene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Total Xylenes	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	9.8	ug/Kg	1	11/17/15	JLI	SW8260C
Trichloroethene	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
Vinyl chloride	ND	4.9	ug/Kg	1	11/17/15	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	98		%	1	11/17/15	JLI	70 - 130 %
% Bromofluorobenzene	99		%	1	11/17/15	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	11/17/15	JLI	70 - 130 %
% Toluene-d8	91		%	1	11/17/15	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Dichlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
1,3-Dichlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
1,4-Dichlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dichlorophenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dimethylphenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrophenol	ND	580	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrotoluene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D

Client ID: CDR-7 2-4 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,6-Dinitrotoluene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2-Chloronaphthalene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2-Chlorophenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylnaphthalene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitroaniline	ND	580	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitrophenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
3-Nitroaniline	ND	580	ug/Kg	1	11/17/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1000	ug/Kg	1	11/17/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloroaniline	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitroaniline	ND	580	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitrophenol	ND	1000	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Acetophenone	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Aniline	ND	1000	ug/Kg	1	11/17/15	DD	SW8270D
Anthracene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Benz(a)anthracene	740	250	ug/Kg	1	11/17/15	DD	SW8270D
Benzidine	ND	430	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(a)pyrene	820	250	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(b)fluoranthene	720	250	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(ghi)perylene	440	250	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(k)fluoranthene	680	250	ug/Kg	1	11/17/15	DD	SW8270D
Benzoic acid	ND	1000	ug/Kg	1	11/17/15	DD	SW8270D
Benzyl butyl phthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Carbazole	ND	540	ug/Kg	1	11/17/15	DD	SW8270D
Chrysene	810	250	ug/Kg	1	11/17/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Dibenzofuran	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Diethyl phthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Dimethylphthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-butylphthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-octylphthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Fluoranthene	1000	250	ug/Kg	1	11/17/15	DD	SW8270D
Fluorene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobutadiene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Hexachloroethane	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	460	250	ug/Kg	1	11/17/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Isophorone	ND	1400	ug/Kg	1	11/17/15	DD	SW8270D
Naphthalene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Nitrobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodimethylamine	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
Pentachloronitrobenzene	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
Pentachlorophenol	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
Phenanthrene	340	250	ug/Kg	1	11/17/15	DD	SW8270D
Phenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Pyrene	890	250	ug/Kg	1	11/17/15	DD	SW8270D
Pyridine	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	56		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorobiphenyl	76		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorophenol	41		%	1	11/17/15	DD	30 - 130 %
% Nitrobenzene-d5	78		%	1	11/17/15	DD	30 - 130 %
% Phenol-d5	68		%	1	11/17/15	DD	30 - 130 %
% Terphenyl-d14	64		%	1	11/17/15	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

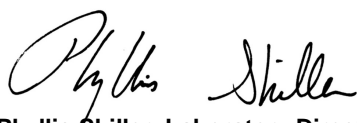
**Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

This report must not be reproduced except in full as defined by the attached chain of custody.



**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 25, 2015

FOR: Attn: Ms Jane Witherell  
 CDR Group Inc.  
 2080 Silas Deane Highway  
 Rocky Hill, CT 06067

Sample Information

Matrix: SOLID  
 Location Code: MAGU-DAS  
 Rush Request: Standard  
 P.O.#:

Custody Information

Collected by: CK  
 Received by: LK  
 Analyzed by: see "By" below

Date

11/15/15  
 11/16/15

Time

23:00  
 8:10

Laboratory Data

SDG ID: GBK23143  
 Phoenix ID: BK23150

Project ID: NEW HAVEN UNION STATION GARAGE  
 Client ID: CDR-8 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	0.48	0.32	mg/Kg	1	11/17/15	LK	SW6010C
Arsenic	6.2	0.6	mg/Kg	1	11/17/15	LK	SW6010C
Barium	59.8	0.32	mg/Kg	1	11/17/15	LK	SW6010C
Cadmium	0.44	0.32	mg/Kg	1	11/17/15	LK	SW6010C
Chromium	11.1	0.32	mg/Kg	1	11/17/15	LK	SW6010C
Mercury	2.15	0.13	mg/Kg	1	11/17/15	RS	SW7471B
Lead	198	3.2	mg/Kg	10	11/17/15	EK	SW6010C
Selenium	< 1.3	1.3	mg/Kg	1	11/17/15	LK	SW6010C
TCLP Silver	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Barium	0.69	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Cadmium	< 0.050	0.050	mg/L	1	11/17/15	LK	SW6010C
TCLP Chromium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Mercury	< 0.0002	0.0002	mg/L	1	11/17/15	RS	SW7470A
TCLP Lead	0.20	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Selenium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Metals Digestion	Completed				11/17/15	W/W	SW3005A
Percent Solid	92		%		11/16/15	W	SW846-%Solid
Soil Extraction for PCB	Completed				11/16/15	BC	SW3545A
Soil Extraction for Pesticide	Completed				11/16/15	BC/V	SW3545A
Soil Extraction for SVOA	Completed				11/16/15	BJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/16/15	BC/CKV	SW3545A
Mercury Digestion	Completed				11/17/15	W/W	SW7471B
Soil Extraction for Herbicide	Completed				11/16/15	Q/D	SW8151A
TCLP Digestion Mercury	Completed				11/17/15	W/W	SW7470A
TCLP Extraction for Metals	Completed				11/16/15	W	SW1311
Total Metals Digest	Completed				11/16/15	G/AG	SW3050B
Field Extraction	Completed				11/15/15		SW5035A

B



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>Chlorinated Herbicides</u></b>							
2,4,5-T	ND	45	ug/Kg	10	11/17/15	BB	SW8151A
2,4,5-TP (Silvex)	ND	45	ug/Kg	10	11/17/15	BB	SW8151A
2,4-D	ND	45	ug/Kg	10	11/17/15	BB	SW8151A
2,4-DB	ND	450	ug/Kg	10	11/17/15	BB	SW8151A
Dalapon	ND	45	ug/Kg	10	11/17/15	BB	SW8151A
Dicamba	ND	90	ug/Kg	10	11/17/15	BB	SW8151A
Dichloroprop	ND	45	ug/Kg	10	11/17/15	BB	SW8151A
Dinoseb	ND	90	ug/Kg	10	11/17/15	BB	SW8151A
<b><u>QA/QC Surrogates</u></b>							
% DCAA	64		%	10	11/17/15	BB	30 - 150 %
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum HC	ND	53	mg/Kg	1	11/16/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	11/16/15	JRB	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	78		%	1	11/16/15	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1221	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1232	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1242	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1248	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1254	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1260	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1262	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1268	ND	360	ug/Kg	10	11/18/15	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	106		%	10	11/18/15	AW	30 - 150 %
% TCMX	89		%	10	11/18/15	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDE	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDT	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
a-BHC	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Alachlor	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Aldrin	ND	3.6	ug/Kg	2	11/17/15	CE	SW8081B
b-BHC	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Chlordane	ND	36	ug/Kg	2	11/17/15	CE	SW8081B
d-BHC	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Dieldrin	ND	3.6	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan I	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan II	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan sulfate	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Endrin	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Endrin aldehyde	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Endrin ketone	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
g-BHC	ND	1.4	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	7.2	ug/Kg	2	11/17/15	CE	SW8081B
Methoxychlor	ND	36	ug/Kg	2	11/17/15	CE	SW8081B
Toxaphene	ND	140	ug/Kg	2	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	83		%	2	11/17/15	CE	30 - 150 %
% TCMX	64		%	2	11/17/15	CE	30 - 150 %

**Volatiles**

1,1,1,2-Tetrachloroethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.7	ug/Kg	1	11/17/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
2-Chlorotoluene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
2-Hexanone	ND	23	ug/Kg	1	11/17/15	JLI	SW8260C
2-Isopropyltoluene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
4-Chlorotoluene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
4-Methyl-2-pentanone	ND	23	ug/Kg	1	11/17/15	JLI	SW8260C
Acetone	ND	230	ug/Kg	1	11/17/15	JLI	SW8260C
Acrylonitrile	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Benzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Bromobenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Bromochloromethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Bromodichloromethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Bromoform	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Bromomethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Carbon Disulfide	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Carbon tetrachloride	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Chlorobenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Chloroethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Chloroform	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Chloromethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C

Client ID: CDR-8 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,2-Dichloroethene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Dibromochloromethane	ND	2.7	ug/Kg	1	11/17/15	JLI	SW8260C
Dibromomethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Ethylbenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Hexachlorobutadiene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Isopropylbenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
m&p-Xylene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	27	ug/Kg	1	11/17/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	9.1	ug/Kg	1	11/17/15	JLI	SW8260C
Methylene chloride	ND	9.1	ug/Kg	1	11/17/15	JLI	SW8260C
Naphthalene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
n-Butylbenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
n-Propylbenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
o-Xylene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
p-Isopropyltoluene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
sec-Butylbenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Styrene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
tert-Butylbenzene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Tetrachloroethene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	9.1	ug/Kg	1	11/17/15	JLI	SW8260C
Toluene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Total Xylenes	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	9.1	ug/Kg	1	11/17/15	JLI	SW8260C
Trichloroethene	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
Vinyl chloride	ND	4.6	ug/Kg	1	11/17/15	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	99		%	1	11/17/15	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	11/17/15	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	11/17/15	JLI	70 - 130 %
% Toluene-d8	90		%	1	11/17/15	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Dichlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
1,3-Dichlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
1,4-Dichlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dichlorophenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dimethylphenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrophenol	ND	580	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrotoluene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D

Client ID: CDR-8 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,6-Dinitrotoluene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2-Chloronaphthalene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2-Chlorophenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylnaphthalene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitroaniline	ND	580	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitrophenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
3-Nitroaniline	ND	580	ug/Kg	1	11/17/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1000	ug/Kg	1	11/17/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloroaniline	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitroaniline	ND	580	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitrophenol	ND	1000	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Acetophenone	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Aniline	ND	1000	ug/Kg	1	11/17/15	DD	SW8270D
Anthracene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Benz(a)anthracene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Benzidine	ND	430	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(a)pyrene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(b)fluoranthene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(ghi)perylene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(k)fluoranthene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Benzoic acid	ND	1000	ug/Kg	1	11/17/15	DD	SW8270D
Benzyl butyl phthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Carbazole	ND	540	ug/Kg	1	11/17/15	DD	SW8270D
Chrysene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Dibenzofuran	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Diethyl phthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Dimethylphthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-butylphthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-octylphthalate	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Fluoranthene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Fluorene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobutadiene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Hexachloroethane	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Isophorone	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Naphthalene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Nitrobenzene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodimethylamine	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
Pentachloronitrobenzene	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
Pentachlorophenol	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
Phenanthrene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Phenol	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Pyrene	ND	250	ug/Kg	1	11/17/15	DD	SW8270D
Pyridine	ND	360	ug/Kg	1	11/17/15	DD	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	40		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorobiphenyl	37		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorophenol	29		%	1	11/17/15	DD	30 - 130 %
% Nitrobenzene-d5	40		%	1	11/17/15	DD	30 - 130 %
% Phenol-d5	37		%	1	11/17/15	DD	30 - 130 %
% Terphenyl-d14	39		%	1	11/17/15	DD	30 - 130 %

3

3 = This parameter exceeds laboratory specified limits.  
 B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

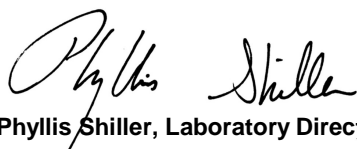
Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

**Semi-Volatile Comment:**

Poor surrogate recovery was observed for one acid surrogate. The other surrogates associated with this sample were within QA/QC criteria. No significant bias suspected.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.  
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**Phyllis Shiller, Laboratory Director**  
**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 25, 2015

FOR: Attn: Ms Jane Witherell  
 CDR Group Inc.  
 2080 Silas Deane Highway  
 Rocky Hill, CT 06067

Sample Information

Matrix: SOLID  
 Location Code: MAGU-DAS  
 Rush Request: Standard  
 P.O.#:

Custody Information

Collected by: CK  
 Received by: LK  
 Analyzed by: see "By" below

Date

11/15/15  
 11/16/15

Time

22:35  
 8:10

Laboratory Data

SDG ID: GBK23143  
 Phoenix ID: BK23151

Project ID: NEW HAVEN UNION STATION GARAGE  
 Client ID: CDR-9 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.40	0.40	mg/Kg	1	11/17/15	EK	SW6010C
Arsenic	19.1	0.8	mg/Kg	1	11/17/15	EK	SW6010C
Barium	113	0.40	mg/Kg	1	11/17/15	EK	SW6010C
Cadmium	1.30	0.40	mg/Kg	1	11/17/15	EK	SW6010C
Chromium	20.2	0.40	mg/Kg	1	11/17/15	EK	SW6010C
Mercury	4.38	0.15	mg/Kg	1	11/17/15	RS	SW7471B
Lead	509	4.0	mg/Kg	10	11/19/15	LK	SW6010C
Selenium	< 1.6	1.6	mg/Kg	1	11/17/15	EK	SW6010C
TCLP Silver	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Barium	0.59	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Cadmium	< 0.050	0.050	mg/L	1	11/17/15	LK	SW6010C
TCLP Chromium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Mercury	< 0.0002	0.0002	mg/L	1	11/17/15	RS	SW7470A
TCLP Lead	0.24	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Selenium	< 0.10	0.10	mg/L	1	11/17/15	LK	SW6010C
TCLP Metals Digestion	Completed				11/17/15	W/W	SW3005A
Percent Solid	80		%		11/16/15	W	SW846-%Solid
Soil Extraction for PCB	Completed				11/16/15	BC	SW3545A
Soil Extraction for Pesticide	Completed				11/16/15	BC/V	SW3545A
Soil Extraction for SVOA	Completed				11/16/15	BJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/16/15	BC/CKV	SW3545A
Mercury Digestion	Completed				11/17/15	W/W	SW7471B
Soil Extraction for Herbicide	Completed				11/16/15	Q/D	SW8151A
TCLP Digestion Mercury	Completed				11/17/15	W/W	SW7470A
TCLP Extraction for Metals	Completed				11/16/15	W	SW1311
Total Metals Digest	Completed				11/16/15	G/AG	SW3050B
Field Extraction	Completed				11/15/15		SW5035A

B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>Chlorinated Herbicides</u></b>							
2,4,5-T	ND	52	ug/Kg	10	11/18/15	BB	SW8151A
2,4,5-TP (Silvex)	ND	52	ug/Kg	10	11/18/15	BB	SW8151A
2,4-D	ND	52	ug/Kg	10	11/18/15	BB	SW8151A
2,4-DB	ND	520	ug/Kg	10	11/18/15	BB	SW8151A
Dalapon	ND	52	ug/Kg	10	11/18/15	BB	SW8151A
Dicamba	ND	100	ug/Kg	10	11/18/15	BB	SW8151A
Dichloroprop	ND	52	ug/Kg	10	11/18/15	BB	SW8151A
Dinoseb	ND	100	ug/Kg	10	11/18/15	BB	SW8151A
<b><u>QA/QC Surrogates</u></b>							
% DCAA	65		%	10	11/18/15	BB	30 - 150 %
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum HC	250	62	mg/Kg	1	11/18/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	11/18/15	JRB	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	83		%	1	11/18/15	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	410	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1221	ND	410	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1232	ND	410	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1242	ND	410	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1248	ND	410	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1254	ND	410	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1260	ND	410	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1262	ND	410	ug/Kg	10	11/18/15	AW	SW8082A
PCB-1268	ND	410	ug/Kg	10	11/18/15	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	105		%	10	11/18/15	AW	30 - 150 %
% TCMX	96		%	10	11/18/15	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDE	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
4,4' -DDT	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
a-BHC	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
Alachlor	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
Aldrin	ND	4.1	ug/Kg	2	11/17/15	CE	SW8081B
b-BHC	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
Chlordane	ND	41	ug/Kg	2	11/17/15	CE	SW8081B
d-BHC	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
Dieldrin	ND	4.1	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan I	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan II	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
Endosulfan sulfate	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
Endrin	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
Endrin aldehyde	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
Endrin ketone	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
g-BHC	ND	1.7	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	8.3	ug/Kg	2	11/17/15	CE	SW8081B
Methoxychlor	ND	41	ug/Kg	2	11/17/15	CE	SW8081B
Toxaphene	ND	170	ug/Kg	2	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	73		%	2	11/17/15	CE	30 - 150 %
% TCMX	63		%	2	11/17/15	CE	30 - 150 %

**Volatiles**

1,1,1,2-Tetrachloroethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.1	ug/Kg	1	11/17/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
1,1-Dichloroethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
1,1-Dichloroethene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
1,1-Dichloropropene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
1,2-Dibromoethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
1,2-Dichloroethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
1,2-Dichloropropane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
1,3-Dichloropropane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
2,2-Dichloropropane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
2-Chlorotoluene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
2-Hexanone	ND	34	ug/Kg	1	11/17/15	JLI	SW8260C
2-Isopropyltoluene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
4-Chlorotoluene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
4-Methyl-2-pentanone	ND	34	ug/Kg	1	11/17/15	JLI	SW8260C
Acetone	ND	340	ug/Kg	1	11/17/15	JLI	SW8260C
Acrylonitrile	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Benzene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Bromobenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
Bromochloromethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Bromodichloromethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Bromoform	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Bromomethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Carbon Disulfide	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Carbon tetrachloride	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Chlorobenzene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Chloroethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Chloroform	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Chloromethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C



Client ID: CDR-9 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,2-Dichloroethene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Dibromochloromethane	ND	4.1	ug/Kg	1	11/17/15	JLI	SW8260C
Dibromomethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Dichlorodifluoromethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Ethylbenzene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Hexachlorobutadiene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
Isopropylbenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
m&p-Xylene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	41	ug/Kg	1	11/17/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	14	ug/Kg	1	11/17/15	JLI	SW8260C
Methylene chloride	ND	14	ug/Kg	1	11/17/15	JLI	SW8260C
Naphthalene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
n-Butylbenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
n-Propylbenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
o-Xylene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
p-Isopropyltoluene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
sec-Butylbenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
Styrene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
tert-Butylbenzene	ND	430	ug/Kg	50	11/18/15	JLI	SW8260C
Tetrachloroethene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	14	ug/Kg	1	11/17/15	JLI	SW8260C
Toluene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Total Xylenes	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	860	ug/Kg	50	11/18/15	JLI	SW8260C
Trichloroethene	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Trichlorofluoromethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
Vinyl chloride	ND	6.8	ug/Kg	1	11/17/15	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	100		%	50	11/18/15	JLI	70 - 130 %
% Bromofluorobenzene	98		%	50	11/18/15	JLI	70 - 130 %
% Dibromofluoromethane	96		%	1	11/17/15	JLI	70 - 130 %
% Toluene-d8	87		%	1	11/17/15	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Dichlorobenzene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	410	ug/Kg	1	11/17/15	DD	SW8270D
1,3-Dichlorobenzene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
1,4-Dichlorobenzene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dichlorophenol	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dimethylphenol	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrophenol	ND	660	ug/Kg	1	11/17/15	DD	SW8270D
2,4-Dinitrotoluene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D

Client ID: CDR-9 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,6-Dinitrotoluene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
2-Chloronaphthalene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
2-Chlorophenol	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylnaphthalene	410	290	ug/Kg	1	11/17/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitroaniline	ND	660	ug/Kg	1	11/17/15	DD	SW8270D
2-Nitrophenol	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	410	ug/Kg	1	11/17/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
3-Nitroaniline	ND	660	ug/Kg	1	11/17/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1200	ug/Kg	1	11/17/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	410	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
4-Chloroaniline	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitroaniline	ND	660	ug/Kg	1	11/17/15	DD	SW8270D
4-Nitrophenol	ND	1200	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Acenaphthylene	750	290	ug/Kg	1	11/17/15	DD	SW8270D
Acetophenone	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Aniline	ND	1200	ug/Kg	1	11/17/15	DD	SW8270D
Anthracene	440	290	ug/Kg	1	11/17/15	DD	SW8270D
Benz(a)anthracene	1100	290	ug/Kg	1	11/17/15	DD	SW8270D
Benzidine	ND	490	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(a)pyrene	1200	290	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(b)fluoranthene	1800	290	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(ghi)perylene	920	290	ug/Kg	1	11/17/15	DD	SW8270D
Benzo(k)fluoranthene	1600	290	ug/Kg	1	11/17/15	DD	SW8270D
Benzoic acid	ND	1200	ug/Kg	1	11/17/15	DD	SW8270D
Benzyl butyl phthalate	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	410	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Carbazole	ND	620	ug/Kg	1	11/17/15	DD	SW8270D
Chrysene	1600	290	ug/Kg	1	11/17/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Dibenzofuran	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Diethyl phthalate	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Dimethylphthalate	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-butylphthalate	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Di-n-octylphthalate	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Fluoranthene	1800	290	ug/Kg	1	11/17/15	DD	SW8270D
Fluorene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobenzene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorobutadiene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Hexachloroethane	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	1100	290	ug/Kg	1	11/17/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Isophorone	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Naphthalene	360	290	ug/Kg	1	11/17/15	DD	SW8270D
Nitrobenzene	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodimethylamine	ND	410	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	410	ug/Kg	1	11/17/15	DD	SW8270D
Pentachloronitrobenzene	ND	410	ug/Kg	1	11/17/15	DD	SW8270D
Pentachlorophenol	ND	410	ug/Kg	1	11/17/15	DD	SW8270D
Phenanthrene	800	290	ug/Kg	1	11/17/15	DD	SW8270D
Phenol	ND	290	ug/Kg	1	11/17/15	DD	SW8270D
Pyrene	1500	290	ug/Kg	1	11/17/15	DD	SW8270D
Pyridine	ND	410	ug/Kg	1	11/17/15	DD	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	83		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorobiphenyl	69		%	1	11/17/15	DD	30 - 130 %
% 2-Fluorophenol	49		%	1	11/17/15	DD	30 - 130 %
% Nitrobenzene-d5	63		%	1	11/17/15	DD	30 - 130 %
% Phenol-d5	59		%	1	11/17/15	DD	30 - 130 %
% Terphenyl-d14	67		%	1	11/17/15	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

**Volatile Comment:**

There was a suppression of the last internal standard in the low level analysis, all affected compounds are reported from the methanol preserved high level analysis which did not exhibit this interference.

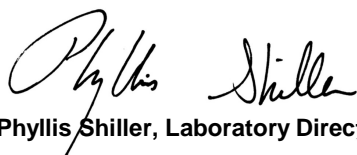
**TPH Comment:**

\*\*Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
November 25, 2015

FOR: Attn: Ms Jane Witherell  
CDR Group Inc.  
2080 Silas Deane Highway  
Rocky Hill, CT 06067

Sample Information

Matrix: SOLID  
Location Code: MAGU-DAS  
Rush Request: Standard  
P.O.#:

Custody Information

Collected by: CK  
Received by: LK  
Analyzed by: see "By" below

Date

11/15/15  
11/16/15

Time

8:10

Laboratory Data

SDG ID: GBK23143  
Phoenix ID: BK23152

Project ID: NEW HAVEN UNION STATION GARAGE  
Client ID: TB LOW

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Field Extraction	Completed				11/15/15		SW5035A

**Volatiles**

1,1,1,2-Tetrachloroethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
2-Chlorotoluene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
2-Hexanone	ND	25	ug/Kg	1	11/18/15	JLI	SW8260C
2-Isopropyltoluene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
4-Chlorotoluene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C

Client ID: TB LOW

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Methyl-2-pentanone	ND	25	ug/Kg	1	11/18/15	JLI	SW8260C
Acetone	ND	250	ug/Kg	1	11/18/15	JLI	SW8260C
Acrylonitrile	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Benzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Bromobenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Bromochloromethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Bromodichloromethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Bromoform	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Bromomethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Carbon Disulfide	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Carbon tetrachloride	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Chloroethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Chloroform	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Chloromethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Dibromochloromethane	ND	3.0	ug/Kg	1	11/18/15	JLI	SW8260C
Dibromomethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Ethylbenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Hexachlorobutadiene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Isopropylbenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
m&p-Xylene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	30	ug/Kg	1	11/18/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	11/18/15	JLI	SW8260C
Methylene chloride	ND	10	ug/Kg	1	11/18/15	JLI	SW8260C
Naphthalene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
n-Butylbenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
n-Propylbenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
o-Xylene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
sec-Butylbenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Styrene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
tert-Butylbenzene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Tetrachloroethene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	10	ug/Kg	1	11/18/15	JLI	SW8260C
Toluene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Total Xylenes	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	11/18/15	JLI	SW8260C
Trichloroethene	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
Vinyl chloride	ND	5.0	ug/Kg	1	11/18/15	JLI	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4	99		%	1	11/18/15	JLI	70 - 130 %
% Bromofluorobenzene	95		%	1	11/18/15	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Dibromofluoromethane	95		%	1	11/18/15	JLI	70 - 130 %
% Toluene-d8	95		%	1	11/18/15	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

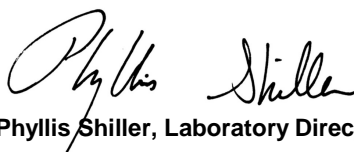
TRIP BLANK INCLUDED.

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
November 25, 2015

FOR: Attn: Ms Jane Witherell  
CDR Group Inc.  
2080 Silas Deane Highway  
Rocky Hill, CT 06067

Sample Information

Matrix: SOLID  
Location Code: MAGU-DAS  
Rush Request: Standard  
P.O.#:

Custody Information

Collected by: CK  
Received by: LK  
Analyzed by: see "By" below

Date

11/15/15  
11/16/15

Time

8:10

Laboratory Data

SDG ID: GBK23143  
Phoenix ID: BK23153

Project ID: NEW HAVEN UNION STATION GARAGE  
Client ID: TB HIGH

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Field Extraction	Completed				11/15/15		SW5035A

Volatiles

1,1,1,2-Tetrachloroethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,1-Dichloroethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,1-Dichloroethene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,1-Dichloropropene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,2-Dibromoethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,2-Dichloroethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,2-Dichloropropane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,3-Dichloropropane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
2,2-Dichloropropane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
2-Chlorotoluene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
2-Hexanone	ND	1300	ug/Kg	50	11/18/15	JLI	SW8260C
2-Isopropyltoluene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
4-Chlorotoluene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C

Client ID: TB HIGH

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Methyl-2-pentanone	ND	1300	ug/Kg	50	11/18/15	JLI	SW8260C
Acetone	ND	5000	ug/Kg	50	11/18/15	JLI	SW8260C
Acrylonitrile	ND	500	ug/Kg	50	11/18/15	JLI	SW8260C
Benzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Bromobenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Bromochloromethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Bromodichloromethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Bromoform	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Bromomethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Carbon Disulfide	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Carbon tetrachloride	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Chlorobenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Chloroethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Chloroform	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Chloromethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Dibromochloromethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Dibromomethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Dichlorodifluoromethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Ethylbenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Hexachlorobutadiene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Isopropylbenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
m&p-Xylene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	3000	ug/Kg	50	11/18/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Methylene chloride	ND	500	ug/Kg	50	11/18/15	JLI	SW8260C
Naphthalene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
n-Butylbenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
n-Propylbenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
o-Xylene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
p-Isopropyltoluene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
sec-Butylbenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Styrene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
tert-Butylbenzene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Tetrachloroethene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	500	ug/Kg	50	11/18/15	JLI	SW8260C
Toluene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Total Xylenes	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	500	ug/Kg	50	11/18/15	JLI	SW8260C
Trichloroethene	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Trichlorofluoromethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
Vinyl chloride	ND	250	ug/Kg	50	11/18/15	JLI	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4	99		%	50	11/18/15	JLI	70 - 130 %
% Bromofluorobenzene	94		%	50	11/18/15	JLI	70 - 130 %



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Dibromofluoromethane	90		%	50	11/18/15	JLI	70 - 130 %
% Toluene-d8	95		%	50	11/18/15	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**


TRIP BLANK INCLUDED.

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
November 25, 2015

FOR: Attn: Ms Jane Witherell  
CDR Group Inc.  
2080 Silas Deane Highway  
Rocky Hill, CT 06067

Sample Information

Matrix: GROUND WATER  
Location Code: MAGU-DAS  
Rush Request: Standard  
P.O.#:

Custody Information

Collected by: CK  
Received by: LK  
Analyzed by: see "By" below

Date

11/15/15  
11/16/15

Time

8:10

Laboratory Data

SDG ID: GBK23143  
Phoenix ID: BK23154

Project ID: NEW HAVEN UNION STATION GARAGE  
Client ID: TB-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C

Client ID: TB-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	25	ug/L	1	11/16/15	MH	SW8260C
Acrylonitrile	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Benzene	ND	0.70	ug/L	1	11/16/15	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Styrene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	11/16/15	MH	SW8260C
Toluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4	100		%	1	11/16/15	MH	70 - 130 %
% Bromofluorobenzene	90		%	1	11/16/15	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	11/16/15	MH	70 - 130 %

Client ID: TB-1

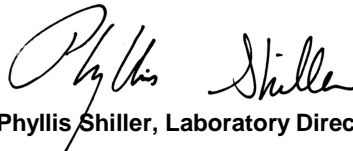
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	103		%	1	11/16/15	MH	70 - 130 %
Volatile Library Search for Blank	Completed				11/17/15	MH	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TRIP BLANK INCLUDED.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.  
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**Phyllis Shiller, Laboratory Director****November 25, 2015****Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 25, 2015

FOR: Attn: Ms Jane Witherell  
 CDR Group Inc.  
 2080 Silas Deane Highway  
 Rocky Hill, CT 06067

Sample Information

Matrix: GROUND WATER  
 Location Code: MAGU-DAS  
 Rush Request: Standard  
 P.O.#:

Custody Information

Collected by: CK  
 Received by: LK  
 Analyzed by: see "By" below

Date

11/15/15  
 11/16/15

Time

23:35  
 8:10

Laboratory Data

SDG ID: GBK23143  
 Phoenix ID: BK23155

Project ID: NEW HAVEN UNION STATION GARAGE  
 Client ID: FB-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	11/17/15	LK	SW6010C
Barium	< 0.002	0.002	mg/L	1	11/17/15	LK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Chromium	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Silver (Dissolved)	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	11/17/15	LK	SW6010C
Barium (Dissolved)	< 0.002	0.002	mg/L	1	11/17/15	LK	SW6010C
Cadmium (Dissolved)	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Chromium (Dissolved)	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Mercury (Dissolved)	< 0.0002	0.0002	mg/L	1	11/23/15	RS	SW7470A
Lead (Dissolved)	< 0.002	0.002	mg/L	1	11/17/15	LK	SW6010C
Selenium (Dissolved)	< 0.010	0.010	mg/L	1	11/19/15	RS	E200.9/SM3113B-10
Mercury	< 0.0002	0.0002	mg/L	1	11/17/15	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	11/17/15	LK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	11/17/15	LK	SW6010C
Extraction of CT ETPH	Completed				11/16/15	E/D	SW3510C/SW3520C
Mercury Dissolved Digestion	Completed				11/23/15	W/W	SW7470A
Mercury Digestion	Completed				11/17/15	W/W	SW7470A
Extraction for Herbicide	Completed				11/17/15	I/D	SW8151A
PCB Extraction	Completed				11/16/15	L	SW3510C
Extraction for Pest (2 Liter)	Completed				11/16/15	L	SW3510C
Semi-Volatile Extraction	Completed				11/16/15	E/D/D	SW3520C
Dissolved Metals Preparation	Completed				11/16/15	AG	
Total Metals Digestion	Completed				11/16/15	AG	SW3050B

Chlorinated Herbicides

2,4,5-T ND 1.3 ug/L 10 11/19/15 BB SW8151A

Client ID: FB-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,4,5-TP (Silvex)	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
2,4-D	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
2,4-DB	ND	10	ug/L	10	11/19/15	BB	SW8151A
Dalapon	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
Dicamba	ND	2.5	ug/L	10	11/19/15	BB	SW8151A
Dichloroprop	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
Dinoseb	ND	2.5	ug/L	10	11/19/15	BB	SW8151A
<b><u>QA/QC Surrogates</u></b>							
% DCAA	70		%	10	11/19/15	BB	30 - 150 %
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum HC	ND	0.070	mg/L	1	11/17/15	JRB	CTETPH 8015D
Identification	ND		mg/L	1	11/17/15	JRB	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	57		%	1	11/17/15	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1221	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1232	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1242	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1248	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1254	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1260	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1262	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1268	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	46		%	1	11/17/15	AW	30 - 150 %
% TCMX	63		%	1	11/17/15	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
4,4' -DDE	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
4,4' -DDT	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
a-BHC	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Alachlor	ND	0.075	ug/L	1	11/17/15	CE	SW8081B
Aldrin	ND	0.002	ug/L	1	11/17/15	CE	SW8081B
b-BHC	ND	0.005	ug/L	1	11/17/15	CE	SW8081B
Chlordane	ND	0.30	ug/L	1	11/17/15	CE	SW8081B
d-BHC	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Dieldrin	ND	0.002	ug/L	1	11/17/15	CE	SW8081B
Endosulfan I	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endosulfan II	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endosulfan Sulfate	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endrin	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endrin Aldehyde	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endrin ketone	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
g-BHC (Lindane)	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Heptachlor	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	0.025	ug/L	1	11/17/15	CE	SW8081B

Client ID: FB-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Methoxychlor	ND	0.10	ug/L	1	11/17/15	CE	SW8081B
Toxaphene	ND	1.0	ug/L	1	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
%DCBP (Surrogate Rec)	60		%	1	11/17/15	CE	30 - 150 %
%TCMX (Surrogate Rec)	76		%	1	11/17/15	CE	30 - 150 %
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Acetone	ND	25	ug/L	1	11/16/15	MH	SW8260C
Acrylonitrile	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Benzene	ND	0.70	ug/L	1	11/16/15	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C

Client ID: FB-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dibromomethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
m&p-Xylene	1.1	1.0	ug/L	1	11/16/15	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Styrene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	11/16/15	MH	SW8260C
Toluene	2.4	1.0	ug/L	1	11/16/15	MH	SW8260C
Total Xylenes	1.1	1.0	ug/L	1	11/16/15	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	96		%	1	11/16/15	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	11/16/15	MH	70 - 130 %
% Dibromofluoromethane	92		%	1	11/16/15	MH	70 - 130 %
% Toluene-d8	101		%	1	11/16/15	MH	70 - 130 %
<b><u>Semivolatiles (SIM)</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
2-Methylnaphthalene	ND	1.0	ug/L	1	11/18/15	DD	SW8270D (SIM)
Acenaphthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Acenaphthylene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Anthracene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM) B
Chrysene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	11/18/15	DD	SW8270D (SIM)
Fluoranthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Fluorene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)



Client ID: FB-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hexachlorobenzene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Hexachlorobutadiene	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
Hexachloroethane	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Naphthalene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)
Nitrobenzene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pentachloronitrobenzene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pentachlorophenol	ND	0.80	ug/L	1	11/18/15	DD	SW8270D (SIM)
Phenanthrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pyrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pyridine	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	81		%	1	11/18/15	DD	15 - 110 %
% 2-Fluorobiphenyl	37		%	1	11/18/15	DD	30 - 130 %
% 2-Fluorophenol	30		%	1	11/18/15	DD	15 - 110 %
% Nitrobenzene-d5	35		%	1	11/18/15	DD	30 - 130 %
% Phenol-d5	36		%	1	11/18/15	DD	15 - 110 %
% Terphenyl-d14	91		%	1	11/18/15	DD	30 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	11/19/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	11/19/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	11/19/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2-Chloronaphthalene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2-Chlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2-Nitroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2-Nitrophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	11/19/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
3-Nitroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
4-Chloroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
4-Nitroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4-Nitrophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
Acetophenone	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Aniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Benzidine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D

Client ID: FB-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzoic acid	ND	50	ug/L	1	11/19/15	DD	SW8270D
Benzyl butyl phthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Carbazole	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Dibenzofuran	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Diethyl phthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Dimethylphthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Di-n-butylphthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Di-n-octylphthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Isophorone	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
N-Nitrosodimethylamine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Phenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
<b>QA/QC Surrogates</b>							
% 2,4,6-Tribromophenol	82		%	1	11/19/15	DD	15 - 110 %
% 2-Fluorobiphenyl	40		%	1	11/19/15	DD	30 - 130 %
% 2-Fluorophenol	22		%	1	11/19/15	DD	15 - 110 %
% Nitrobenzene-d5	33		%	1	11/19/15	DD	30 - 130 %
% Phenol-d5	29		%	1	11/19/15	DD	15 - 110 %
% Terphenyl-d14	83		%	1	11/19/15	DD	30 - 130 %

B = Present in blank, no bias suspected.

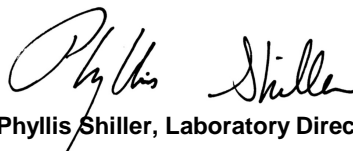
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.  
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**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
November 25, 2015

FOR: Attn: Ms Jane Witherell  
CDR Group Inc.  
2080 Silas Deane Highway  
Rocky Hill, CT 06067

Sample Information

Matrix: GROUND WATER  
Location Code: MAGU-DAS  
Rush Request: Standard  
P.O.#:

Custody Information

Collected by: CK  
Received by: LK  
Analyzed by: see "By" below

Date

11/15/15  
11/16/15

Time

21:30  
8:10

Laboratory Data

SDG ID: GBK23143  
Phoenix ID: BK23156

Project ID: NEW HAVEN UNION STATION GARAGE  
Client ID: CDR-1 GW

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	11/17/15	LK	SW6010C
Barium	0.240	0.002	mg/L	1	11/17/15	LK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Chromium	0.002	0.001	mg/L	1	11/17/15	LK	SW6010C
Silver (Dissolved)	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	11/17/15	LK	SW6010C
Barium (Dissolved)	0.217	0.002	mg/L	1	11/17/15	LK	SW6010C
Cadmium (Dissolved)	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Chromium (Dissolved)	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Mercury (Dissolved)	< 0.0002	0.0002	mg/L	1	11/23/15	RS	SW7470A
Lead (Dissolved)	< 0.002	0.002	mg/L	1	11/17/15	LK	SW6010C
Selenium (Dissolved)	< 0.010	0.010	mg/L	1	11/19/15	RS	E200.9/SM3113B-10
Mercury	< 0.0002	0.0002	mg/L	1	11/17/15	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	11/17/15	LK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	11/17/15	LK	SW6010C
Extraction of CT ETPH	Completed				11/20/15	E/D	SW3510C/SW3520C
Mercury Dissolved Digestion	Completed				11/23/15	W/W	SW7470A
Mercury Digestion	Completed				11/17/15	W/W	SW7470A
Extraction for Herbicide	Completed				11/17/15	I/D	SW8151A
PCB Extraction	Completed				11/16/15	L	SW3510C
Extraction for Pest (2 Liter)	Completed				11/16/15	L	SW3510C
Semi-Volatile Extraction	Completed				11/16/15	E/D/D	SW3520C
Dissolved Metals Preparation	Completed				11/16/15	AG	
Total Metals Digestion	Completed				11/16/15	AG	SW3050B

**Chlorinated Herbicides**

2,4,5-T ND 1.3 ug/L 10 11/19/15 BB SW8151A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,4,5-TP (Silvex)	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
2,4-D	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
2,4-DB	ND	10	ug/L	10	11/19/15	BB	SW8151A
Dalapon	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
Dicamba	ND	2.5	ug/L	10	11/19/15	BB	SW8151A
Dichloroprop	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
Dinoseb	ND	2.5	ug/L	10	11/19/15	BB	SW8151A
<b><u>QA/QC Surrogates</u></b>							
% DCAA	65		%	10	11/19/15	BB	30 - 150 %
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum HC	ND	0.070	mg/L	1	11/21/15	KCA	CTETPH 8015D
Identification	ND		mg/L	1	11/21/15	KCA	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	67		%	1	11/21/15	KCA	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1221	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1232	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1242	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1248	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1254	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1260	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1262	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1268	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	65		%	1	11/17/15	AW	30 - 150 %
% TCMX	73		%	1	11/17/15	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
4,4' -DDE	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
4,4' -DDT	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
a-BHC	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Alachlor	ND	0.075	ug/L	1	11/17/15	CE	SW8081B
Aldrin	ND	0.002	ug/L	1	11/17/15	CE	SW8081B
b-BHC	ND	0.005	ug/L	1	11/17/15	CE	SW8081B
Chlordane	ND	0.30	ug/L	1	11/17/15	CE	SW8081B
d-BHC	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Dieldrin	ND	0.002	ug/L	1	11/17/15	CE	SW8081B
Endosulfan I	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endosulfan II	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endosulfan Sulfate	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endrin	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endrin Aldehyde	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endrin ketone	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
g-BHC (Lindane)	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Heptachlor	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	0.025	ug/L	1	11/17/15	CE	SW8081B

Client ID: CDR-1 GW

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Methoxychlor	ND	0.10	ug/L	1	11/17/15	CE	SW8081B
Toxaphene	ND	1.0	ug/L	1	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
%DCBP (Surrogate Rec)	68		%	1	11/17/15	CE	30 - 150 %
%TCMX (Surrogate Rec)	66		%	1	11/17/15	CE	30 - 150 %
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Acetone	ND	25	ug/L	1	11/16/15	MH	SW8260C
Acrylonitrile	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Benzene	ND	0.70	ug/L	1	11/16/15	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dibromomethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Styrene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	11/16/15	MH	SW8260C
Toluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	97		%	1	11/16/15	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	11/16/15	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	11/16/15	MH	70 - 130 %
% Toluene-d8	102		%	1	11/16/15	MH	70 - 130 %
<b><u>Semivolatiles (SIM)</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
2-Methylnaphthalene	ND	1.0	ug/L	1	11/18/15	DD	SW8270D (SIM)
Acenaphthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Acenaphthylene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Anthracene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM) B
Chrysene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	11/18/15	DD	SW8270D (SIM)
Fluoranthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Fluorene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hexachlorobenzene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Hexachlorobutadiene	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
Hexachloroethane	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Naphthalene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)
Nitrobenzene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pentachloronitrobenzene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pentachlorophenol	ND	0.80	ug/L	1	11/18/15	DD	SW8270D (SIM)
Phenanthrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pyrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pyridine	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	86		%	1	11/18/15	DD	15 - 110 %
% 2-Fluorobiphenyl	55		%	1	11/18/15	DD	30 - 130 %
% 2-Fluorophenol	40		%	1	11/18/15	DD	15 - 110 %
% Nitrobenzene-d5	48		%	1	11/18/15	DD	30 - 130 %
% Phenol-d5	50		%	1	11/18/15	DD	15 - 110 %
% Terphenyl-d14	88		%	1	11/18/15	DD	30 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	11/19/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	11/19/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	11/19/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2-Chloronaphthalene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2-Chlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2-Nitroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2-Nitrophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	11/19/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
3-Nitroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
4-Chloroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
4-Nitroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4-Nitrophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
Acetophenone	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Aniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Benzidine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzoic acid	ND	50	ug/L	1	11/19/15	DD	SW8270D
Benzyl butyl phthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Carbazole	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Dibenzofuran	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Diethyl phthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Dimethylphthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Di-n-butylphthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Di-n-octylphthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Isophorone	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
N-Nitrosodimethylamine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Phenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
<b>QA/QC Surrogates</b>							
% 2,4,6-Tribromophenol	85		%	1	11/19/15	DD	15 - 110 %
% 2-Fluorobiphenyl	57		%	1	11/19/15	DD	30 - 130 %
% 2-Fluorophenol	29		%	1	11/19/15	DD	15 - 110 %
% Nitrobenzene-d5	44		%	1	11/19/15	DD	30 - 130 %
% Phenol-d5	38		%	1	11/19/15	DD	15 - 110 %
% Terphenyl-d14	84		%	1	11/19/15	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.  
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**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 25, 2015

FOR: Attn: Ms Jane Witherell  
 CDR Group Inc.  
 2080 Silas Deane Highway  
 Rocky Hill, CT 06067

Sample Information

Matrix: GROUND WATER  
 Location Code: MAGU-DAS  
 Rush Request: Standard  
 P.O.#:

Custody Information

Collected by: CK  
 Received by: LK  
 Analyzed by: see "By" below

Date

11/15/15  
 11/16/15

Time

22:50  
 8:10

Laboratory Data

SDG ID: GBK23143  
 Phoenix ID: BK23157

Project ID: NEW HAVEN UNION STATION GARAGE  
 Client ID: CDR-9 GW

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	11/17/15	LK	SW6010C
Barium	0.117	0.002	mg/L	1	11/17/15	LK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Chromium	0.005	0.001	mg/L	1	11/17/15	LK	SW6010C
Silver (Dissolved)	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	11/17/15	LK	SW6010C
Barium (Dissolved)	0.096	0.002	mg/L	1	11/17/15	LK	SW6010C
Cadmium (Dissolved)	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Chromium (Dissolved)	< 0.001	0.001	mg/L	1	11/17/15	LK	SW6010C
Mercury (Dissolved)	< 0.0002	0.0002	mg/L	1	11/23/15	RS	SW7470A
Lead (Dissolved)	0.003	0.002	mg/L	1	11/17/15	LK	SW6010C
Selenium (Dissolved)	< 0.010	0.010	mg/L	1	11/19/15	RS	E200.9/SM3113B-10
Mercury	< 0.0002	0.0002	mg/L	1	11/17/15	RS	SW7470A
Lead	0.006	0.002	mg/L	1	11/17/15	LK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	11/17/15	LK	SW6010C
Extraction of CT ETPH	Completed				11/16/15	E/D	SW3510C/SW3520C
Mercury Dissolved Digestion	Completed				11/23/15	W/W	SW7470A
Mercury Digestion	Completed				11/17/15	W/W	SW7470A
Extraction for Herbicide	Completed				11/17/15	I/D	SW8151A
PCB Extraction	Completed				11/16/15	L	SW3510C
Extraction for Pest (2 Liter)	Completed				11/16/15	L	SW3510C
Semi-Volatile Extraction	Completed				11/16/15	E/D/D	SW3520C
Dissolved Metals Preparation	Completed				11/16/15	AG	
Total Metals Digestion	Completed				11/16/15	AG	SW3050B

Chlorinated Herbicides

2,4,5-T ND 1.3 ug/L 10 11/19/15 BB SW8151A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,4,5-TP (Silvex)	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
2,4-D	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
2,4-DB	ND	10	ug/L	10	11/19/15	BB	SW8151A
Dalapon	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
Dicamba	ND	2.5	ug/L	10	11/19/15	BB	SW8151A
Dichloroprop	ND	1.3	ug/L	10	11/19/15	BB	SW8151A
Dinoseb	ND	2.5	ug/L	10	11/19/15	BB	SW8151A

**QA/QC Surrogates**

% DCAA	66		%	10	11/19/15	BB	30 - 150 %
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**TPH by GC (Extractable Products)**

Ext. Petroleum HC	ND	0.070	mg/L	1	11/17/15	JRB	CTETPH 8015D
Identification	ND		mg/L	1	11/17/15	JRB	CTETPH 8015D

**QA/QC Surrogates**

% n-Pentacosane	77		%	1	11/17/15	JRB	50 - 150 %
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**Polychlorinated Biphenyls**

PCB-1016	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1221	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1232	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1242	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1248	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1254	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1260	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1262	ND	0.10	ug/L	1	11/17/15	AW	SW8082A
PCB-1268	ND	0.10	ug/L	1	11/17/15	AW	SW8082A

**QA/QC Surrogates**

% DCBP	64		%	1	11/17/15	AW	30 - 150 %
% TCMX	76		%	1	11/17/15	AW	30 - 150 %

**Pesticides**

4,4' -DDD	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
4,4' -DDE	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
4,4' -DDT	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
a-BHC	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Alachlor	ND	0.075	ug/L	1	11/17/15	CE	SW8081B
Aldrin	ND	0.002	ug/L	1	11/17/15	CE	SW8081B
b-BHC	ND	0.005	ug/L	1	11/17/15	CE	SW8081B
Chlordane	ND	0.30	ug/L	1	11/17/15	CE	SW8081B
d-BHC	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Dieldrin	ND	0.002	ug/L	1	11/17/15	CE	SW8081B
Endosulfan I	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endosulfan II	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endosulfan Sulfate	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endrin	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endrin Aldehyde	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
Endrin ketone	ND	0.050	ug/L	1	11/17/15	CE	SW8081B
g-BHC (Lindane)	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Heptachlor	ND	0.025	ug/L	1	11/17/15	CE	SW8081B
Heptachlor epoxide	ND	0.025	ug/L	1	11/17/15	CE	SW8081B

Client ID: CDR-9 GW

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Methoxychlor	ND	0.10	ug/L	1	11/17/15	CE	SW8081B
Toxaphene	ND	1.0	ug/L	1	11/17/15	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
%DCBP (Surrogate Rec)	59		%	1	11/17/15	CE	30 - 150 %
%TCMX (Surrogate Rec)	64		%	1	11/17/15	CE	30 - 150 %
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	11/16/15	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Acetone	ND	25	ug/L	1	11/16/15	MH	SW8260C
Acrylonitrile	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Benzene	ND	0.70	ug/L	1	11/16/15	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	11/16/15	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dibromomethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Styrene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	11/16/15	MH	SW8260C
Toluene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	11/16/15	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	11/16/15	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	11/16/15	MH	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	99		%	1	11/16/15	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	11/16/15	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	11/16/15	MH	70 - 130 %
% Toluene-d8	103		%	1	11/16/15	MH	70 - 130 %
<b><u>Semivolatiles (SIM)</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
2-Methylnaphthalene	ND	1.0	ug/L	1	11/18/15	DD	SW8270D (SIM)
Acenaphthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Acenaphthylene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Anthracene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM) B
Chrysene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	11/18/15	DD	SW8270D (SIM)
Fluoranthene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Fluorene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hexachlorobenzene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Hexachlorobutadiene	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
Hexachloroethane	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Naphthalene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)
Nitrobenzene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pentachloronitrobenzene	ND	0.10	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pentachlorophenol	ND	0.80	ug/L	1	11/18/15	DD	SW8270D (SIM)
Phenanthrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pyrene	ND	0.05	ug/L	1	11/18/15	DD	SW8270D (SIM)
Pyridine	ND	0.50	ug/L	1	11/18/15	DD	SW8270D (SIM)
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	90		%	1	11/18/15	DD	15 - 110 %
% 2-Fluorobiphenyl	60		%	1	11/18/15	DD	30 - 130 %
% 2-Fluorophenol	44		%	1	11/18/15	DD	15 - 110 %
% Nitrobenzene-d5	55		%	1	11/18/15	DD	30 - 130 %
% Phenol-d5	55		%	1	11/18/15	DD	15 - 110 %
% Terphenyl-d14	90		%	1	11/18/15	DD	30 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	11/19/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	11/19/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	11/19/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2-Chloronaphthalene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2-Chlorophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
2-Nitroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
2-Nitrophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	11/19/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
3-Nitroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
4-Chloroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
4-Nitroaniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
4-Nitrophenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
Acetophenone	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Aniline	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Benzidine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzoic acid	ND	50	ug/L	1	11/19/15	DD	SW8270D
Benzyl butyl phthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Carbazole	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Dibenzofuran	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Diethyl phthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Dimethylphthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Di-n-butylphthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Di-n-octylphthalate	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Isophorone	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
N-Nitrosodimethylamine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	11/19/15	DD	SW8270D
Phenol	ND	1.0	ug/L	1	11/19/15	DD	SW8270D
<b>QA/QC Surrogates</b>							
% 2,4,6-Tribromophenol	92		%	1	11/19/15	DD	15 - 110 %
% 2-Fluorobiphenyl	65		%	1	11/19/15	DD	30 - 130 %
% 2-Fluorophenol	34		%	1	11/19/15	DD	15 - 110 %
% Nitrobenzene-d5	52		%	1	11/19/15	DD	30 - 130 %
% Phenol-d5	49		%	1	11/19/15	DD	15 - 110 %
% Terphenyl-d14	86		%	1	11/19/15	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.  
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**Phyllis Shiller, Laboratory Director**

**November 25, 2015**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



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# QA/QC Report

November 25, 2015

## QA/QC Data

SDG I.D.: GBK23143

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 326879 (mg/kg), QC Sample No: BK21265 (BK23151)													
<u>ICP Metals - Soil</u>													
Arsenic	BRL	0.67	<0.9	<0.76	NC	96.7	98.5	1.8	86.5	87.4	1.0	75 - 125	30
Barium	BRL	0.33	22.0	22.2	0.90	107	107	0.0	83.5	85.0	1.8	75 - 125	30
Cadmium	BRL	0.33	<0.43	<0.38	NC	108	109	0.9	86.4	87.9	1.7	75 - 125	30
Chromium	BRL	0.33	6.10	6.06	0.70	99.1	101	1.9	94.0	95.8	1.9	75 - 125	30
Lead	BRL	0.33	3.55	2.99	17.1	106	104	1.9	87.2	88.5	1.5	75 - 125	30
Selenium	BRL	1.3	<1.7	<1.5	NC	92.3	94.4	2.2	75.0	75.5	0.7	75 - 125	30
Silver	BRL	0.33	<0.43	<0.38	NC	99.2	101	1.8	94.0	95.8	1.9	75 - 125	30

QA/QC Batch 326795 (mg/L), QC Sample No: BK22694 (BK23143, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

### ICP Metals - TCLP Extraction

Arsenic	BRL	0.01	<0.01	<0.01	NC	101	101	0.0	101	100	1.0	75 - 125	20
Barium		0.01	0.40	0.40	0	90.8	91.8	1.1	88.7	88.3	0.5	75 - 125	20
Cadmium	BRL	0.005	<0.005	<0.005	NC	96.9	96.0	0.9	95.6	94.8	0.8	75 - 125	20
Chromium	BRL	0.010	<0.010	<0.010	NC	93.8	92.7	1.2	92.8	91.9	1.0	75 - 125	20
Lead	BRL	0.010	<0.010	<0.010	NC	97.8	97.4	0.4	96.8	96.3	0.5	75 - 125	20
Selenium	BRL	0.01	<0.01	<0.01	NC	103	103	0.0	103	103	0.0	75 - 125	20
Silver	BRL	0.010	<0.010	<0.010	NC	101	101	0.0	101	101	0.0	75 - 125	20

QA/QC Batch 326756 (mg/L), QC Sample No: BK22819 (BK23155, BK23156, BK23157)

Selenium (Dissolved)	BRL	0.002	<0.002	<0.002	NC	117	119	1.7	94.3	107	12.6	75 - 125	20
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QA/QC Batch 326913 (mg/L), QC Sample No: BK22963 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	90.9	88.3	2.9	91.2	93.2	2.2	70 - 130	20
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Comment:

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%.

QA/QC Batch 326884 (mg/L), QC Sample No: BK23012 (BK23155, BK23156, BK23157)

### ICP Metals - Aqueous

Arsenic	BRL	0.004	<0.004	<0.004	NC	99.4	98.7	0.7	107	103	3.8	75 - 125	20
Barium	BRL	0.002	0.016	0.015	6.50	94.2	92.9	1.4	91.1	91.1	0.0	75 - 125	20
Cadmium	BRL	0.001	0.002	0.002	NC	108	107	0.9	111	107	3.7	75 - 125	20
Chromium	BRL	0.001	0.008	0.007	13.3	99.5	98.7	0.8	99.2	96.0	3.3	75 - 125	20
Lead	BRL	0.002	0.003	0.003	NC	102	101	1.0	101	97.7	3.3	75 - 125	20
Selenium	BRL	0.010	<0.010	<0.010	NC	97.1	96.8	0.3	102	98.7	3.3	75 - 125	20
Silver	BRL	0.001	0.015	0.013	14.3	94.7	94.0	0.7	96.0	94.2	1.9	75 - 125	20

QA/QC Batch 326908 (mg/L), QC Sample No: BK23155 (BK23155, BK23156, BK23157)

Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	92.9	89.2	4.1	87.6	85.7	2.2	70 - 130	20
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Comment:

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%.

**QA/QC Data**

SDG I.D.: GBK23143

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 326893 (mg/L), QC Sample No: BK23157 (BK23155, BK23156, BK23157)														
<b>ICP Metals - Dissolved</b>														
Arsenic	BRL	0.004	<0.004	<0.004	NC	91.8	91.4	0.4	99.8	100	0.2	75 - 125	20	
Barium	BRL	0.002	0.096	0.095	1.00	93.0	91.3	1.8	90.3	89.7	0.7	75 - 125	20	
Cadmium	BRL	0.001	<0.001	<0.001	NC	97.2	96.2	1.0	100	101	1.0	75 - 125	20	
Chromium	BRL	0.001	<0.001	<0.001	NC	92.4	91.2	1.3	94.1	95.0	1.0	75 - 125	20	
Lead	BRL	0.002	0.003	0.003	NC	93.0	92.1	1.0	94.1	94.2	0.1	75 - 125	20	
Silver	BRL	0.001	<0.001	<0.001	NC	90.4	88.5	2.1	93.6	92.2	1.5	75 - 125	20	
QA/QC Batch 326905 (mg/kg), QC Sample No: BK23219 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148)														
Mercury - Soil	BRL	0.06	<0.03	<0.03	NC	93.7	94.9	1.3	96.0	87.1	9.7	70 - 130	30	
Comment:														
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%.														
QA/QC Batch 326906 (mg/kg), QC Sample No: BK23337 (BK23149, BK23150, BK23151)														
Mercury - Soil	BRL	0.06	0.03	0.04	NC	98.6	95.2	3.5	106	102	3.8	70 - 130	30	
Comment:														
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%.														
QA/QC Batch 326861 (mg/kg), QC Sample No: BK23528 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150)														
<b>ICP Metals - Soil</b>														
Arsenic	BRL	0.66	0.9	1.14	NC	94.0	87.6	7.0	87.3	88.0	0.8	75 - 125	30	
Barium	BRL	0.33	20.8	22.5	7.90	105	96.2	8.7	86.4	85.4	1.2	75 - 125	30	
Cadmium	BRL	0.33	0.21	0.21	NC	105	104	1.0	87.0	87.5	0.6	75 - 125	30	
Chromium	BRL	0.33	9.44	10.4	9.70	98.3	93.2	5.3	98.1	99.5	1.4	75 - 125	30	
Lead	BRL	0.33	18.6	13.8	29.6	100	98.3	1.7	90.1	89.2	1.0	75 - 125	30	
Selenium	BRL	1.3	<1.2	<1.2	NC	91.8	88.1	4.1	75.9	76.7	1.0	75 - 125	30	
Silver	BRL	0.33	<0.31	<0.30	NC	95.8	88.4	8.0	95.8	96.0	0.2	75 - 125	30	
QA/QC Batch 327092 (mg/L), QC Sample No: BK25245 (BK23155, BK23156, BK23157)														
Mercury (Dissolved)	BRL	0.0003	<0.0002	<0.0003	NC	86.1	70.9	19.4	85.4	76.3	11.3	70 - 130	20	
Comment:														
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%.														
QA/QC Batch 327676 (mg/L), QC Sample No: BK27092 (BK23144)														
<b>ICP Metals - TCLP Extraction</b>														
Arsenic	BRL	0.01	0.04	0.04	NC	115	110	4.4	107	112	4.6	75 - 125	20	
Barium	BRL	0.01	0.01	0.30	0.28	6.90	98.6	98.4	0.2	98.7	94.6	4.2	75 - 125	20
Cadmium	BRL	0.005	<0.005	<0.005	NC	100	99.6	0.4	91.8	98.0	6.5	75 - 125	20	
Chromium	BRL	0.010	<0.010	<0.010	NC	98.7	96.3	2.5	92.8	97.6	5.0	75 - 125	20	
Lead	BRL	0.010	1.98	1.92	3.10	92.4	91.2	1.3	79.0	87.1	9.8	75 - 125	20	
Selenium	BRL	0.01	<0.01	<0.01	NC	121	115	5.1	117	120	2.5	75 - 125	20	
Silver	BRL	0.010	<0.010	<0.010	NC	106	106	0.0	108	105	2.8	75 - 125	20	





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# QA/QC Report

November 25, 2015

## QA/QC Data

SDG I.D.: GBK23143

Parameter	Blank	Blk RL	LCS %	LCS D %	LCS R P D	MS %	MS D %	MS R P D	% R e c L i m i t s	% R P D L i m i t s
QA/QC Batch 326378 (ug/L), QC Sample No: BK20072 2X (BK23155, BK23156, BK23157)										
<u>Chlorinated Herbicides - Ground Water</u>										
2,4,5-T	ND	0.25	87	83	4.7				40 - 140	20
2,4,5-TP (Silvex)	ND	0.25	71	71	0.0				40 - 140	20
2,4-D	ND	0.25	70	72	2.8				40 - 140	20
2,4-DB	ND	2.0	86	94	8.9				40 - 140	20
Dalapon	ND	0.25	41	77	61.0				40 - 140	20
Dicamba	ND	0.50	86	90	4.5				40 - 140	20
Dichloroprop	ND	0.25	69	66	4.4				40 - 140	20
Dinoseb	ND	0.50	90	87	3.4				40 - 140	20
% DCAA (Surrogate Rec)	46	%	68	69	1.5				30 - 150	20

QA/QC Batch 326755 (mg/L), QC Sample No: BK22573 (BK23155, BK23157)

### TPH by GC (Extractable Products) - Ground Water

Unidentified	ND	0.070	72	64	11.8				60 - 120	30
% n-Pentacosane	53	%	80	70	13.3				50 - 150	20

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 326726 (ug/Kg), QC Sample No: BK23004 (BK23143, BK23144, BK23145, BK23146)

### Semivolatiles - Solid

1,2,4,5-Tetrachlorobenzene	ND	230	58	63	8.3	65	69	6.0	30 - 130	30
1,2,4-Trichlorobenzene	ND	230	57	63	10.0	64	70	9.0	30 - 130	30
1,2-Dichlorobenzene	ND	180	50	56	11.3	60	64	6.5	30 - 130	30
1,2-Diphenylhydrazine	ND	230	60	67	11.0	72	75	4.1	30 - 130	30
1,3-Dichlorobenzene	ND	230	49	54	9.7	55	60	8.7	30 - 130	30
1,4-Dichlorobenzene	ND	230	50	56	11.3	58	63	8.3	30 - 130	30
2,4,5-Trichlorophenol	ND	230	63	74	16.1	76	76	0.0	30 - 130	30
2,4,6-Trichlorophenol	ND	130	61	72	16.5	72	73	1.4	30 - 130	30
2,4-Dichlorophenol	ND	130	59	67	12.7	73	74	1.4	30 - 130	30
2,4-Dimethylphenol	ND	230	55	60	8.7	76	79	3.9	30 - 130	30
2,4-Dinitrophenol	ND	230	13	10	26.1	<10	<10	NC	30 - 130	30
2,4-Dinitrotoluene	ND	130	67	74	9.9	71	74	4.1	30 - 130	30
2,6-Dinitrotoluene	ND	130	63	72	13.3	72	75	4.1	30 - 130	30
2-Chloronaphthalene	ND	230	59	67	12.7	71	74	4.1	30 - 130	30
2-Chlorophenol	ND	230	57	64	11.6	73	71	2.8	30 - 130	30
2-Methylnaphthalene	ND	230	62	68	9.2	74	78	5.3	30 - 130	30
2-Methylphenol (o-cresol)	ND	230	59	64	8.1	77	78	1.3	30 - 130	30
2-Nitroaniline	ND	330	67	74	9.9	87	89	2.3	30 - 130	30
2-Nitrophenol	ND	230	60	66	9.5	59	61	3.3	30 - 130	30
3&4-Methylphenol (m&p-cresol)	ND	230	61	66	7.9	77	77	0.0	30 - 130	30
3,3'-Dichlorobenzidine	ND	130	62	75	19.0	91	117	25.0	30 - 130	30
3-Nitroaniline	ND	330	58	69	17.3	80	83	3.7	30 - 130	30
4,6-Dinitro-2-methylphenol	ND	230	30	25	18.2	<10	<10	NC	30 - 130	30

QA/QC Data

SDG I.D.: GBK23143

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
4-Bromophenyl phenyl ether	ND	230	61	68	10.9	70	75	6.9	30 - 130	30	
4-Chloro-3-methylphenol	ND	230	66	73	10.1	81	84	3.6	30 - 130	30	
4-Chloroaniline	ND	230	51	60	16.2	67	76	12.6	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	230	61	68	10.9	70	75	6.9	30 - 130	30	
4-Nitroaniline	ND	230	65	76	15.6	79	80	1.3	30 - 130	30	
4-Nitrophenol	ND	230	59	68	14.2	78	72	8.0	30 - 130	30	
Acenaphthene	ND	230	62	69	10.7	73	77	5.3	30 - 130	30	
Acenaphthylene	ND	130	56	64	13.3	68	71	4.3	30 - 130	30	
Acetophenone	ND	230	55	62	12.0	71	71	0.0	30 - 130	30	
Aniline	ND	330	38	47	21.2	45	60	28.6	30 - 130	30	
Anthracene	ND	230	65	72	10.2	76	81	6.4	30 - 130	30	
Benz(a)anthracene	ND	230	64	73	13.1	77	82	6.3	30 - 130	30	
Benzidine	ND	330	55	64	15.1	32	140	125.6	30 - 130	30	m,r
Benzo(a)pyrene	ND	130	64	70	9.0	74	80	7.8	30 - 130	30	
Benzo(b)fluoranthene	ND	160	64	72	11.8	76	82	7.6	30 - 130	30	
Benzo(ghi)perylene	ND	230	64	73	13.1	63	67	6.2	30 - 130	30	
Benzo(k)fluoranthene	ND	230	65	71	8.8	75	79	5.2	30 - 130	30	
Benzoic Acid	ND	330	<10	<10	NC	39	18	73.7	30 - 130	30	l,m,r
Benzyl butyl phthalate	ND	230	66	77	15.4	79	86	8.5	30 - 130	30	
Bis(2-chloroethoxy)methane	ND	230	61	68	10.9	72	73	1.4	30 - 130	30	
Bis(2-chloroethyl)ether	ND	130	51	54	5.7	71	63	11.9	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	230	53	59	10.7	64	66	3.1	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	230	65	77	16.9	84	89	5.8	30 - 130	30	
Carbazole	ND	330	67	76	12.6	81	85	4.8	30 - 130	30	
Chrysene	ND	230	69	76	9.7	80	87	8.4	30 - 130	30	
Dibenz(a,h)anthracene	ND	130	61	69	12.3	65	71	8.8	30 - 130	30	
Dibenzofuran	ND	230	62	70	12.1	74	78	5.3	30 - 130	30	
Diethyl phthalate	ND	230	63	73	14.7	75	77	2.6	30 - 130	30	
Dimethylphthalate	ND	230	61	70	13.7	72	74	2.7	30 - 130	30	
Di-n-butylphthalate	ND	230	66	73	10.1	75	79	5.2	30 - 130	30	
Di-n-octylphthalate	ND	230	62	73	16.3	86	91	5.6	30 - 130	30	
Fluoranthene	ND	230	65	73	11.6	74	79	6.5	30 - 130	30	
Fluorene	ND	230	63	70	10.5	74	79	6.5	30 - 130	30	
Hexachlorobenzene	ND	130	62	69	10.7	68	75	9.8	30 - 130	30	
Hexachlorobutadiene	ND	230	55	60	8.7	60	65	8.0	30 - 130	30	
Hexachlorocyclopentadiene	ND	230	60	60	0.0	15	27	57.1	30 - 130	30	m,r
Hexachloroethane	ND	130	48	55	13.6	51	57	11.1	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	230	64	73	13.1	69	75	8.3	30 - 130	30	
Isophorone	ND	130	56	63	11.8	67	68	1.5	30 - 130	30	
Naphthalene	ND	230	59	64	8.1	70	74	5.6	30 - 130	30	
Nitrobenzene	ND	130	57	63	10.0	71	73	2.8	30 - 130	30	
N-Nitrosodimethylamine	ND	230	46	53	14.1	60	58	3.4	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	130	58	64	9.8	71	73	2.8	30 - 130	30	
N-Nitrosodiphenylamine	ND	130	62	69	10.7	75	78	3.9	30 - 130	30	
Pentachloronitrobenzene	ND	230	64	72	11.8	64	72	11.8	30 - 130	30	
Pentachlorophenol	ND	230	55	56	1.8	56	52	7.4	30 - 130	30	
Phenanthrene	ND	130	65	72	10.2	76	82	7.6	30 - 130	30	
Phenol	ND	230	59	66	11.2	72	72	0.0	30 - 130	30	
Pyrene	ND	230	66	72	8.7	75	78	3.9	30 - 130	30	
Pyridine	ND	230	31	37	17.6	44	45	2.2	30 - 130	30	
% 2,4,6-Tribromophenol	62	%	60	66	9.5	67	71	5.8	30 - 130	30	
% 2-Fluorobiphenyl	70	%	59	66	11.2	68	71	4.3	30 - 130	30	
% 2-Fluorophenol	57	%	52	57	9.2	60	61	1.7	30 - 130	30	

## QA/QC Data

SDG I.D.: GBK23143

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
% Nitrobenzene-d5	64	%	54	60	10.5	67	69	2.9	30 - 130	30
% Phenol-d5	64	%	56	62	10.2	67	68	1.5	30 - 130	30
% Terphenyl-d14	79	%	65	70	7.4	69	73	5.6	30 - 130	30

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 326916 (ug/kg), QC Sample No: BK23146 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

### Volatiles - Solid

1,1,1,2-Tetrachloroethane	ND	5.0	97	98	1.0	98	99	1.0	70 - 130	30
1,1,1-Trichloroethane	ND	5.0	103	106	2.9	110	110	0.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0	105	109	3.7	113	111	1.8	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	102	105	2.9	107	108	0.9	70 - 130	30
1,1-Dichloroethane	ND	5.0	110	111	0.9	118	119	0.8	70 - 130	30
1,1-Dichloroethene	ND	5.0	119	122	2.5	118	121	2.5	70 - 130	30
1,1-Dichloropropene	ND	5.0	107	112	4.6	115	116	0.9	70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	103	108	4.7	114	116	1.7	70 - 130	30
1,2,3-Trichloropropane	ND	5.0	103	105	1.9	108	109	0.9	70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	100	105	4.9	111	113	1.8	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	99	103	4.0	110	110	0.0	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	95	101	6.1	94	94	0.0	70 - 130	30
1,2-Dibromoethane	ND	5.0	99	100	1.0	103	104	1.0	70 - 130	30
1,2-Dichlorobenzene	ND	5.0	105	109	3.7	116	117	0.9	70 - 130	30
1,2-Dichloroethane	ND	5.0	111	115	3.5	119	121	1.7	70 - 130	30
1,2-Dichloropropane	ND	5.0	109	114	4.5	118	120	1.7	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	103	107	3.8	115	114	0.9	70 - 130	30
1,3-Dichlorobenzene	ND	5.0	99	103	4.0	110	111	0.9	70 - 130	30
1,3-Dichloropropane	ND	5.0	103	104	1.0	109	108	0.9	70 - 130	30
1,4-Dichlorobenzene	ND	5.0	102	106	3.8	114	115	0.9	70 - 130	30
2,2-Dichloropropane	ND	5.0	108	107	0.9	113	113	0.0	70 - 130	30
2-Chlorotoluene	ND	5.0	101	106	4.8	112	112	0.0	70 - 130	30
2-Hexanone	ND	25	94	91	3.2	93	91	2.2	70 - 130	30
2-Isopropyltoluene	ND	5.0	105	110	4.7	119	118	0.8	70 - 130	30
4-Chlorotoluene	ND	5.0	100	102	2.0	109	110	0.9	70 - 130	30
4-Methyl-2-pentanone	ND	25	103	103	0.0	105	104	1.0	70 - 130	30
Acetone	ND	10	92	97	5.3	91	95	4.3	70 - 130	30
Acrylonitrile	ND	5.0	102	104	1.9	108	107	0.9	70 - 130	30
Benzene	ND	1.0	105	109	3.7	111	114	2.7	70 - 130	30
Bromobenzene	ND	5.0	105	109	3.7	115	114	0.9	70 - 130	30
Bromochloromethane	ND	5.0	99	103	4.0	106	107	0.9	70 - 130	30
Bromodichloromethane	ND	5.0	106	109	2.8	106	107	0.9	70 - 130	30
Bromoform	ND	5.0	86	87	1.2	76	78	2.6	70 - 130	30
Bromomethane	ND	5.0	129	132	2.3	97	104	7.0	70 - 130	30
Carbon Disulfide	ND	5.0	120	123	2.5	122	123	0.8	70 - 130	30
Carbon tetrachloride	ND	5.0	97	98	1.0	95	96	1.0	70 - 130	30
Chlorobenzene	ND	5.0	105	107	1.9	113	113	0.0	70 - 130	30
Chloroethane	ND	5.0	123	126	2.4	26	23	12.2	70 - 130	30
Chloroform	ND	5.0	101	104	2.9	109	111	1.8	70 - 130	30
Chloromethane	ND	5.0	114	114	0.0	122	122	0.0	70 - 130	30
cis-1,2-Dichloroethene	ND	5.0	105	106	0.9	111	113	1.8	70 - 130	30
cis-1,3-Dichloropropene	ND	5.0	107	109	1.9	111	112	0.9	70 - 130	30
Dibromochloromethane	ND	3.0	97	98	1.0	93	94	1.1	70 - 130	30

## QA/QC Data

SDG I.D.: GBK23143

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Dibromomethane	ND	5.0	107	109	1.9	112	113	0.9	70 - 130	30
Dichlorodifluoromethane	ND	5.0	113	113	0.0	121	124	2.4	70 - 130	30
Ethylbenzene	ND	1.0	104	105	1.0	112	113	0.9	70 - 130	30
Hexachlorobutadiene	ND	5.0	107	113	5.5	124	122	1.6	70 - 130	30
Isopropylbenzene	ND	1.0	101	106	4.8	114	113	0.9	70 - 130	30
m&p-Xylene	ND	2.0	99	100	1.0	106	106	0.0	70 - 130	30
Methyl ethyl ketone	ND	5.0	97	97	0.0	99	97	2.0	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	110	110	0.0	116	115	0.9	70 - 130	30
Methylene chloride	ND	5.0	101	104	2.9	111	111	0.0	70 - 130	30
Naphthalene	ND	5.0	102	107	4.8	111	113	1.8	70 - 130	30
n-Butylbenzene	ND	1.0	106	111	4.6	119	120	0.8	70 - 130	30
n-Propylbenzene	ND	1.0	98	101	3.0	108	108	0.0	70 - 130	30
o-Xylene	ND	2.0	103	106	2.9	110	110	0.0	70 - 130	30
p-Isopropyltoluene	ND	1.0	104	109	4.7	117	117	0.0	70 - 130	30
sec-Butylbenzene	ND	1.0	107	110	2.8	119	119	0.0	70 - 130	30
Styrene	ND	5.0	99	100	1.0	104	106	1.9	70 - 130	30
tert-Butylbenzene	ND	1.0	103	107	3.8	114	116	1.7	70 - 130	30
Tetrachloroethene	ND	5.0	104	109	4.7	112	115	2.6	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	105	106	0.9	109	108	0.9	70 - 130	30
Toluene	ND	1.0	108	112	3.6	115	117	1.7	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	110	115	4.4	120	121	0.8	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	101	103	2.0	102	105	2.9	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	96	100	4.1	96	96	0.0	70 - 130	30
Trichloroethene	ND	5.0	107	108	0.9	110	113	2.7	70 - 130	30
Trichlorofluoromethane	ND	5.0	116	118	1.7	51	53	3.8	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	114	117	2.6	117	118	0.9	70 - 130	30
Vinyl chloride	ND	5.0	120	121	0.8	127	126	0.8	70 - 130	30
% 1,2-dichlorobenzene-d4	95	%	100	102	2.0	103	103	0.0	70 - 130	30
% Bromofluorobenzene	98	%	100	98	2.0	98	98	0.0	70 - 130	30
% Dibromofluoromethane	96	%	94	91	3.2	91	91	0.0	70 - 130	30
% Toluene-d8	91	%	103	105	1.9	103	105	1.9	70 - 130	30

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Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Batch 326940 (ug/L), QC Sample No: BK23154 (BK23154)

### Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	107	106	0.9				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	100	98	2.0				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	112	113	0.9				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	96	98	2.1				70 - 130	30
1,1-Dichloroethane	ND	1.0	91	89	2.2				70 - 130	30
1,1-Dichloroethene	ND	1.0	99	97	2.0				70 - 130	30
1,1-Dichloropropene	ND	1.0	108	105	2.8				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	100	103	3.0				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	103	108	4.7				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	104	106	1.9				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	103	102	1.0				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	111	118	6.1				70 - 130	30
1,2-Dibromoethane	ND	1.0	105	106	0.9				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	101	102	1.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	94	95	1.1				70 - 130	30
1,2-Dichloropropane	ND	1.0	102	100	2.0				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	109	107	1.9				70 - 130	30

## QA/QC Data

SDG I.D.: GBK23143

Parameter	BIK		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
1,3-Dichlorobenzene	ND	1.0	102	104	1.9				70 - 130	30
1,3-Dichloropropane	ND	1.0	106	105	0.9				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	102	102	0.0				70 - 130	30
2,2-Dichloropropane	ND	1.0	98	95	3.1				70 - 130	30
2-Chlorotoluene	ND	1.0	108	108	0.0				70 - 130	30
2-Hexanone	ND	5.0	92	95	3.2				70 - 130	30
2-Isopropyltoluene	ND	1.0	109	107	1.9				70 - 130	30
4-Chlorotoluene	ND	1.0	107	106	0.9				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	85	89	4.6				70 - 130	30
Acetone	ND	5.0	83	70	17.0				70 - 130	30
Acrylonitrile	ND	5.0	92	95	3.2				70 - 130	30
Benzene	ND	0.70	97	94	3.1				70 - 130	30
Bromobenzene	ND	1.0	106	107	0.9				70 - 130	30
Bromochloromethane	ND	1.0	97	99	2.0				70 - 130	30
Bromodichloromethane	ND	0.50	104	104	0.0				70 - 130	30
Bromoform	ND	1.0	108	110	1.8				70 - 130	30
Bromomethane	ND	1.0	87	88	1.1				70 - 130	30
Carbon Disulfide	ND	1.0	98	95	3.1				70 - 130	30
Carbon tetrachloride	ND	1.0	103	101	2.0				70 - 130	30
Chlorobenzene	ND	1.0	104	102	1.9				70 - 130	30
Chloroethane	ND	1.0	86	85	1.2				70 - 130	30
Chloroform	ND	1.0	93	91	2.2				70 - 130	30
Chloromethane	ND	1.0	86	83	3.6				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	96	93	3.2				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	105	104	1.0				70 - 130	30
Dibromochloromethane	ND	0.50	111	109	1.8				70 - 130	30
Dibromomethane	ND	1.0	98	99	1.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	92	90	2.2				70 - 130	30
Ethylbenzene	ND	1.0	104	102	1.9				70 - 130	30
Hexachlorobutadiene	ND	0.40	106	105	0.9				70 - 130	30
Isopropylbenzene	ND	1.0	113	110	2.7				70 - 130	30
m&p-Xylene	ND	1.0	103	100	3.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	85	90	5.7				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	95	98	3.1				70 - 130	30
Methylene chloride	ND	1.0	85	85	0.0				70 - 130	30
Naphthalene	ND	1.0	107	110	2.8				70 - 130	30
n-Butylbenzene	ND	1.0	106	104	1.9				70 - 130	30
n-Propylbenzene	ND	1.0	105	105	0.0				70 - 130	30
o-Xylene	ND	1.0	104	102	1.9				70 - 130	30
p-Isopropyltoluene	ND	1.0	110	108	1.8				70 - 130	30
sec-Butylbenzene	ND	1.0	111	109	1.8				70 - 130	30
Styrene	ND	1.0	101	101	0.0				70 - 130	30
tert-Butylbenzene	ND	1.0	111	110	0.9				70 - 130	30
Tetrachloroethene	ND	1.0	99	94	5.2				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	92	94	2.2				70 - 130	30
Toluene	ND	1.0	100	97	3.0				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	99	97	2.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	103	100	3.0				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	119	123	3.3				70 - 130	30
Trichloroethene	ND	1.0	105	102	2.9				70 - 130	30
Trichlorofluoromethane	ND	1.0	90	87	3.4				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	100	98	2.0				70 - 130	30
Vinyl chloride	ND	1.0	94	92	2.2				70 - 130	30

QA/QC Data

SDG I.D.: GBK23143

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
% 1,2-dichlorobenzene-d4	98	%	97	98	1.0				70 - 130	30
% Bromofluorobenzene	92	%	94	95	1.1				70 - 130	30
% Dibromofluoromethane	97	%	97	99	2.0				70 - 130	30
% Toluene-d8	103	%	101	101	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Batch 326889 (ug/L), QC Sample No: BK23155 (BK23155, BK23156, BK23157)

Pesticides - Ground Water

4,4' -DDD	ND	0.003	81	97	18.0				40 - 140	20
4,4' -DDE	ND	0.003	74	91	20.6				40 - 140	20
4,4' -DDT	ND	0.003	79	95	18.4				40 - 140	20
a-BHC	ND	0.002	75	89	17.1				40 - 140	20
a-Chlordane	ND	0.005	74	89	18.4				40 - 140	20
Alachlor	ND	0.005	NA	NA	NC				40 - 140	20
Aldrin	ND	0.002	67	79	16.4				40 - 140	20
b-BHC	ND	0.002	76	90	16.9				40 - 140	20
Chlordane	ND	0.050	69	88	24.2				40 - 140	20
d-BHC	ND	0.005	62	75	19.0				40 - 140	20
Dieldrin	ND	0.002	75	90	18.2				40 - 140	20
Endosulfan I	ND	0.005	79	91	14.1				40 - 140	20
Endosulfan II	ND	0.005	77	93	18.8				40 - 140	20
Endosulfan sulfate	ND	0.005	77	91	16.7				40 - 140	20
Endrin	ND	0.005	78	93	17.5				40 - 140	20
Endrin aldehyde	ND	0.005	83	99	17.6				40 - 140	20
Endrin ketone	ND	0.005	81	97	18.0				40 - 140	20
g-BHC	ND	0.002	74	88	17.3				40 - 140	20
g-Chlordane	ND	0.005	69	88	24.2				40 - 140	20
Heptachlor	ND	0.005	75	88	16.0				40 - 140	20
Heptachlor epoxide	ND	0.005	78	93	17.5				40 - 140	20
Methoxychlor	ND	0.005	76	90	16.9				40 - 140	20
Toxaphene	ND	0.20	NA	NA	NC				40 - 140	20
% DCBP	69	%	87	96	9.8				30 - 150	20
% TCMX	64	%	77	88	13.3				30 - 150	20

Comment:

A LCS and LCS duplicate were performed instead of a MS and MSD. Alpha and gamma chlordane were spiked and analyzed instead of technical chlordane. Gamma chlordane recovery is reported as chlordane in the LCS and LCSD

QA/QC Batch 326931 (ug/L), QC Sample No: BK23155 (BK23155, BK23156, BK23157)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	103	108	4.7				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	102	109	6.6				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	108	110	1.8				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	96	101	5.1				70 - 130	30
1,1-Dichloroethane	ND	1.0	99	106	6.8				70 - 130	30
1,1-Dichloroethene	ND	1.0	101	108	6.7				70 - 130	30
1,1-Dichloropropene	ND	1.0	101	106	4.8				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	103	105	1.9				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	105	105	0.0				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	104	107	2.8				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	103	101	2.0				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	99	104	4.9				70 - 130	30

## QA/QC Data

SDG I.D.: GBK23143

Parameter	BIK		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
1,2-Dibromoethane	ND	1.0	101	105	3.9				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	100	102	2.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	102	109	6.6				70 - 130	30
1,2-Dichloropropane	ND	1.0	99	104	4.9				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	107	105	1.9				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	104	104	0.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	98	105	6.9				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	100	100	0.0				70 - 130	30
2,2-Dichloropropane	ND	1.0	105	112	6.5				70 - 130	30
2-Chlorotoluene	ND	1.0	105	103	1.9				70 - 130	30
2-Hexanone	ND	5.0	92	96	4.3				70 - 130	30
2-Isopropyltoluene	ND	1.0	106	104	1.9				70 - 130	30
4-Chlorotoluene	ND	1.0	104	103	1.0				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	91	98	7.4				70 - 130	30
Acetone	ND	5.0	83	83	0.0				70 - 130	30
Acrylonitrile	ND	5.0	112	119	6.1				70 - 130	30
Benzene	ND	0.70	93	97	4.2				70 - 130	30
Bromobenzene	ND	1.0	101	103	2.0				70 - 130	30
Bromochloromethane	ND	1.0	98	105	6.9				70 - 130	30
Bromodichloromethane	ND	0.50	104	112	7.4				70 - 130	30
Bromoform	ND	1.0	107	112	4.6				70 - 130	30
Bromomethane	ND	1.0	106	115	8.1				70 - 130	30
Carbon Disulfide	ND	1.0	103	111	7.5				70 - 130	30
Carbon tetrachloride	ND	1.0	103	110	6.6				70 - 130	30
Chlorobenzene	ND	1.0	100	104	3.9				70 - 130	30
Chloroethane	ND	1.0	101	105	3.9				70 - 130	30
Chloroform	ND	1.0	98	105	6.9				70 - 130	30
Chloromethane	ND	1.0	99	104	4.9				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	98	110	11.5				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	102	107	4.8				70 - 130	30
Dibromochloromethane	ND	0.50	102	110	7.5				70 - 130	30
Dibromomethane	ND	1.0	100	106	5.8				70 - 130	30
Dichlorodifluoromethane	ND	1.0	93	100	7.3				70 - 130	30
Ethylbenzene	ND	1.0	102	106	3.8				70 - 130	30
Hexachlorobutadiene	ND	0.40	101	101	0.0				70 - 130	30
Isopropylbenzene	ND	1.0	105	104	1.0				70 - 130	30
m&p-Xylene	ND	1.0	100	104	3.9				70 - 130	30
Methyl ethyl ketone	ND	5.0	69	81	16.0				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	104	112	7.4				70 - 130	30
Methylene chloride	ND	1.0	94	102	8.2				70 - 130	30
Naphthalene	ND	1.0	109	111	1.8				70 - 130	30
n-Butylbenzene	ND	1.0	103	103	0.0				70 - 130	30
n-Propylbenzene	ND	1.0	96	97	1.0				70 - 130	30
o-Xylene	ND	1.0	103	107	3.8				70 - 130	30
p-Isopropyltoluene	ND	1.0	105	103	1.9				70 - 130	30
sec-Butylbenzene	ND	1.0	108	108	0.0				70 - 130	30
Styrene	ND	1.0	102	109	6.6				70 - 130	30
tert-Butylbenzene	ND	1.0	105	106	0.9				70 - 130	30
Tetrachloroethene	ND	1.0	94	102	8.2				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	99	108	8.7				70 - 130	30
Toluene	ND	1.0	101	105	3.9				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	103	110	6.6				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	102	109	6.6				70 - 130	30

QA/QC Data

SDG I.D.: GBK23143

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
trans-1,4-dichloro-2-butene	ND	5.0	123	126	2.4				70 - 130	30
Trichloroethene	ND	1.0	101	107	5.8				70 - 130	30
Trichlorofluoromethane	ND	1.0	99	107	7.8				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	102	106	3.8				70 - 130	30
Vinyl chloride	ND	1.0	99	107	7.8				70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	101	98	3.0				70 - 130	30
% Bromofluorobenzene	99	%	102	103	1.0				70 - 130	30
% Dibromofluoromethane	101	%	94	103	9.1				70 - 130	30
% Toluene-d8	101	%	100	101	1.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Batch 326847 (ug/L), QC Sample No: BK23155 (BK23155, BK23156, BK23157)

Semivolatiles (SIM) - Ground Water

1,2,4,5-Tetrachlorobenzene	ND	0.50	66	78	16.7				30 - 130	20
2-Methylnaphthalene	ND	0.02	75	87	14.8				30 - 130	20
Acenaphthene	ND	0.02	86	94	8.9				30 - 130	20
Acenaphthylene	ND	0.02	74	83	11.5				30 - 130	20
Anthracene	ND	0.02	101	101	0.0				30 - 130	20
Benz(a)anthracene	ND	0.02	88	88	0.0				30 - 130	20
Benzo(a)pyrene	ND	0.02	88	88	0.0				30 - 130	20
Benzo(b)fluoranthene	ND	0.02	104	94	10.1				30 - 130	20
Benzo(ghi)perylene	ND	0.02	98	96	2.1				30 - 130	20
Benzo(k)fluoranthene	ND	0.02	98	97	1.0				30 - 130	20
Bis(2-ethylhexyl)phthalate	0.07	0.05	88	89	1.1				30 - 130	20
Chrysene	ND	0.02	92	92	0.0				30 - 130	20
Dibenz(a,h)anthracene	ND	0.01	98	97	1.0				30 - 130	20
Fluoranthene	ND	0.02	105	104	1.0				30 - 130	20
Fluorene	ND	0.02	92	96	4.3				30 - 130	20
Hexachlorobenzene	ND	0.02	94	95	1.1				30 - 130	20
Hexachlorobutadiene	ND	0.05	43	56	26.3				30 - 130	20 r
Hexachloroethane	ND	0.05	33	52	44.7				30 - 130	20 r
Indeno(1,2,3-cd)pyrene	ND	0.02	92	90	2.2				30 - 130	20
Naphthalene	ND	0.02	52	65	22.2				30 - 130	20 r
Nitrobenzene	ND	0.05	54	68	23.0				30 - 130	20 r
Pentachloronitrobenzene	ND	0.10	97	98	1.0				30 - 130	20
Pentachlorophenol	ND	0.20	98	97	1.0				30 - 130	20
Phenanthrene	ND	0.02	98	98	0.0				30 - 130	20
Pyrene	ND	0.02	106	105	0.9				30 - 130	20
Pyridine	ND	0.50	40	47	16.1				30 - 130	20
% 2,4,6-Tribromophenol	68	%	99	100	1.0				15 - 110	20
% 2-Fluorobiphenyl	42	%	70	81	14.6				30 - 130	20
% 2-Fluorophenol	36	%	35	46	27.2				15 - 110	20 r
% Nitrobenzene-d5	39	%	52	64	20.7				30 - 130	20 r
% Phenol-d5	44	%	58	64	9.8				15 - 110	20
% Terphenyl-d14	86	%	95	94	1.1				30 - 130	20

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)



## QA/QC Data

SDG I.D.: GBK23143

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
	Blank	RL									
QA/QC Batch 326847 (ug/L), QC Sample No: BK23155 (BK23155, BK23156, BK23157)											
<b>Semivolatiles - Ground Water</b>											
1,2,4-Trichlorobenzene	ND	3.5	46	59	24.8				30 - 130	20	r
1,2-Dichlorobenzene	ND	1.0	29	48	49.4				30 - 130	20	l,r
1,2-Diphenylhydrazine	ND	1.6	83	86	3.6				30 - 130	20	
1,3-Dichlorobenzene	ND	1.0	28	47	50.7				30 - 130	20	l,r
1,4-Dichlorobenzene	ND	1.0	28	47	50.7				30 - 130	20	l,r
2,4,5-Trichlorophenol	ND	1.0	90	95	5.4				30 - 130	20	
2,4,6-Trichlorophenol	ND	1.0	84	96	13.3				30 - 130	20	
2,4-Dichlorophenol	ND	1.0	71	80	11.9				30 - 130	20	
2,4-Dimethylphenol	ND	1.0	71	79	10.7				30 - 130	20	
2,4-Dinitrophenol	ND	1.0	100	98	2.0				30 - 130	20	
2,4-Dinitrotoluene	ND	3.5	95	93	2.1				30 - 130	20	
2,6-Dinitrotoluene	ND	3.5	84	85	1.2				30 - 130	20	
2-Chloronaphthalene	ND	3.5	69	79	13.5				30 - 130	20	
2-Chlorophenol	ND	1.0	41	52	23.7				30 - 130	20	r
2-Methylphenol (o-cresol)	ND	1.0	55	65	16.7				30 - 130	20	
2-Nitroaniline	ND	3.5	84	94	11.2				30 - 130	20	
2-Nitrophenol	ND	1.0	49	62	23.4				30 - 130	20	r
3&4-Methylphenol (m&p-cresol)	ND	1.0	61	72	16.5				30 - 130	20	
3,3'-Dichlorobenzidine	ND	5.0	10	42	123.1				30 - 130	20	l,r
3-Nitroaniline	ND	5.0	42	74	55.2				30 - 130	20	r
4,6-Dinitro-2-methylphenol	ND	1.0	105	102	2.9				30 - 130	20	
4-Bromophenyl phenyl ether	ND	3.5	90	89	1.1				30 - 130	20	
4-Chloro-3-methylphenol	ND	1.0	90	92	2.2				30 - 130	20	
4-Chloroaniline	ND	3.5	32	62	63.8				30 - 130	20	r
4-Chlorophenyl phenyl ether	ND	1.0	76	82	7.6				30 - 130	20	
4-Nitroaniline	ND	5.0	89	93	4.4				30 - 130	20	
4-Nitrophenol	ND	1.0	104	97	7.0				15 - 130	20	
Acetophenone	ND	3.5	49	62	23.4				30 - 130	20	r
Aniline	ND	3.5	33	41	21.6				30 - 130	20	r
Benzidine	ND	4.5	<10	<10	NC				30 - 130	20	l
Benzoic acid	ND	10	136	120	12.5				30 - 130	20	l
Benzyl butyl phthalate	ND	1.5	90	95	5.4				30 - 130	20	
Bis(2-chloroethoxy)methane	ND	3.5	59	74	22.6				30 - 130	20	r
Bis(2-chloroethyl)ether	ND	1.0	32	47	38.0				30 - 130	20	r
Bis(2-chloroisopropyl)ether	ND	1.0	36	49	30.6				30 - 130	20	r
Carbazole	ND	5.0	84	93	10.2				30 - 130	20	
Dibenzofuran	ND	3.5	82	88	7.1				30 - 130	20	
Diethyl phthalate	ND	1.5	91	92	1.1				30 - 130	20	
Dimethylphthalate	ND	1.5	85	89	4.6				30 - 130	20	
Di-n-butylphthalate	ND	1.5	98	98	0.0				30 - 130	20	
Di-n-octylphthalate	ND	1.5	92	97	5.3				30 - 130	20	
Hexachlorocyclopentadiene	ND	3.5	29	39	29.4				30 - 130	20	l,r
Isophorone	ND	3.5	60	75	22.2				30 - 130	20	r
N-Nitrosodimethylamine	ND	1.0	19	35	59.3				30 - 130	20	l,r
N-Nitrosodi-n-propylamine	ND	3.5	55	66	18.2				30 - 130	20	
N-Nitrosodiphenylamine	ND	3.5	70	78	10.8				30 - 130	20	
Phenol	ND	1.0	52	59	12.6				15 - 130	20	
% 2,4,6-Tribromophenol	59	%	104	102	1.9				15 - 110	20	
% 2-Fluorobiphenyl	39	%	65	76	15.6				30 - 130	20	
% 2-Fluorophenol	27	%	26	36	32.3				15 - 110	20	r

QA/QC Data

SDG I.D.: GBK23143

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
	Blank	RL									
% Nitrobenzene-d5	34	%	45	57	23.5				30 - 130	20	r
% Phenol-d5	35	%	44	52	16.7				15 - 110	20	
% Terphenyl-d14	72	%	93	91	2.2				30 - 130	20	

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 327236 (ug/kg), QC Sample No: BK23192 (BK23152, BK23153 (50X) )

Volatiles - Solid

1,1,1,2-Tetrachloroethane	ND	5.0	93	95	2.1	83	89	7.0	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	100	94	6.2	84	94	11.2	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	96	101	5.1	87	96	9.8	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	96	97	1.0	85	94	10.1	70 - 130	30	
1,1-Dichloroethane	ND	5.0	100	93	7.3	85	97	13.2	70 - 130	30	
1,1-Dichloroethene	ND	5.0	105	98	6.9	84	93	10.2	70 - 130	30	
1,1-Dichloropropene	ND	5.0	100	97	3.0	93	102	9.2	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	93	94	1.1	78	92	16.5	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	94	96	2.1	81	89	9.4	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	91	93	2.2	78	93	17.5	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	90	90	0.0	84	91	8.0	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	91	93	2.2	75	82	8.9	70 - 130	30	
1,2-Dibromoethane	ND	5.0	91	95	4.3	83	89	7.0	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	92	93	1.1	83	93	11.4	70 - 130	30	
1,2-Dichloroethane	ND	5.0	90	88	2.2	76	84	10.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0	97	97	0.0	92	100	8.3	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	94	93	1.1	88	95	7.7	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	93	95	2.1	84	93	10.2	70 - 130	30	
1,3-Dichloropropane	ND	5.0	91	93	2.2	83	90	8.1	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	91	93	2.2	83	90	8.1	70 - 130	30	
2,2-Dichloropropane	ND	5.0	102	93	9.2	81	89	9.4	70 - 130	30	
2-Chlorotoluene	ND	5.0	94	97	3.1	89	95	6.5	70 - 130	30	
2-Hexanone	ND	25	78	83	6.2	68	75	9.8	70 - 130	30	m
2-Isopropyltoluene	ND	5.0	96	94	2.1	89	98	9.6	70 - 130	30	
4-Chlorotoluene	ND	5.0	94	94	0.0	86	94	8.9	70 - 130	30	
4-Methyl-2-pentanone	ND	25	87	90	3.4	76	86	12.3	70 - 130	30	
Acetone	ND	10	73	71	2.8	51	60	16.2	70 - 130	30	m
Acrylonitrile	ND	5.0	104	98	5.9	85	100	16.2	70 - 130	30	
Benzene	ND	1.0	96	94	2.1	90	99	9.5	70 - 130	30	
Bromobenzene	ND	5.0	94	95	1.1	85	92	7.9	70 - 130	30	
Bromochloromethane	ND	5.0	102	96	6.1	86	100	15.1	70 - 130	30	
Bromodichloromethane	ND	5.0	98	95	3.1	81	90	10.5	70 - 130	30	
Bromoform	ND	5.0	98	99	1.0	73	81	10.4	70 - 130	30	
Bromomethane	ND	5.0	105	95	10.0	67	85	23.7	70 - 130	30	m
Carbon Disulfide	ND	5.0	117	107	8.9	84	95	12.3	70 - 130	30	
Carbon tetrachloride	ND	5.0	106	99	6.8	80	90	11.8	70 - 130	30	
Chlorobenzene	ND	5.0	95	94	1.1	86	95	9.9	70 - 130	30	
Chloroethane	ND	5.0	106	97	8.9	50	59	16.5	70 - 130	30	m
Chloroform	ND	5.0	98	91	7.4	83	93	11.4	70 - 130	30	
Chloromethane	ND	5.0	101	93	8.2	89	104	15.5	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	102	95	7.1	89	100	11.6	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	96	96	0.0	85	93	9.0	70 - 130	30	
Dibromochloromethane	ND	3.0	98	101	3.0	81	90	10.5	70 - 130	30	
Dibromomethane	ND	5.0	95	90	5.4	80	89	10.7	70 - 130	30	

QA/QC Data

SDG I.D.: GBK23143

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Dichlorodifluoromethane	ND	5.0	102	94	8.2	92	112	19.6	70 - 130	30
Ethylbenzene	ND	1.0	96	96	0.0	90	100	10.5	70 - 130	30
Hexachlorobutadiene	ND	5.0	89	91	2.2	84	96	13.3	70 - 130	30
Isopropylbenzene	ND	1.0	94	96	2.1	92	97	5.3	70 - 130	30
m&p-Xylene	ND	2.0	94	93	1.1	87	97	10.9	70 - 130	30
Methyl ethyl ketone	ND	5.0	89	92	3.3	74	92	21.7	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	105	102	2.9	92	103	11.3	70 - 130	30
Methylene chloride	ND	5.0	85	78	8.6	71	83	15.6	70 - 130	30
Naphthalene	ND	5.0	97	101	4.0	82	99	18.8	70 - 130	30
n-Butylbenzene	ND	1.0	90	93	3.3	85	94	10.1	70 - 130	30
n-Propylbenzene	ND	1.0	87	91	4.5	84	91	8.0	70 - 130	30
o-Xylene	ND	2.0	95	95	0.0	87	98	11.9	70 - 130	30
p-Isopropyltoluene	ND	1.0	93	94	1.1	88	97	9.7	70 - 130	30
sec-Butylbenzene	ND	1.0	96	97	1.0	92	100	8.3	70 - 130	30
Styrene	ND	5.0	96	94	2.1	86	97	12.0	70 - 130	30
tert-Butylbenzene	ND	1.0	95	94	1.1	88	95	7.7	70 - 130	30
Tetrachloroethene	ND	5.0	90	92	2.2	83	95	13.5	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	98	97	1.0	85	93	9.0	70 - 130	30
Toluene	ND	1.0	95	95	0.0	88	99	11.8	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	105	99	5.9	92	105	13.2	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	97	97	0.0	80	88	9.5	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	105	107	1.9	84	95	12.3	70 - 130	30
Trichloroethene	ND	5.0	100	99	1.0	92	100	8.3	70 - 130	30
Trichlorofluoromethane	ND	5.0	97	90	7.5	41	47	13.6	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	102	96	6.1	83	89	7.0	70 - 130	30
Vinyl chloride	ND	5.0	110	102	7.5	94	112	17.5	70 - 130	30
% 1,2-dichlorobenzene-d4	100	%	100	101	1.0	99	100	1.0	70 - 130	30
% Bromofluorobenzene	95	%	99	98	1.0	95	99	4.1	70 - 130	30
% Dibromofluoromethane	99	%	106	103	2.9	95	98	3.1	70 - 130	30
% Toluene-d8	97	%	99	99	0.0	99	100	1.0	70 - 130	30

m

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Batch 326844 (mg/Kg), QC Sample No: BK23230 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

TPH by GC (Extractable Products) - Solid

Unidentified	ND	50	77	67	13.9	72	76	5.4	60 - 120	30
% n-Pentacosane	13	%	82	62	27.8	72	75	4.1	50 - 150	30

QA/QC Batch 326842 (ug/Kg), QC Sample No: BK23236 2X (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

Polychlorinated Biphenyls - Solid

PCB-1016	ND	33	73	75	2.7	87	81	7.1	40 - 140	30
PCB-1221	ND	33							40 - 140	30
PCB-1232	ND	33							40 - 140	30
PCB-1242	ND	33							40 - 140	30
PCB-1248	ND	33							40 - 140	30
PCB-1254	ND	33							40 - 140	30
PCB-1260	ND	33	95	96	1.0	100	94	6.2	40 - 140	30
PCB-1262	ND	33							40 - 140	30
PCB-1268	ND	33							40 - 140	30
% DCBP (Surrogate Rec)	95	%	109	106	2.8	113	105	7.3	30 - 150	30
% TCMX (Surrogate Rec)	88	%	90	89	1.1	100	95	5.1	30 - 150	30

QA/QC Data

SDG I.D.: GBK23143

Parameter	Blk		LCS %	LCS D %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
	Blank	RL									
QA/QC Batch 326841 (ug/Kg), QC Sample No: BK23236 (BK23147, BK23148, BK23149, BK23150, BK23151)											
<b>Semivolatiles - Solid</b>											
1,2,4,5-Tetrachlorobenzene	ND	230	73	74	1.4	51	48	6.1	30 - 130	30	
1,2,4-Trichlorobenzene	ND	230	68	73	7.1	52	44	16.7	30 - 130	30	
1,2-Dichlorobenzene	ND	180	60	64	6.5	46	38	19.0	30 - 130	30	
1,2-Diphenylhydrazine	ND	230	83	75	10.1	53	56	5.5	30 - 130	30	
1,3-Dichlorobenzene	ND	230	56	64	13.3	41	36	13.0	30 - 130	30	
1,4-Dichlorobenzene	ND	230	58	64	9.8	41	37	10.3	30 - 130	30	
2,4,5-Trichlorophenol	ND	230	80	79	1.3	59	54	8.8	30 - 130	30	
2,4,6-Trichlorophenol	ND	130	74	73	1.4	52	47	10.1	30 - 130	30	
2,4-Dichlorophenol	ND	130	78	84	7.4	58	52	10.9	30 - 130	30	
2,4-Dimethylphenol	ND	230	76	76	0.0	60	55	8.7	30 - 130	30	
2,4-Dinitrophenol	ND	230	<10	15	NC	54	40	29.8	30 - 130	30	
2,4-Dinitrotoluene	ND	130	83	85	2.4	57	55	3.6	30 - 130	30	
2,6-Dinitrotoluene	ND	130	80	87	8.4	55	52	5.6	30 - 130	30	
2-Chloronaphthalene	ND	230	72	69	4.3	54	48	11.8	30 - 130	30	
2-Chlorophenol	ND	230	70	77	9.5	49	43	13.0	30 - 130	30	
2-Methylnaphthalene	ND	230	77	79	2.6	55	51	7.5	30 - 130	30	
2-Methylphenol (o-cresol)	ND	230	72	72	0.0	55	45	20.0	30 - 130	30	
2-Nitroaniline	ND	330	89	79	11.9	53	61	14.0	30 - 130	30	
2-Nitrophenol	ND	230	77	78	1.3	57	53	7.3	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	230	78	78	0.0	59	51	14.5	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	76	78	2.6	62	56	10.2	30 - 130	30	
3-Nitroaniline	ND	330	79	81	2.5	53	52	1.9	30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	230	27	39	36.4	67	51	27.1	30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	80	89	10.7	56	52	7.4	30 - 130	30	
4-Chloro-3-methylphenol	ND	230	88	89	1.1	61	60	1.7	30 - 130	30	
4-Chloroaniline	ND	230	79	76	3.9	52	52	0.0	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	230	70	74	5.6	52	48	8.0	30 - 130	30	
4-Nitroaniline	ND	230	91	76	18.0	58	59	1.7	30 - 130	30	
4-Nitrophenol	ND	230	89	80	10.7	55	59	7.0	30 - 130	30	
Acenaphthene	ND	230	75	77	2.6	56	50	11.3	30 - 130	30	
Acenaphthylene	ND	130	68	73	7.1	46	43	6.7	30 - 130	30	
Acetophenone	ND	230	71	74	4.1	53	46	14.1	30 - 130	30	
Aniline	ND	330	65	70	7.4	45	41	9.3	30 - 130	30	
Anthracene	ND	230	84	87	3.5	55	50	9.5	30 - 130	30	
Benz(a)anthracene	ND	230	85	86	1.2	48	40	18.2	30 - 130	30	
Benzidine	ND	330	38	42	10.0	36	30	18.2	30 - 130	30	
Benzo(a)pyrene	ND	130	82	85	3.6	44	38	14.6	30 - 130	30	
Benzo(b)fluoranthene	ND	160	83	91	9.2	46	42	9.1	30 - 130	30	
Benzo(ghi)perylene	ND	230	82	82	0.0	52	40	26.1	30 - 130	30	
Benzo(k)fluoranthene	ND	230	82	88	7.1	47	40	16.1	30 - 130	30	
Benzoic Acid	ND	330	<10	<10	NC	39	26	40.0	30 - 130	30	
Benzyl butyl phthalate	ND	230	88	85	3.5	56	55	1.8	30 - 130	30	
Bis(2-chloroethoxy)methane	ND	230	81	82	1.2	56	50	11.3	30 - 130	30	
Bis(2-chloroethyl)ether	ND	130	59	61	3.3	41	37	10.3	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	230	67	64	4.6	49	44	10.8	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	230	90	90	0.0	58	57	1.7	30 - 130	30	
Carbazole	ND	330	84	87	3.5	57	55	3.6	30 - 130	30	
Chrysene	ND	230	90	95	5.4	49	43	13.0	30 - 130	30	
Dibenz(a,h)anthracene	ND	130	83	82	1.2	58	50	14.8	30 - 130	30	
Dibenzofuran	ND	230	79	81	2.5	56	52	7.4	30 - 130	30	

QA/QC Data

SDG I.D.: GBK23143

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Diethyl phthalate	ND	230	80	76	5.1	53	53	0.0	30 - 130	30
Dimethylphthalate	ND	230	77	82	6.3	53	50	5.8	30 - 130	30
Di-n-butylphthalate	ND	230	86	86	0.0	55	53	3.7	30 - 130	30
Di-n-octylphthalate	ND	230	90	86	4.5	62	57	8.4	30 - 130	30
Fluoranthene	ND	230	85	87	2.3	41	30	31.0	30 - 130	30
Fluorene	ND	230	74	75	1.3	54	51	5.7	30 - 130	30
Hexachlorobenzene	ND	130	86	86	0.0	56	56	0.0	30 - 130	30
Hexachlorobutadiene	ND	230	67	74	9.9	50	45	10.5	30 - 130	30
Hexachlorocyclopentadiene	ND	230	64	62	3.2	43	36	17.7	30 - 130	30
Hexachloroethane	ND	130	60	60	0.0	44	37	17.3	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	83	83	0.0	52	41	23.7	30 - 130	30
Isophorone	ND	130	73	76	4.0	51	48	6.1	30 - 130	30
Naphthalene	ND	230	71	77	8.1	52	47	10.1	30 - 130	30
Nitrobenzene	ND	130	74	70	5.6	55	47	15.7	30 - 130	30
N-Nitrosodimethylamine	ND	230	52	49	5.9	31	31	0.0	30 - 130	30
N-Nitrosodi-n-propylamine	ND	130	75	73	2.7	55	48	13.6	30 - 130	30
N-Nitrosodiphenylamine	ND	130	75	74	1.3	52	50	3.9	30 - 130	30
Pentachloronitrobenzene	ND	230	84	86	2.4	56	55	1.8	30 - 130	30
Pentachlorophenol	ND	230	76	81	6.4	58	46	23.1	30 - 130	30
Phenanthrene	ND	130	82	86	4.8	51	43	17.0	30 - 130	30
Phenol	ND	230	73	76	4.0	53	46	14.1	30 - 130	30
Pyrene	ND	230	85	91	6.8	43	32	29.3	30 - 130	30
Pyridine	ND	230	35	33	5.9	23	22	4.4	30 - 130	30
% 2,4,6-Tribromophenol	64	%	91	80	12.9	59	58	1.7	30 - 130	30
% 2-Fluorobiphenyl	69	%	68	66	3.0	52	44	16.7	30 - 130	30
% 2-Fluorophenol	53	%	61	64	4.8	43	37	15.0	30 - 130	30
% Nitrobenzene-d5	65	%	71	69	2.9	52	45	14.4	30 - 130	30
% Phenol-d5	67	%	71	72	1.4	51	44	14.7	30 - 130	30
% Terphenyl-d14	92	%	82	90	9.3	58	50	14.8	30 - 130	30

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 326890 (ug/Kg), QC Sample No: BK23237 2X (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

Chlorinated Herbicides - Solid

2,4,5-T	ND	8.3	40	40	0.0	45	32	33.8	40 - 140	30
2,4,5-TP (Silvex)	ND	8.3	57	47	19.2	57	44	25.7	40 - 140	30
2,4-D	ND	8.3	40	69	53.2	48	33	37.0	40 - 140	30
2,4-DB	ND	67	84	62	30.1	65	56	14.9	40 - 140	30
Dalapon	ND	8.3	60	48	22.2	54	49	9.7	40 - 140	30
Dicamba	ND	17	96	84	13.3	79	76	3.9	40 - 140	30
Dichloroprop	ND	8.3	106	49	73.5	62	55	12.0	40 - 140	30
Dinoseb	ND	17	90	70	25.0	80	72	10.5	40 - 140	30
% DCAA (Surrogate Rec)	85	%	91	72	23.3	68	65	4.5	30 - 150	30

QA/QC Batch 326730 (ug/Kg), QC Sample No: BK23537 2X (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

Pesticides - Solid

4,4' -DDD	ND	1.7	102	99	3.0	66	59	11.2	40 - 140	30
4,4' -DDE	ND	1.7	97	92	5.3	63	56	11.8	40 - 140	30
4,4' -DDT	ND	1.7	99	96	3.1	64	59	8.1	40 - 140	30
a-BHC	ND	1.0	99	88	11.8	58	50	14.8	40 - 140	30
a-Chlordane	ND	3.3	95	92	3.2	63	56	11.8	40 - 140	30

## QA/QC Data

SDG I.D.: GBK23143

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30
Aldrin	ND	1.0	86	83	3.6	46	48	4.3	40 - 140	30
b-BHC	ND	1.0	104	96	8.0	80	53	40.6	40 - 140	30
Chlordane	ND	33	98	96	2.1	64	54	16.9	40 - 140	30
d-BHC	ND	3.3	83	81	2.4	57	55	3.6	40 - 140	30
Dieldrin	ND	1.0	95	93	2.1	61	56	8.5	40 - 140	30
Endosulfan I	ND	3.3	100	98	2.0	65	57	13.1	40 - 140	30
Endosulfan II	ND	3.3	99	96	3.1	64	58	9.8	40 - 140	30
Endosulfan sulfate	ND	3.3	99	92	7.3	62	56	10.2	40 - 140	30
Endrin	ND	3.3	95	91	4.3	60	53	12.4	40 - 140	30
Endrin aldehyde	ND	3.3	92	91	1.1	58	51	12.8	40 - 140	30
Endrin ketone	ND	3.3	107	104	2.8	67	68	1.5	40 - 140	30
g-BHC	ND	1.0	93	87	6.7	58	51	12.8	40 - 140	30
g-Chlordane	ND	3.3	98	96	2.1	64	54	16.9	40 - 140	30
Heptachlor	ND	3.3	98	94	4.2	64	56	13.3	40 - 140	30
Heptachlor epoxide	ND	3.3	95	91	4.3	65	58	11.4	40 - 140	30
Methoxychlor	ND	3.3	103	98	5.0	66	61	7.9	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	111	%	114	102	11.1	71	71	0.0	30 - 150	30
% TCMX	89	%	95	81	15.9	63	48	27.0	30 - 150	30

QA/QC Batch 327203 (ug/kg), QC Sample No: BK23583 (BK23151 (50X) )

### Volatiles - Solid

1,2,3-Trichlorobenzene	ND	5.0	74	73	1.4	83	81	2.4	70 - 130	30
1,2,3-Trichloropropane	ND	5.0	89	92	3.3	94	94	0.0	70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	77	73	5.3	85	82	3.6	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	81	80	1.2	90	86	4.5	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	83	85	2.4	85	88	3.5	70 - 130	30
1,2-Dichlorobenzene	ND	5.0	85	86	1.2	91	89	2.2	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	88	86	2.3	97	93	4.2	70 - 130	30
1,3-Dichlorobenzene	ND	5.0	87	86	1.2	94	91	3.2	70 - 130	30
1,4-Dichlorobenzene	ND	5.0	86	84	2.4	92	89	3.3	70 - 130	30
2-Chlorotoluene	ND	5.0	90	90	0.0	97	93	4.2	70 - 130	30
2-Isopropyltoluene	ND	5.0	83	83	0.0	93	89	4.4	70 - 130	30
4-Chlorotoluene	ND	5.0	88	87	1.1	96	91	5.3	70 - 130	30
Bromobenzene	ND	5.0	87	89	2.3	94	91	3.2	70 - 130	30
Hexachlorobutadiene	ND	5.0	79	70	12.1	89	84	5.8	70 - 130	30
Isopropylbenzene	ND	1.0	88	89	1.1	98	95	3.1	70 - 130	30
Naphthalene	ND	5.0	78	80	2.5	88	88	0.0	70 - 130	30
n-Butylbenzene	ND	1.0	80	71	11.9	89	83	7.0	70 - 130	30
n-Propylbenzene	ND	1.0	82	81	1.2	91	87	4.5	70 - 130	30
p-Isopropyltoluene	ND	1.0	82	78	5.0	92	87	5.6	70 - 130	30
sec-Butylbenzene	ND	1.0	87	84	3.5	97	93	4.2	70 - 130	30
tert-Butylbenzene	ND	1.0	86	87	1.2	96	91	5.3	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	92	93	1.1	95	97	2.1	70 - 130	30
% 1,2-dichlorobenzene-d4	101	%	99	99	0.0	99	99	0.0	70 - 130	30
% Bromofluorobenzene	96	%	101	101	0.0	100	102	2.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Batch 326888 (ug/L), QC Sample No: BK23656 (BK23155, BK23156, BK23157)

### Polychlorinated Biphenyls - Ground Water

PCB-1016	ND	0.050	78	81	3.8				40 - 140	20
----------	----	-------	----	----	-----	--	--	--	----------	----

QA/QC Data

SDG I.D.: GBK23143

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
PCB-1221	ND	0.050							40 - 140	20
PCB-1232	ND	0.050							40 - 140	20
PCB-1242	ND	0.050							40 - 140	20
PCB-1248	ND	0.050							40 - 140	20
PCB-1254	ND	0.050							40 - 140	20
PCB-1260	ND	0.050	85	87	2.3				40 - 140	20
PCB-1262	ND	0.050							40 - 140	20
PCB-1268	ND	0.050							40 - 140	20
% DCBP (Surrogate Rec)	74	%	88	99	11.8				30 - 150	20
% TCMX (Surrogate Rec)	67	%	89	86	3.4				30 - 150	20

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 327302 (mg/L), QC Sample No: BK25245 (BK23156)

TPH by GC (Extractable Products) - Ground Water

Unidentified	ND	0.070	66	68	3.0				60 - 120	30
% n-Pentacosane	66	%	65	70	7.4				50 - 150	20

Comment:

The MS/MSD could not be reported due to the presence of ETPH in the original sample. The LCS /LCSD were within method criteria.

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

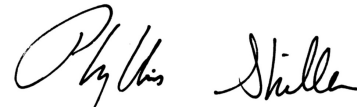
LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference



Phyllis Shiller, Laboratory Director

November 25, 2015

# Sample Criteria Exceedences Report

Criteria: CT: GBM, GWP, RC, SWP

## GBK23143 - MAGU-DAS

State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
BK23144	PB-SM	Lead	CT / INORGANIC SUBSTANCES / RES DEC (mg/kg)	526	3.5	400	400	mg/Kg
BK23144	TCLP-PB	TCLP Lead	CT / INORGANIC SUBSTANCES / GB PMC (mg/l)**	0.60	0.10	0.15	0.15	mg/L
BK23145	TCLP-PB	TCLP Lead	CT / INORGANIC SUBSTANCES / GB PMC (mg/l)**	0.29	0.10	0.15	0.15	mg/L
BK23146	\$8270-SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1500	260	1000	1000	ug/Kg
BK23146	\$8270-SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1600	260	1000	1000	ug/Kg
BK23146	\$8270-SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1700	260	1000	1000	ug/Kg
BK23146	\$8270-SMR	Benzo(k)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1600	260	1000	1000	ug/Kg
BK23146	\$8270-SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	1500	260	1000	1000	ug/Kg
BK23146	\$8270-SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	1600	260	1000	1000	ug/Kg
BK23146	\$8270-SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	1700	260	1000	1000	ug/Kg
BK23146	TCLP-PB	TCLP Lead	CT / INORGANIC SUBSTANCES / GB PMC (mg/l)**	0.44	0.10	0.15	0.15	mg/L
BK23147	\$8270-SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	2000	270	1000	1000	ug/Kg
BK23147	\$8270-SMR	Benzo(k)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	2900	270	1000	1000	ug/Kg
BK23147	\$8270-SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	4300	270	1000	1000	ug/Kg
BK23147	\$8270-SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	2100	270	1000	1000	ug/Kg
BK23147	\$8270-SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	2100	270	1000	1000	ug/Kg
BK23147	\$8270-SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	4300	270	1000	1000	ug/Kg
BK23147	\$8270-SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	2000	270	1000	1000	ug/Kg
BK23147	AS-SM	Arsenic	CT / INORGANIC SUBSTANCES / RES DEC (mg/kg)	30.5	0.7	10	10	mg/Kg
BK23147	PB-SM	Lead	CT / INORGANIC SUBSTANCES / RES DEC (mg/kg)	485	3.6	400	400	mg/Kg
BK23148	HG-SM	Mercury	CT / INORGANIC SUBSTANCES / RES DEC (mg/kg)	143	2.9	20	20	mg/Kg
BK23148	PB-SM	Lead	CT / INORGANIC SUBSTANCES / RES DEC (mg/kg)	921	3.6	400	400	mg/Kg
BK23148	TCLP-PB	TCLP Lead	CT / INORGANIC SUBSTANCES / GB PMC (mg/l)**	1.56	0.10	0.15	0.15	mg/L
BK23149	AS-SM	Arsenic	CT / INORGANIC SUBSTANCES / RES DEC (mg/kg)	19.3	0.7	10	10	mg/Kg
BK23150	TCLP-PB	TCLP Lead	CT / INORGANIC SUBSTANCES / GB PMC (mg/l)**	0.20	0.10	0.15	0.15	mg/L
BK23151	\$8270-SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1200	290	1000	1000	ug/Kg
BK23151	\$8270-SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1800	290	1000	1000	ug/Kg
BK23151	\$8270-SMR	Benzo(k)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1600	290	1000	1000	ug/Kg
BK23151	\$8270-SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1100	290	1000	1000	ug/Kg
BK23151	\$8270-SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	1200	290	1000	1000	ug/Kg
BK23151	\$8270-SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	1800	290	1000	1000	ug/Kg
BK23151	\$8270-SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	1100	290	1000	1000	ug/Kg
BK23151	AS-SM	Arsenic	CT / INORGANIC SUBSTANCES / RES DEC (mg/kg)	19.1	0.8	10	10	mg/Kg
BK23151	PB-SM	Lead	CT / INORGANIC SUBSTANCES / RES DEC (mg/kg)	509	4.0	400	400	mg/Kg
BK23151	TCLP-PB	TCLP Lead	CT / INORGANIC SUBSTANCES / GB PMC (mg/l)**	0.24	0.10	0.15	0.15	mg/L
BK23153	\$8260MER	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GB PMC (mg/k)	ND	250	100	100	ug/Kg



Criteria: CT: GBM, GWP, RC, SWP

State: CT

## Sample Criteria Exceedences Report

**GBK23143 - MAGU-DAS**

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
BK23153	\$8260MER	Dibromochloromethane	CT / VOLATILE ORGANIC COMPOUND / GB PMC (mg/k	ND	250	100	100	ug/Kg
BK23153	\$8260MER	Benzene	CT / VOLATILE ORGANIC COMPOUND / GB PMC (mg/k	ND	250	200	200	ug/Kg
BK23153	\$8260MER	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GB PMC (mg/k	ND	500	100	100	ug/Kg
BK23153	\$8260MER	1,2-Dichloroethane	CT / VOLATILE ORGANIC COMPOUND / GB PMC (mg/k	ND	250	200	200	ug/Kg
BK23153	\$8260MER	1,1,2,2-Tetrachloroethane	CT / VOLATILE ORGANIC COMPOUND / GB PMC (mg/k	ND	250	100	100	ug/Kg
BK23153	\$8260MER	1,1,1,2-Tetrachloroethane	CT / VOLATILE ORGANIC COMPOUND / GB PMC (mg/k	ND	250	200	200	ug/Kg
BK23153	\$8260MER	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / RES DEC (mg/	ND	250	7	7	ug/Kg
BK23154	\$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	1.0	0.05	0.05	ug/L
BK23154	\$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	5.0	0.5	0.5	ug/L
BK23155	\$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	1.0	0.05	0.05	ug/L
BK23155	\$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	5.0	0.5	0.5	ug/L
BK23156	\$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	1.0	0.05	0.05	ug/L
BK23156	\$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	5.0	0.5	0.5	ug/L
BK23157	\$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	5.0	0.5	0.5	ug/L
BK23157	\$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	1.0	0.05	0.05	ug/L

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.

# Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

**Laboratory Name:** Phoenix Environmental Labs, Inc. **Client:** CDR Group Inc.

**Project Location:** NEW HAVEN UNION STATION G **Project Number:**

**Laboratory Sample ID(s):** BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151, BK23152, BK23153, BK23154, BK23155, BK23156, BK23157

**Sampling Date(s):** 11/15/2015

**RCP Methods Used:**

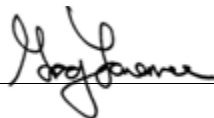
- 1311/1312     6010     7000     7196     7470/7471     8081     EPH     TO15  
 8082     8151     8260     8270     ETPH     9010/9012     VPH

1.	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1a.	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b.	EPH and VPH methods only: Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
2.	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3.	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
4.	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Sections: Herbicide Narration, ICP Narration, PEST Narration, SVOA Narration, SVOASIM Narration, VOA Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5a.	Were reporting limits specified or referenced on the chain-of-custody?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5b.	Were these reporting limits met?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
6.	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
7.	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA

**Note:** For all questions to which the response was "No" (with the exception of question #5a, #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

**I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.**

Authorized  
Signature:



Date: Wednesday, November 25, 2015

Printed Name: Greg Lawrence

Position: Assistant Lab Director



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



# RCP Certification Report

November 25, 2015

SDG I.D.: GBK23143

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## Metals Analysis:

The client requested a shorter list of elements than the 6010 RCP list. The following analytes were not reported: Antimony, Beryllium, Copper, Nickel, Thallium, Vanadium, Zinc.

Volatile 8260 analysis: BK23154, BK23155, BK23156, BK23157

The reporting level for Acrylonitrile is above the GWP criteria.

1,2-Dibromoethane does not meet GWP criteria, this compound is analyzed by GC/ECD to achieve this criteria.

Volatile 8260 analysis: BK23153

This sample is a high level trip blank and not all of the requested criteria can be achieved on this type of sample.

## Selenium Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

**Instrument:** Zeeman 11/19/15-1 (BK23155, BK23156, BK23157)

**Printed Name** Rick Schweitzer

**Position:** Chemist

**Date:** 11/19/2015

## **QC (Batch Specific)**

----- Sample No: BK22819, QA/QC Batch: 326756 -----

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

## ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

**Instrument:** Au-fid1 11/16/15-2 (BK23143, BK23144, BK23145, BK23149, BK23150)

The initial calibration (ETPHN03I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (N16A015\_1) and contained the following outliers:  
C36 (112.6%L)

The continuing calibration %D for the compound list was less than 30% except for the following compounds: None.



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# RCP Certification Report

November 25, 2015

SDG I.D.: GBK23143

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**Printed Name** Jeff Bucko  
**Position:** Chemist  
**Date:** 11/16/2015

**Instrument:** Au-fid1 11/18/15-1 (BK23147, BK23151)

The initial calibration (ETPHN03I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (N18A003\_1) and contained the following outliers: None.

The continuing calibration %D for the compound list was less than 30% except for the following compounds:

Samples: BK23147, BK23151

Preceding CC N18A003 - None.

Succeeding CC N18A015 - ETPH (C9-C36) (33%H)

**Printed Name** Jeff Bucko  
**Position:** Chemist  
**Date:** 11/18/2015

**Instrument:** Aufid-d1 11/17/15-1 (BK23155, BK23157)

Initial Calibration (FID1 - ETPH\_1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

As per section 7.2.3, a discrimination check standard was run and contained the following outliers: None

The initial calibration (ETPHN16I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (N17B012\_1) and contained the following outliers:  
C36 (33.3%L)

The continuing calibration %D for the compound list was less than 30% except for the following compounds: None.

**Printed Name** Jeff Bucko  
**Position:** Chemist  
**Date:** 11/17/2015

**Instrument:** Aufid-d1 11/21/15-1 (BK23156)

Initial Calibration (FID1 - ETPH\_1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

As per section 7.2.3, a discrimination check standard was run and contained the following outliers: None

The initial calibration (ETPHN16I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (N21B002\_2) and contained the following outliers:  
C36 (66.4%L)

The continuing calibration %D for the compound list was less than 30% except for the following compounds: None.



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# RCP Certification Report

November 25, 2015

SDG I.D.: GBK23143

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**Printed Name** Jeff Bucko  
**Position:** Chemist  
**Date:** 11/21/2015

**Instrument:** Au-x12 11/17/15-1 (BK23146, BK23148)

Initial Calibration (FID1 - ETPH\_1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

As per section 7.2.3, a discrimination check standard was run and contained the following outliers: None

The initial calibration (ETPHO23I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (N17A003\_1) and contained the following outliers: None.

The continuing calibration %D for the compound list was less than 30% except for the following compounds: None.

**Printed Name** Jeff Bucko  
**Position:** Chemist  
**Date:** 11/17/2015

**QC Comments:** QC Batch 326755 11/13/15 (BK23155, BK23156, BK23157)

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

**QC Comments:** QC Batch 327302 11/19/15 (BK23156)

The MS/MSD could not be reported due to the presence of ETPH in the original sample. The LCS /LCSD were within method criteria.



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# RCP Certification Report

November 25, 2015

SDG I.D.: GBK23143

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## QC (Batch Specific)

----- Sample No: BK22573, QA/QC Batch: 326755 -----

All LCS recoveries were within 60 - 120 with the following exceptions: None.

All LCSD recoveries were within 60 - 120 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK23230, QA/QC Batch: 326844 -----

All LCS recoveries were within 60 - 120 with the following exceptions: None.

All LCSD recoveries were within 60 - 120 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK25245, QA/QC Batch: 327302 -----

All LCS recoveries were within 60 - 120 with the following exceptions: None.

All LCSD recoveries were within 60 - 120 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

## Herbicide Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 326378 (Samples: BK23155, BK23156, BK23157): -----**

**The LCS/LCSD RPD exceeds the method criteria for one analyte, but this analyte was not reported in the sample(s) so no variability is suspected. (Dalapon)**

**QC Batch 326890 (Samples: BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151): -----**

**The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (2,4-D, 2,4-DB, Dichloroprop)**

**Instrument:** Au-ecd12 11/17/15-1 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

The initial calibration (HRBO09AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (HRBO09BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds:

Samples: BK23146, BK23147, BK23148, BK23149, BK23150



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Preceding CC N17B016 - None.

Succeeding CC N17B028 - MCPP (5) (31%L)

A low "1A" standard was run to demonstrate capability to detect these compounds at the indicated RL. All reported samples were ND for these compounds.

Samples: BK23151

Preceding CC N17B028 - MCPP (5) (31%L)

Succeeding CC N17B035 - mcpa (6) (19%L), MCPP (5) (19%L)

A low "1A" standard was run to demonstrate capability to detect these compounds at the indicated RL. All reported samples were ND for these compounds.

**Printed Name** Brian Bilodeau

**Position:** Chemist

**Date:** 11/17/2015

**Instrument:** Au-ecd12 11/18/15-1 (BK23155, BK23156, BK23157)

The initial calibration (HRBO09AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (HRBO09BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds:

Samples: BK23155, BK23156, BK23157

Preceding CC N18B027 - MCPP (5) (20%L)

Succeeding CC N18B041 - mcpa (6) (18%L), MCPP (5) (23%L)

A low "1A" standard was run to demonstrate capability to detect these compounds at the indicated RL. All reported samples were ND for these compounds.

**Printed Name** Brian Bilodeau

**Position:** Chemist

**Date:** 11/18/2015



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## QC (Batch Specific)

----- Sample No: BK20072, QA/QC Batch: 326378 -----

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: Dalapon(61.0%)

----- Sample No: BK23237, QA/QC Batch: 326890 -----

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: 2,4-D(53.2%), Dichloroprop(73.5%)

## Mercury Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

**Instrument:** Merlin 11/17/15-1 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151, BK23155, BK23156, BK23157)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

**Printed Name** Rick Schweitzer

**Position:** Chemist

**Date:** 11/17/2015

**Instrument:** Merlin 11/23/15-1 (BK23155, BK23156, BK23157)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

**Printed Name** Mike Arsenault

**Position:** Chemist

**Date:** 11/23/2015





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**QC (Batch Specific)**

----- Sample No: BK22963, QA/QC Batch: 326913 -----

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

----- Sample No: BK23155, QA/QC Batch: 326908 -----

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

----- Sample No: BK23219, QA/QC Batch: 326905 -----

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK23337, QA/QC Batch: 326906 -----

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK25245, QA/QC Batch: 327092 -----

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.



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## ICP Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 326795 (Samples: BK23143, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151): -----

A trace amount of an analyte was found in blank. Due to the concentration in the blank relative to the samples, no bias is suspected.  
(TCLP Barium - BK23143, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

QC Batch 327676 (Samples: BK23144): -----

A trace amount of an analyte was found in blank. Due to the concentration in the blank relative to the samples, no bias is suspected.  
(TCLP Barium - BK23144)

**Instrument:** Arcos 11/17/15-1 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

**Printed Name** Laura Kinnin  
**Position:** Chemist  
**Date:** 11/17/2015

**Instrument:** Arcos 11/18/15-1 (BK23151)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

**Printed Name** Laura Kinnin  
**Position:** Chemist  
**Date:** 11/18/2015

**Instrument:** Arcos 11/19/15-1 (BK23151)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

**Printed Name** Laura Kinnin  
**Position:** Chemist  
**Date:** 11/19/2015



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**Instrument:** Blue 11/16/15-1 (BK23155, BK23156, BK23157)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

**Printed Name** Laura Kinnin  
**Position:** Chemist  
**Date:** 11/16/2015

**Instrument:** Blue 11/17/15-1 (BK23155, BK23156, BK23157)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

**Printed Name** Laura Kinnin  
**Position:** Chemist  
**Date:** 11/17/2015



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## QC (Batch Specific)

----- Sample No: BK21265, QA/QC Batch: 326879 -----

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK22694, QA/QC Batch: 326795 -----

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

----- Sample No: BK23012, QA/QC Batch: 326884 -----

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

----- Sample No: BK23157, QA/QC Batch: 326893 -----

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

----- Sample No: BK23528, QA/QC Batch: 326861 -----

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK27092, QA/QC Batch: 327676 -----

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.



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### ICPDW

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

**Instrument:** Blue 11/16/15-1 (BK23155, BK23156, BK23157)

The initial calibration met criteria.

The initial continuing calibration standard (CVS) met criteria except for the following elements: (none).

The continuing calibration standards met criteria except for the following reported elements: (none)

The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The CRDL detection level standard was analyzed and was within criteria except for the following elements: (none)

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria except for the following elements: (none)

**Printed Name** Laura Kinnin

**Position:** Chemist

**Date:** 11/16/2015

**Instrument:** Blue 11/17/15-1 (BK23155, BK23156, BK23157)

The initial calibration met criteria.

The initial continuing calibration standard (CVS) met criteria except for the following elements: (none).

The continuing calibration standards met criteria except for the following reported elements: (none)

The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The CRDL detection level standard was analyzed and was within criteria except for the following elements: (none)

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria except for the following elements: (none)

**Printed Name** Laura Kinnin

**Position:** Chemist

**Date:** 11/17/2015

### PCB Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

**Instrument:** Au-ecd3 11/17/15-1 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

The initial calibration (PC1102AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC1102BI) RSD for the compound list was less than 20% except for the following compounds: None.



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The continuing calibration %D for the compound list was less than 15% except for the following compounds: None.

**Printed Name** Adam Werner  
**Position:** Chemist  
**Date:** 11/17/2015

**Instrument:** Au-ecd5 11/17/15-1 (BK23155, BK23156, BK23157)

The initial calibration (PC1106AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC1106BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds: None.

**Printed Name** Adam Werner  
**Position:** Chemist  
**Date:** 11/17/2015

**QC Comments:** QC Batch 326888 11/16/15 (BK23155, BK23156, BK23157)

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

**QC (Batch Specific)**

----- Sample No: BK23236, QA/QC Batch: 326842 -----

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK23656, QA/QC Batch: 326888 -----

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

**PEST Narration**

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 326889 (Samples: BK23155, BK23156, BK23157): -----**

**The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (4,4'-DDE, g-Chlordane)**



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**Instrument:** Au-ecd35 11/17/15-1 (BK23149, BK23150, BK23151, BK23155, BK23156, BK23157)

8081 Narration:

Endrin and DDT breakdown was evaluated and does not exceed 15%.

The initial calibration (PSN16AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSN16BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds: None.

**Printed Name** Carol Eddy  
**Position:** Chemist  
**Date:** 11/17/2015

**Instrument:** Au-ecd4 11/17/15-1 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148)

8081 Narration:

Endrin and DDT breakdown was evaluated and does not exceed 15%.

The initial calibration (PSN05AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSN05BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds: None.

**Printed Name** Carol Eddy  
**Position:** Chemist  
**Date:** 11/17/2015

**QC Comments:** QC Batch 326889 11/16/15 (BK23155, BK23156, BK23157)

A LCS and LCS duplicate were performed instead of a MS and MSD. Alpha and gamma chlordane were spiked and analyzed instead of technical chlordane. Gamma chlordane recovery is reported as chlordane in the LCS and LCSD



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## QC (Batch Specific)

----- Sample No: BK23155, QA/QC Batch: 326889 -----

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: 4,4' -DDE(20.6%), Chlordane(24.2%), g-Chlordane(24.2%)

----- Sample No: BK23537, QA/QC Batch: 326730 -----

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.





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## SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 326726 (Samples: BK23143, BK23144, BK23145, BK23146): -----

The LCSD recovery is below the lower range but within the method criteria. The Batch MS/MSD recoveries are below the criteria. A slight low bias for this compound is possible. (4,6-Dinitro-2-methylphenol)

The LCS/LCSD recoveries for one or more analytes is below the method criteria. A low bias is likely. (2,4-Dinitrophenol, Benzoic Acid)

QC Batch 326841 (Samples: BK23147, BK23148, BK23149, BK23150, BK23151): -----

The LCS/LCSD recoveries for several analytes are below the method criteria. A low bias for these analytes is possible. (2,4-Dinitrophenol, Benzoic Acid)

The LCS recovery is below the lower range but within the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (4,6-Dinitro-2-methylphenol)

The LCS/LCSD RPD exceeds the method criteria for one analyte, but this analyte was not reported in the sample(s) so no variability is suspected. (4,6-Dinitro-2-methylphenol)

QC Batch 326847 (Samples: BK23155, BK23156, BK23157): -----

The LCS/LCSD recovery for one analyte is below the method criteria. A low bias for this analyte is possible. (Benzidine)

The LCS recovery is above the upper range for one analyte that was not reported in the sample(s), therefore no significant bias is suspected. (Benzoic acid)

The LCS recovery is below the lower range but within the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 3,3'-Dichlorobenzidine, Hexachlorocyclopentadiene, N-Nitrosodimethylamine)

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 2-Chlorophenol, 2-Nitrophenol, 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Chloroaniline, Acetophenone, Aniline, Bis(2-chloroethoxy)methane, Bis(2-chloroethyl)ether, Bis(2-chloroisopropyl)ether, Hexachlorocyclopentadiene, Isophorone, N-Nitrosodimethylamine)

The LCS/LCSD RPD exceeds the method criteria for several of the surrogates. No significant bias is suspected. (% 2-Fluorophenol, % Nitrobenzene-d5)

**Instrument:** Chem05 11/19/15-1 (BK23155)

Initial Calibration Verification (CHEM05/SV\_1111):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM05/1119\_02-SV\_1111):



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Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

**Printed Name** Damien Drobinski

**Position:** Chemist

**Date:** 11/19/2015

**Instrument:** Chem06 11/16/15-2 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

Initial Calibration Verification (CHEM06/SV\_1111):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: 2-Nitrophenol (.069)[0.1], Hexachlorobenzene (.099)[0.1]

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM06/1116\_14-SV\_1111):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

99% of target compounds met criteria.

The following compounds did not meet % deviation criteria: Benzoic Acid (40%H)[30%]

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.073)[0.1]

The following compounds did not meet minimum response factors: None.

**Printed Name** Damien Drobinski

**Position:** Chemist

**Date:** 11/16/2015

**Instrument:** Chem06 11/19/15-1 (BK23155, BK23156, BK23157)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

Initial Calibration Verification (CHEM06/SV\_1111):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: 2-Nitrophenol (.069)[0.1], Hexachlorobenzene (.099)[0.1]

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM06/1119\_02-SV\_1111):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

99% of target compounds met criteria.

The following compounds did not meet % deviation criteria: Benzoic Acid (35%H)[30%]



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The following compounds did not meet maximum % deviations: None.  
The following compounds did not meet recommended response factors: 2-nitrophenol (.073)[0.1]  
The following compounds did not meet minimum response factors: None.

**Printed Name** Damien Drobinski  
**Position:** Chemist  
**Date:** 11/19/2015

**Instrument:** Chem19 11/18/15-1 (BK23155)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

Initial Calibration Verification (CHEM19/SV\_1111):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Benzoic Acid (22%)

The following compounds did not meet recommended response factors: 2-Nitrophenol (.079)[0.1], Hexachlorobenzene (.090)[0.1]

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM19/1118\_02-SV\_1111):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.076)[0.1], Hexachlorobenzene (.088)[0.1]

The following compounds did not meet minimum response factors: None.

**Printed Name** Damien Drobinski  
**Position:** Chemist  
**Date:** 11/18/2015



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## QC (Batch Specific)

----- Sample No: BK23004, QA/QC Batch: 326726 -----

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(13%), Benzoic Acid(<10%)

All LCSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(10%), 4,6-Dinitro-2-methylphenol(25%), Benzoic Acid(<10%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK23155, QA/QC Batch: 326847 -----

All LCS recoveries were within 30 - 130 with the following exceptions: 1,2-Dichlorobenzene(29%), 1,3-Dichlorobenzene(28%), 1,4-Dichlorobenzene(28%), 3,3'-Dichlorobenzidine(10%), Benzidine(<10%), Benzoic acid(136%), Hexachlorocyclopentadiene(29%), N-Nitrosodimethylamine(19%)

All LCSD recoveries were within 30 - 130 with the following exceptions: Benzidine(<10%)

All LCS/LCSD RPDs were less than 20% with the following exceptions: % 2-Fluorophenol(32.3%), % Nitrobenzene-d5(23.5%), 1,2,4-Trichlorobenzene(24.8%), 1,2-Dichlorobenzene(49.4%), 1,3-Dichlorobenzene(50.7%), 1,4-Dichlorobenzene(50.7%), 2-Chlorophenol(23.7%), 2-Nitrophenol(23.4%), 3,3'-Dichlorobenzidine(123.1%), 3-Nitroaniline(55.2%), 4-Chloroaniline(63.8%), Acetophenone(23.4%), Aniline(21.6%), Bis(2-chloroethoxy)methane(22.6%), Bis(2-chloroethyl)ether(38.0%), Bis(2-chloroisopropyl)ether(30.6%), Hexachlorocyclopentadiene(29.4%), Isophorone(22.2%), N-Nitrosodimethylamine(59.3%)

----- Sample No: BK23236, QA/QC Batch: 326841 -----

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 4,6-Dinitro-2-methylphenol(27%), Benzoic Acid(<10%)

All LCSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(15%), Benzoic Acid(<10%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: 4,6-Dinitro-2-methylphenol(36.4%)

## SVOASIM Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 326847 (Samples: BK23155, BK23156, BK23157): -----**

**A trace amount of an analyte was found in the blank but was not reported in the sample(s), therefore no bias is suspected. (Bis(2-ethylhexyl)phthalate)**

**The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (Hexachlorobutadiene, Hexachloroethane, Naphthalene, Nitrobenzene)**

**The LCS/LCSD RPD exceeds the method criteria for several of the surrogates. No significant bias is suspected. (% 2-Fluorophenol, % Nitrobenzene-d5)**

**Instrument:** Chem07 11/18/15-1 (BK23155, BK23156, BK23157)



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# RCP Certification Report

November 25, 2015

SDG I.D.: GBK23143

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Initial Calibration Verification (CHEM07/SIM\_1106):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: 2-Chlorophenol (.737)[0.8], 2-Nitrophenol (.057)[0.1], Hexachloroethane (.283)[0.3]

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM07/1118\_02-SIM\_1106):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-chlorophenol (.687)[0.8], 2-nitrophenol (.046)[0.1]

The following compounds did not meet minimum response factors: None.

**Printed Name** Damien Drobinski

**Position:** Chemist

**Date:** 11/18/2015

## QC (Batch Specific)

----- Sample No: BK23155, QA/QC Batch: 326847 -----

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: % 2-Fluorophenol(27.2%), % Nitrobenzene-d5(20.7%), Hexachlorobutadiene(26.3%), Hexachloroethane(44.7%), Naphthalene(22.2%), Nitrobenzene(23.0%)

## VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 326916 (Samples: BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151): -----**

**The LCSD recovery is above the upper range for one analyte that was not reported in the sample(s), therefore no significant bias is suspected. (Bromomethane)**

**The LCS/LCSD recovery is acceptable. One or more analytes in the site specific matrix spike recovery is below the method criteria, therefore a low bias is likely. (Chloroethane, Trichlorofluoromethane)**

**QC Batch 326931 (Samples: BK23155, BK23156, BK23157): -----**

**The LCS recovery is below the lower range but within the method criteria. No significant bias is suspected. (Methyl ethyl ketone)**

**Instrument:** Chem02 11/16/15-1 (BK23154)



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## RCP Certification Report

November 25, 2015

SDG I.D.: GBK23143

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Initial Calibration Verification (CHEM02/VT-P1109):

96% of target compounds met criteria.

The following compounds had %RSDs >20%: 1,2-Dibromo-3-Chloropropane (36%), Bromoform (30%), trans-1,4-Dichloro-2-butene (30%)  
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-Chloropropane (.023)[0.05], 2-Hexanone (.060)[0.1],  
4-Methyl-2-Pentanone (.079)[0.1], Acetone (.040)[0.1], Acrolein (.023)[0.05], Acrylonitrile (.042)[0.05], Bromoform (.071)[0.1], Methyl  
Ethyl Ketone (.057)[0.1], Methylacetate (.098)[0.1], Tetrahydrofuran (THF) (.036)[0.05]

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1116P03-VT-P1109):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

99% of target compounds met criteria.

The following compounds did not meet % deviation criteria: Methylacetate (31%L)[30%]

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 1,1,2,2-tetrachloroethane (.249)[0.3], 1,2-dibromo-3-chloropropane  
(.028)[0.05], Acrolein (.020)[0.05], Acrylonitrile (.039)[0.05], Bromoform (.073)[0.1], Tetrahydrofuran (thf) (.030)[0.05]

The following compounds did not meet minimum response factors: None.

**Printed Name** Michael Hahn

**Position:** Chemist

**Date:** 11/16/2015

**Instrument:** Chem03 11/18/15-1 (BK23151)

Initial Calibration Verification (CHEM03/VT-L1105):

96% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (24%), Chloroethane (25%), Methyl Ethyl Ketone (22%)

The following compounds did not meet recommended response factors: Acetone (.098)[0.1], Acrolein (.044)[0.05]

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM03/1118L02-VT-L1105):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: Acrolein (.039)[0.05]

The following compounds did not meet minimum response factors: None.

**Printed Name** Jane Li

**Position:** Chemist

**Date:** 11/18/2015

**Instrument:** Chem15 11/17/15-2 (BK23152, BK23153)

Initial Calibration Verification (CHEM15/VT-B1112):



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## RCP Certification Report

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SDG I.D.: GBK23143

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99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (28%)

The following compounds did not meet recommended response factors: Acetone (.095)[0.1], Acrolein (.038)[0.05]

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM15/1117B37-VT-B1112):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: Acrolein (.042)[0.05]

The following compounds did not meet minimum response factors: None.

**Printed Name** Jane Li  
**Position:** Chemist  
**Date:** 11/17/2015

**Instrument:** Chem15 11/18/15-1 (BK23152, BK23153)

Initial Calibration Verification (CHEM15/VT-B1112):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (28%)

The following compounds did not meet recommended response factors: Acetone (.095)[0.1], Acrolein (.038)[0.05]

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM15/1118B03-VT-B1112):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: Acrolein (.040)[0.05]

The following compounds did not meet minimum response factors: None.

**Printed Name** Jane Li  
**Position:** Chemist  
**Date:** 11/18/2015

**Instrument:** Chem17 11/16/15-1 (BK23155, BK23156, BK23157)

Initial Calibration Verification (CHEM17/VT-S1113):

96% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (22%), Methyl Ethyl Ketone (22%), Naphthalene (22%)

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-Chloropropane (.041)[0.05], Acetone (.067)[0.1],

Acrolein (.039)[0.05]



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## RCP Certification Report

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SDG I.D.: GBK23143

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The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/1116S02-VT-S1113):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

98% of target compounds met criteria.

The following compounds did not meet % deviation criteria: Acrolein (38%H)[30%], Trans-1,4-dichloro-2-butene (34%H)[30%]

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

**Printed Name** Michael Hahn

**Position:** Chemist

**Date:** 11/16/2015

**Instrument:** Chem18 11/16/15-1 (BK23143, BK23144, BK23145, BK23146, BK23147, BK23148, BK23149, BK23150, BK23151)

Initial Calibration Verification (CHEM18/VT-M1112):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM18/1116M07-VT-M1112):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

**Printed Name** Jane Li

**Position:** Chemist

**Date:** 11/16/2015

**QC Comments:** QC Batch 326931 11/16/15 (BK23155, BK23156, BK23157)

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

**QC Comments:** QC Batch 326940 11/16/15 (BK23154)

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.





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# RCP Certification Report

November 25, 2015

SDG I.D.: GBK23143

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## QC (Batch Specific)

----- Sample No: BK23146, QA/QC Batch: 326916 -----

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: Bromomethane(132%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK23154, QA/QC Batch: 326940 -----

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK23155, QA/QC Batch: 326931 -----

All LCS recoveries were within 70 - 130 with the following exceptions: Methyl ethyl ketone(69%)

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK23192, QA/QC Batch: 327236 -----

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

----- Sample No: BK23583, QA/QC Batch: 327203 -----

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

## Temperature Narration

The samples were received at 2C with cooling initiated.  
(Note acceptance criteria is above freezing up to 6°C)



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# RCP Certification Report

November 25, 2015

SDG I.D.: GBK23143

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**CHAIN OF CUSTODY RECORD**

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040  
 Email: info@phoenixlabs.com Fax (860) 645-0823  
 Client Services (860) 645-8726

Customer: CDR Group Inc.  
 Address: 2090 Silas Deane Hwy  
Rocky Hill CT 06067

Project: New Haven - Union Station Garage  
 Report to: Jane Withersell - CDR  
 Invoice to: DAS Contract - CDDOT  
c/o CDR

Cooler: Yes  No   
 Coolant: IPK  ICE   
 Temp 2 °C Pg 2 of 2  
 Contact Options:  
 Fax:   
 Phone: 860 563 3158  
 Email: jane.withersell@cdrgroup-inc.com

Client Sample - Information - Identification  
 Sampler's Signature: [Signature] Date: 11/15/15  
 Matrix Code:  
 DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water  
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe  
 OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
23155	FB-1	GW	11/15/15	23:35
23156	<del>FB-1</del> CDR-1GW	↓	↓	21:30
23157	CDR-9 GW	↓	↓	22:50

Analysis Request	RI	CT	MA	Data Format
VOCs 8260 SVOCs 8270 PCBs 8270 Herbicides 8270 Pesticides 8270 Dissolved Metals 8270 Total Metals 8270 TOX 8270 Bacteria Bottle	<input checked="" type="checkbox"/> Direct Exposure (Residential) <input type="checkbox"/> GW <input type="checkbox"/> Other	<input checked="" type="checkbox"/> RCP Cert <input type="checkbox"/> GW Protection <input checked="" type="checkbox"/> SW Protection <input type="checkbox"/> GA Mobility <input type="checkbox"/> GB Mobility <input type="checkbox"/> Residential DEC <input type="checkbox"/> I/C DEC <input type="checkbox"/> Other	<input type="checkbox"/> MCP Certification <input type="checkbox"/> GW-1 <input type="checkbox"/> GW-2 <input type="checkbox"/> GW-3 <input type="checkbox"/> S-1 <input type="checkbox"/> S-2 <input type="checkbox"/> S-3 <input type="checkbox"/> MWRA eSMART <input type="checkbox"/> Other	<input type="checkbox"/> Excel <input checked="" type="checkbox"/> PDF <input type="checkbox"/> GIS/Key <input type="checkbox"/> EQUIS <input type="checkbox"/> Other <b>Data Package</b> <input type="checkbox"/> Tier II Checklist <input type="checkbox"/> Full Data Package* <input checked="" type="checkbox"/> Phoenix Std Report <input type="checkbox"/> Other

Relinquished by: [Signature] Accepted by: [Signature]  
 Date: 11-16-15 Time: 8:10  
 Turnaround:  
 1 Day\*  
 2 Days\*  
 3 Days\*  
 Standard  
 Other  
 \* SURCHARGE APPLIES  
 Comments, Special Requirements or Regulations:  
Dissolved metals contained marked w/ "F" and was field filtered

State where samples were collected: CT  
 \* SURCHARGE APPLIES

# **APPENDIX C – DQA & DUE WORKSHEETS**

## DATA USABILITY EVALUATION WORKSHEET

**Project Name:** Task 210 - Union Station Parking Garage - New Haven, CT

**Laboratory:** Phoenix Environmental Laboratories, Inc.

**Laboratory Report:** GBK23143

**Date Samples Collected:** November 11, 2015

**Describe the intended use of the data:** To verify the absence or presence and location of subsurface contamination, and to assess the potential pollutant impacts that may be encountered during construction

Nonconformance DQA Review Elements	Briefly Summarize DQA Nonconformance
<b>Standard RCP Deliverables</b>	All RCP methods were referenced in report and any criteria falling outside acceptable guidelines were explained for all RCP methods used.
<b>Data Package Inspection</b>	
<b>Reasonable Confidence Evaluation</b>	
<b>Chain of Custody Evaluation</b>	Samples received at appropriate temperature (<6 Degrees C), all reporting limits were specified or referenced on the chain of custody.
<b>Sample Result Evaluation</b>	
<b>Sample Preservation &amp; Holding Time Evaluation</b>	
<b>Blank Evaluation</b>	Analyte found in blank and low bias is suspected for Barium. Potential bias is outweighed by non-detections or detections less than applicable criteria.
<b>Laboratory Control Samples</b>	LCS/LCSD were detected outside method criteria and show potential low biases for SVOCs and VOCs in soil & aqueous samples. Potential bias is outweighed by non-detections or detection limits/detections orders of magnitude less than any applicable RSR criteria.
<b>Surrogates</b>	LCS/LCSD RPD exceeds method criteria for one or more surrogates.
<b>Site-Specific Matrix Spikes and Matrix Spike Duplicates</b>	MS/MSD were detected below criteria ranges and show potential low biases for VOCs in soil samples. Potential bias is outweighed by non-detections or detection limits/detections orders of magnitude less than any applicable RSR criteria.
<b>Tentatively Identified Compounds</b>	
<b>Other QC Data</b>	

## DATA USABILITY EVALUATION WORKSHEET

**Provide a summary statement describing how the analytical data set relied upon is of adequate quality and of sufficient accuracy, precision, and sensitivity for the intended purpose.**

The results will be used to verify the absence or presence and location of subsurface contamination, and to assess the potential pollutant impacts that may be encountered during construction activities for the parking garage construction project.

A data quality assessment and data usability evaluation was performed for the data generated in accordance with the CTDEEP's "Laboratory Quality Assurance and Quality Control, Data Quality Assessment and Data Usability Evaluation Guidance Document".

Non-conformances related to LCS/LCSD RPD, MS/MSD, Surrogates, and Method Blanks responses do not have significant bearings on the accuracy and usability of the data for its intended purposes. In all cases the non-conformances have no impact to the data usability and is considered of sufficient quality and precision using multiple lines of evidence.

The data indicates that contaminants are present in the soil at low to elevated concentrations that exceed applicable RSR criteria. Task 310 Plans and Specifications will be prepared to address the soil contamination during the construction phase.

Based on the above findings from the DQA and DUE, the analytical data is of adequate and of sufficient accuracy, precision and sensitivity to identify areas requiring special treatment and/or handling during the construction phase of the project.

**RCP DATA QUALITY ASSESSMENT & DATA USABILITY EVALUATION WORKSHEET - GROUND WATER NOTES**

**Union Station Parking Garage - New Haven, CT**

<b>Laboratory:</b>	Phoenix Environmental Laboratories, Inc.
<b>SDG:</b>	GBK23143
<b>Date Samples Collected:</b>	November 11, 2015
<b>RCP Certification Form Included:</b>	Yes
<b>Lab Case Narrative Included:</b>	Yes
<b>Project Purpose:</b>	Data will be used to verify the absence or presence and location of subsurface contamination, and to assess the potential pollutant impacts that may be encountered during construction
<b>Notes:</b>	

**ETPH Analysis**  
 1) DCS (Discrimination Check Standard) per section 7.2.3 for November 21, 2015. N21B002\_2 contained outliers: C36 (66.4%L)

**Herbicide Narration**  
 1) CC (Continuing Calibration) %D for November 18, 2015. Preceeding CC N18B027: MCP (5) (20%L)  
 2) CC (Continuing Calibration) %D for November 18, 2015. Succeeding CC N18B041: mcps (6) (18%L), MCP (5) (23%)

**SVOC Analysis - 8270**  
 1) ICV (Initial Calibration Verification) for November 19, 2015. The following compounds did not meet recommended response factors: 2-Nitrophenol, Hexachlorobenzene  
 2) CCV (Continuing Calibration Verification) for November 19, 2015. The following compounds did not meet % deviation criteria: Benzoic Acid  
 3) CCV (Continuing Calibration Verification) for November 19, 2015. The following compounds did not meet recommended response factors: 2-Nitrophenol  
 4) ICV (Initial Calibration Verification) for November 18, 2015. The following compounds had %RSDs>20%: Benzoic Acid  
 5) ICV (Initial Calibration Verification) for November 18, 2015. The following compounds did not meet recommended response factors: 2-Nitrophenol, Hexachlorobenzene  
 6) CCV (Continuing Calibration Verification) for November 18, 2015. The following compounds did not meet recommended response factors: 2-nitrophenol, Hexachlorobenzene  
 7) ICV (Initial Calibration Verification) for November 18, 2015. The following compounds did not meet recommended response factors: 2-Chlorophenol, 2-Nitrophenol  
 8) CCV (Continuing Calibration Verification) for November 18, 2015. The following compounds did not meet recommended response factors: 2-Chlorophenol, 2-Nitrophenol

**VOC Analysis Notes - 8260**  
 1) ICV (Initial Calibration Verification) for November 16, 2015. The following compounds had %RSDs>20%: Acetone, Methyl Ethyl Keytone, Naphthalene  
 2) ICV (Initial Calibration Verification) for November 16, 2015. The following compounds did not meet recommended response factors: 1,2-Dibromo-3-Chloropropane, Acetone, Acrolein  
 3) CCV (Continuing Calibration Verification) for November 16, 2015. The following compounds did not meet % deviation criteria: Acrolein, Trans-1,4-dichloro-2-butene

**RCP DATA QUALITY ASSESSMENT & DATA USABILITY EVALUATION WORKSHEET - SOIL SAMPLES**  
**Union Station Parking Garage - New Haven, CT**

<b>Laboratory:</b>	Phoenix Environmental Laboratories
<b>SDG:</b>	GBK23143
<b>Date Samples Collected:</b>	November 11, 2015
<b>RCP Certification Form Included:</b>	Yes
<b>Lab Case Narrative Included:</b>	Yes
<b>Project Purpose:</b>	Data will be used to verify the absence or presence and location of subsurface contamination, and to assess the potential pollutant impacts that may be encountered during construction
<b>Notes:</b>	(see notes at end of DQA)

Sample ID	Date Sampled	Compound(s)	QC OUTLIER	POTENTIAL BIAS	COMMENTS	PRELIMINARY DUE CONSIDERATIONS/NOTES
<b>Chlorinated Herbicides</b>						
CDR-1	11/15/2015	2,4-D, 2,4-DB, Dichloroprop	LCS RPD	No Variability	Exceeds method criteria, analytes not reported in sample	No impact to data usability
CDR-2						
CDR-3						
CDR-4						
CDR-5						
CDR-6						
CDR-7						
CDR-8						
CDR-9						
CDR-1	11/15/2015	2,4,5-T, 2,4-D	MS RPD	No Variability	Outside laboratory RPD specified recovery limits, analytes not reported in sample	No impact to data usability
CDR-2						
CDR-3						
CDR-4						
CDR-5						
CDR-6						
CDR-7						
CDR-8						
CDR-9						
<b>ICP Narration</b>						
CDR-1	11/15/2015	Barium	Blank	No Bias	Trace amount of analyte found in blank, concentration in blank relative to samples insignificant	No impact to data usability
CDR-2						
CDR-3						
CDR-4						
CDR-5						
CDR-6						
CDR-7						
CDR-8						
CDR-9						
<b>SVOC Analysis - 8270</b>						
CDR-1	11/15/2015	2,4-Dinitrophenol, Benzoic Acid	LCS/LCSD	Low Bias	Recoveries below method criteria	No impact to data usability
CDR-5						
CDR-6						
CDR-7						
CDR-8						
CDR-9						
CDR-1						
CDR-5						
CDR-6						
CDR-1	11/15/2015	4,6-Dinitro-2-methylphenol	LCS	No Bias	Recovery below lower range, less than 20% of analytes outside of criteria, all other QC acceptable	No impact to data usability
CDR-5						
CDR-6						
CDR-7						
CDR-8						
CDR-9						
CDR-1						
CDR-5						
CDR-6						
CDR-1	11/15/2015	4,6-Dinitro-2-methylphenol	LCS RPD	No Variability	Exceeds method criteria, analyte not reported in sample	No impact to data usability
CDR-5						
CDR-6						
CDR-7						
CDR-8						
CDR-9						
CDR-1						
CDR-5						
CDR-6						
<b>VOC Analysis - 8260</b>						
CDR-1	11/15/2015	Bromomethane	LCSD	No Bias	Recovery above upper range, analyte not reported in sample	No impact to data usability
CDR-2						
CDR-3						
CDR-4						
CDR-5						
CDR-6						
CDR-7						
CDR-8						
CDR-9						
CDR-1	11/15/2015	Chloroethan, Trichlorofluoromethane	LCS/LCSD	Low Bias	Analytes in site specific matrix spike recovery below method criteria, all other QC acceptable	No impact to data usability
CDR-2						
CDR-3						
CDR-4						
CDR-5						
CDR-6						
CDR-7						
CDR-8						
CDR-9						



**RCP DATA QUALITY ASSESSMENT & DATA USABILITY EVALUATION WORKSHEET - GROUND WATER SAMPLES**

**Union Station Parking Garage - New Haven, CT**

<b>Laboratory:</b>	Pheonix Environmental Laboratories
<b>SDG:</b>	GBK23143
<b>Date Samples Collected:</b>	November 11, 2015
<b>RCP Certification Form Included:</b>	Yes
<b>Lab Case Narrative Included:</b>	Yes
<b>Project Purpose:</b>	Data will be used to verify the absence or presence and location of subsurface contamination, and to assess the potential pollutant impacts that may be encountered during construction
<b>Notes:</b>	(see notes at end of DQA)

Sample ID	Date Sampled	Compound(s)	QC OUTLIER	POTENTIAL BIAS	COMMENTS	PRELIMINARY DUE CONSIDERATIONS/NOTES
<b>Chlorinated Herbicides</b>						
FB-1 CDR-1 GW CDR-9 GW	11/15/2015	Dalapon	LCS RPD	No Variability	Exceeds method criteria, analyte not reported in sample	No impact to data usability
<b>Pesticide Narration</b>						
FB-1 CDR-1 GW CDR-9 GW	11/15/2015	4,4'-DDE, Chlordane, g-Chlordane	LCS RPD	No Variability	Exceeds method criteria, analyte not reported in sample	No impact to data usability
<b>SVOC Analysis - 8270</b>						
FB-1 CDR-1 GW CDR-9 GW	11/15/2015	4,6-Dinitro-2-methylphenol	LCSD	Low Bias	Recovery below lower range, less than 20% of analytes outside criteria, but matrix spike recoveries below 10%	No impact to data usability
FB-1 CDR-1 GW CDR-9 GW	11/15/2015	2,4-Dinitrophenol, Benzidine, Benzoic Acid	LCS/LCSD	Low Bias	Recoveries below method criteria	No impact to data usability
FB-1 CDR-1 GW CDR-9 GW	11/15/2015	Benzoic Acid	LCS	No Bias	Recovery above upper range, analyte not reported in sample	No impact to data usability
FB-1 CDR-1 GW CDR-9 GW	11/15/2015	1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 3,3'-Dichlorobenzidine, Hexachlorocyclopentadiene, N-Nitrosodimethylamine	LCS	No Bias	Recovery below lower range, less than 20% of analytes outside criteria and all other criteria acceptable	No impact to data usability
FB-1 CDR-1 GW CDR-9 GW	11/15/2015	1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 2-Chlorophenol, 2-Nitrophenol, 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Chloroaniline, Acetophenone, Aniline, Bis(2-chloroethoxy)methane, Bis(2-chloroethyl)ether, Bis(2-chloroisopropyl)ether, Hexachlorobutadiene, Hexachlorocyclopentadiene, Hexachloroethane, Isophorone, Naphthalene, Nitrobenzene, N-Nitrosodimethylamine	LCS RPD	No Variability	Exceeds method criteria, analyte not reported in sample	No impact to data usability
FB-1 CDR-1 GW CDR-9 GW	11/15/2015	% 2-Fluorophenol, % Nitrobenzene-d5	Surrogate	No Bias	Exceeds method criteria for several surrogates	No impact to data usability
FB-1 CDR-1 GW CDR-9 GW	11/15/2015	Bis(2-ethylhexyl)phthalate	Blank	No Bias	Trace amount of analyte found in blank, analyte not reported in sample	No impact to data usability
<b>VOC Analysis - 8260</b>						
FB-1 CDR-1 GW CDR-9 GW	11/15/2015	Methyl ethyl keytone	LCS	No Bias	Recovery below lower range, less than 10% of analytes outside criteria and all other criteris acceptable	No impact to data usability

**RCP DATA QUALITY ASSESSMENT & DATA USABILITY EVALUATION WORKSHEET - SOIL NOTES**

**Union Station Parking Garage - New Haven, CT**

<b>Laboratory:</b>	Phoenix Environmental Laboratories, Inc.
<b>SDG:</b>	GBK23143
<b>Date Samples Collected:</b>	November 11, 2015
<b>RCP Certification Form Included:</b>	Yes
<b>Lab Case Narrative Included:</b>	Yes
<b>Project Purpose:</b>	Data will be used to verify the absence or presence and location of subsurface contamination, and to assess the potential pollutant impacts that may be encountered during construction
<b>Notes:</b>	

**ETPH Analysis**  
 1) CC (Continuing Calibration) %D for November 18, 2015. Succeeding CC N18A015: ETPH (C9-C36) (33%H)

**Herbicide Narration**  
 1) CC (Continuing Calibration) %D for November 17, 2015. Succeeding CC N17B028: MCPP (5) (31%L)  
 2) CC (Continuing Calibration) %D for November 17, 2015. Preceeding CC N17B028: MCPP (5) (31%L)  
 3) CC (Continuing Calibration) %D for November 17, 2015. Succeeding CC N17B035: mcps (6) (19%L), MCPP (5) (19%)

**SVOC Analysis - 8270**  
 1) ICV (Initial Calibration Verification) for November 16, 2015. The following compounds did not meet recommended response factors: 2-Nitrophenol, Hexachlorobenzene  
 2) CCV (Continuing Calibration Verification) for November 16, 2015. The following compounds did not meet % deviation criteria: Benzoic Acid  
 3) CCV (Continuing Calibration Verification) for November 16, 2015. The following compounds did not meet recommended response factors: 2-nitrophenol

**VOC Analysis Notes - 8260**  
 1) ICV (Initial Calibration Verification) for November 16, 2015. The following compounds had %RSDs>20%: 1,2-Dibromo-3-Chloropropane, Bromoform, trans-1,4-Dichloro-2-butene  
 2) ICV (Initial Calibration Verification) for November 16, 2015. The following compounds did not meet recommended response factors: 1,2-Dibromo-3-Chloropropane, 2-Hexanone, 2-Methyl-2-Pentanone, Acetone, Acrolein, Acrylonitrile, Bromoform, Methyl Ethyl Ketone, Methylacetate, Tetrahydrofuran  
 3) CCV (Continuing Calibration Verification) for November 16, 2015. The following compounds did not meet % deviation criteria: Methylacetate  
 4) CCV (Continuing Calibration Verification) for November 16, 2015. The following compounds did not meet recommended response factors: 1,1,2,2-tetrachloroethane, 1,2-dibromo-3-chloropropane, Acrolein, Acrylonitrile, Bromoform, Tetrahydrofuran  
 5) ICV (Initial Calibration Verification) for November 18, 2015. The following compounds had %RSDs>20%: Acetone, Chloroethane, Methyl Ethyl ketone  
 6) ICV (Initial Calibration Verification) for November 18, 2015. The following compounds did not meet recommended response factors: Acetone, Acrolein  
 7) CCV (Continuing Calibration Verification) for November 18, 2015. The following compounds did not meet recommended response factors: Acrolein  
 8) ICV (Initial Calibration Verification) for November 17, 2015. The following compounds had %RSDs>20%: Acetone  
 9) ICV (Initial Calibration Verification) for November 17, 2015. The following compounds did not meet recommended response factors: Acetone, Acrolein  
 10) CCV (Continuing Calibration Verification) for November 17, 2015. The following compounds did not meet recommended response factors: Acrolein  
 11) ICV (Initial Calibration Verification) for November 18, 2015. The following compounds had %RSDs>20%: Acetone

# Final Geotechnical Engineering Report

Proposed Parking Garage  
at Union Station

Project No. 301-114

New Haven, Connecticut



Prepared for

**Connecticut  
Department of Transportation**

2800 Berlin Turnpike  
P.O. Box 317546  
Newington, CT 06111

July 2018  
CHA Project No. 30617



200 Corporate Place, Suite 110  
Rocky Hill, Connecticut 06067

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This report has been prepared and reviewed by the following qualified engineers employed by  
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## 1.0 INTRODUCTION

CHA was retained by the Connecticut Department of Transportation (CTDOT) to complete a geotechnical exploration for a proposed parking garage to be located on Union Avenue at the site of the existing surface parking lot for Union Station in New Haven, Connecticut. The project site is shown on Figure 1 - Site Location Map, included in Appendix A.

The primary objectives of this effort were to explore the subsurface conditions at the project site and provide geotechnical recommendations for the design of the foundations for the proposed parking garage. This report summarizes the results of the geotechnical exploration and evaluation.

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## 2.0 PROJECT AND SITE DESCRIPTION

The project site is located at an existing surface parking lot for Union Station on Union Avenue in the City of New Haven, Connecticut. The site is bounded by Union Avenue to the northwest, railroad tracks to the southeast, a United Illuminating Company substation to the northeast, and an existing parking garage to the southwest. The site is owned by the State of Connecticut and is currently occupied by a 260-space surface parking lot consisting of paved parking and an access driveway. The site is relatively flat with surface elevations ranging from approximately EL. 6.5 feet to 9.0 feet (NAVD88) and a general downward slope toward the north and east. Photographs of the site are contained in the Photograph Log, included in Appendix B of this report.

An existing 66-inch diameter brick sewer reportedly supported on timber piles crosses diagonally under the existing entrance to the parking lot and northeast corner of the existing adjacent parking garage. A section of this sewer was reportedly reinforced with concrete and additional piles beneath and adjacent to the existing garage during construction of that structure. Other utilities in the vicinity include catch basins and storm drains, traffic signal loop detectors, underground electric at the parking lot entrance, and overhead electric wires for lighting within the parking lot.

Based on the latest progress plans (dated July, 2018), a seven-level parking garage with a footprint area of approximately 51,000 square feet will be constructed over the existing surface parking lot. The first level of the parking garage is proposed to be at EL. 13.5 feet, above the design flood elevation of EL. 12.0 feet. It is understood that fill will be placed along the exterior of the building at the north and south entrances to meet the desired first level floor elevation. At this time, no fill is proposed to be placed within the footprint of the structure. Fill heights outside of the building will range from approximately 4.0 feet near the south entrance to 6.5 feet near the north entrance.

Based on the current progress design, the proposed parking garage structure will have isolated columns with axial loading not exceeding 2,500 kips. Preliminary lateral loads applied at the top of foundation include loads of 870 kips at transverse shear walls (four locations) and 435 kips at long litewalls (eight locations). Tension foundation loads were not available at the time this



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report was prepared. The building is not anticipated to have below-grade areas. The structure will be designed in accordance with the 2016 Connecticut State Building Code which includes the 2012 International Building Code and a Connecticut Supplement. Allowable stress design will be implemented.

Although currently being used as a surface parking lot, the site is reported to have formerly contained several structures dating to the late 1800s including rag sorting and rag storage buildings, kerosene storage buildings, a molasses storage building, and a salt packing house. A subsurface site investigation was conducted in November 2015 by CDR Group Inc. as part of State Project No. 0301-0114; this investigation supplemented a previous surficial site investigation conducted in 1999 by Maguire Group as part of State Project No. 301-0049. The Task 210: Subsurface Site Investigation Report completed by CDR Group in February 2016 identified the project area as an Area of Environmental Concern due to “widespread existence of soil contaminated with semi-volatile organic compounds (SVOCs), total arsenic, total lead, total mercury, leachable lead, and 4-4’-DDT.” The report also concluded that “based on the results of the environmental investigations, no groundwater area of environmental concern has been designated within the project limits.” Due to the presence of contaminants, the report recommends that “special considerations for the management, storage, and disposal of contaminated soil, and worker health and safety must be given to construction activities within the project limits in order to ensure compliance with all applicable local, State and Federal laws, regulations and guidance. Task 310 Plans, Specifications, and Estimate are therefore, recommended for the project for the management and disposal of controlled materials and worker health and safety.”

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### 3.0 SUBSURFACE EXPLORATION

#### 3.1 Drilling Program

The subsurface exploration included eighteen (18) borings, designated as B-1 through B-18. All borings were located within or in close proximity to the proposed parking garage structure footprint. The exploration began on November 8, 2015 and was completed on November 18, 2015. The boring locations were marked in the field by a CHA survey crew. Ground surface elevations at the boring locations were interpolated from topographic data. The locations and elevations should be considered accurate only to the degree implied by the method used to determine them.

General Borings, Inc. of Prospect, Connecticut was retained by CHA to advance the borings within the parking lot. The drilling subcontractor contacted Call Before You Dig for utility clearance prior to drilling. Borings B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8, B-9, and B-18 were advanced with a rubber track-mounted drill rig, and borings B-10 through B-17 were advanced with a truck-mounted drill rig. Borings were generally advanced with a roller bit, and boreholes were maintained using flush-joint casing (FJC) with an inside diameter of 4.0 inches. In shallow borings (borings B-2, B-7, B-9, B-11, B-15, and B-17), hollow stem augers (HSA) with an inside diameter of 3.25 inches were used. Split spoon samples were generally obtained continuously from the ground surface to approximately 17 feet below surface grade, then at 5-foot intervals for the remainder of each boring. Standard Penetration Testing (SPT) was utilized during split-spoon sampling within the borings in general accordance with ASTM International (ASTM) Standard D1586 “Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils.” The split spoon samples were advanced using a 140 (±) pound safety hammer falling 30 (±) inches on a winch cable or cathead system.

“Blow counts” are recorded on the boring logs and indicate the penetration resistance for a 6 inch advancement of the split spoon. Initially, the spoon is driven 6 inches to seat the sampler in undisturbed material. The number of blows required to drive the sampler the next 12 inches is taken as the standard penetration test resistance or “N” value. This value is indicative of the soil’s in-place density or consistency. The final 6 inch increment that the spoon is driven is not

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included in the determination of the “N” value. Sample refusal is defined as a resistance greater than 50 blows per six inches of penetration.

The boreholes were backfilled with cement bentonite grout and patched with asphalt cold patch upon completion.

A CHA geotechnical engineer observed the subsurface exploration to verify that proper drilling methods were used, described soil samples, obtained groundwater measurements, and prepared field logs documenting subsurface conditions. Soil conditions were described based upon visual observation of soil samples and observation of the drilling action. Typed copies of the boring logs prepared by CHA are included in Appendix C.

### **3.2 Geophysical Investigation**

As part of the site exploration, a geophysical investigation program was developed, and was performed by NDT Corporation of Sterling, Massachusetts. Ground penetrating radar (GPR) measurements were taken in an attempt to locate buried concrete or masonry foundation walls and other buried obstructions. The GPR investigation is described in further detail in the report prepared by NDT included in Appendix E.

### **3.3 Laboratory Testing**

Laboratory testing was performed on samples recovered during the subsurface exploration by GeoTesting Express of Acton, Massachusetts. Testing included nine (9) particle-size analysis tests with sieve only performed in general accordance with ASTM Standard D422, three (3) particle-size analysis tests with hydrometer performed in general accordance with ASTM Standard D422, ten (10) Atterberg Limits tests performed in general accordance with ASTM Standard D4318, and fourteen (14) water content tests performed in general accordance with ASTM Standard D2216. Testing was also performed to evaluate corrosion potential and included six (6) Chloride Ion Content tests performed in general accordance with ASTM D512, six (6) Soil Resistivity tests performed in general accordance with ASTM G57, six (6) pH tests performed in general accordance with ASTM D4972, and six (6) Sulfate Ion Content tests performed in general accordance with ASTM D516. The results of the laboratory tests are provided in Appendix D of this report.

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## 4.0 SUBSURFACE CONDITIONS

The subsurface conditions at the site were assessed based on a review of published geologic maps and the results of the test borings performed on-site; conditions are summarized below.

### 4.1 Regional Geology

According to the *Surficial Materials Map of Connecticut*, (Stone, J.R. et al; 1992), the soil deposition within the project area is mapped as sand overlying fines. Sand is of variable thickness, with thinly bedded fines of variable thickness (distal deltaic deposits overlying lake-bottom sediment).

According to the *Bedrock Geological Map of Connecticut*, (Rodgers, J.; 1985), the bedrock within the project area is mapped as New Haven Arkose. The arkose is coarse-grained, poorly sorted, locally conglomeratic, and red, pink, and gray in color. It is interbedded with brick-red micaceous, locally shaly siltstone and fine-grained feldspathic clayey sandstone.

### 4.2 Subsurface Stratigraphy

Subsurface conditions encountered in the borings are detailed and described on the subsurface logs included in Appendix C. General subsurface conditions are described below in order of increasing depth. The depths provided below are relative to the existing grade.

Asphalt Pavement – Asphalt was encountered at the ground surface in all borings and extended to depths ranging from 0.25 feet to 0.5 feet below the ground surface (bgs).

Fill – A layer of fill was encountered below the asphalt pavement in all borings and extended to depths ranging between 2 feet and 9 feet bgs. The fill generally consisted of varying amounts of fine, medium and coarse sand, fine gravel, and trace to some silt. The fill occasionally contained pieces of concrete, brick, asphalt, coal, or wood fragments and was brown, gray, and black in color. Concrete or concrete debris, approximately 1- to 2-feet thick, was encountered at the bottom of the fill in boring B-8. The moisture content of the fill was visually classified as moist to wet. The SPT “N” values of the fill ranged between 3 blows per foot (bpf) and SPT refusal, indicating a very loose to very compact density.

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Sand – A layer of sand was encountered directly underlying the fill layer within all borings except boring B-15 where sand was encountered at a depth of approximately 18.5 feet, below a layer of organic silt (described below). The sand layer was interbedded with layers of organic silt and silt. The sand ranged in composition from fine, medium and coarse sand and some silt, to fine and medium sand with varying amounts of fine gravel and silt. Sand grain size was generally found to decrease with depth. Borings B-3, B-4, B-5, B-8, B-10, B-12, B-13, B-14, and B-16 terminated in sand at depths of 77 to 102 feet bgs. The sand was brown, reddish brown, or gray, and the moisture content was visually classified as moist to wet. The SPT “N” values ranged between weight of hammer and 54 bpf, indicating a very loose to very compact density.

Organic Silt – Layers of organic silt were encountered within the sand stratum in all borings and directly below the existing fill in boring B-15. The organic silt layers were generally encountered to depths of up to 40 to 45 feet bgs. The organic silt generally contained trace to little shells with varying amounts of fine to medium sand and occasional wood. It was dark gray, and the moisture content was visually classified as moist or wet. The SPT “N” values of the organic silt ranged between weight of hammer and 9 bpf, indicating a very soft to stiff consistency.

Silt – Silt was encountered at depths of 73.5 to 98.5 feet bgs in borings B-1, B-6, and B-18, and these borings terminated in silt at a depth of 102 feet bgs. Silt was also encountered in boring B-16 at a depth of approximately 96 feet bgs, grading to sand and silt at a depth of 98.5 feet bgs. The silt contained varying amounts of fine sand and was red-brown in color. The silt was visually classified as wet. The SPT “N” values of the silt ranged between 15 bpf and 40 bpf, indicating a medium compact to compact density.

### **4.3 Groundwater**

Groundwater levels were estimated based upon soil sample moisture content observations and measurements in the boreholes during drilling operations. Groundwater was encountered within all borings at depths ranging from 5 to 13 feet bgs. Table 1 summarizes groundwater observations made during the subsurface exploration.

Seasonal factors such as temperature and precipitation affect groundwater levels. For this reason, long-term groundwater levels may differ from those described in this report. Because of the proximity of this site to the New Haven Harbor, groundwater levels may also be affected by tidal fluctuations.

**Table 1: Groundwater Depths and Elevations**

<b>Boring Number</b>	<b>Surface Elevation<sup>1</sup> (ft)</b>	<b>Groundwater Depth (ft)</b>	<b>Groundwater Elevation<sup>1</sup> (ft)</b>
B-1	9.92	8.00	1.92
B-2	8.00	7.00	1.00
B-3	6.96	6.00	0.96
B-4	8.18	7.00	1.18
B-5	8.00	13.00	-5.00
B-6	8.32	8.00	0.32
B-7	8.48	8.75	-0.27
B-8	8.49	7.25	1.24
B-9	8.30	8.50	-0.20
B-10	8.15	8.00	0.15
B-11	8.99	5.00	3.99
B-12	8.71	7.00	1.71
B-13	8.72	8.50	0.22
B-14	8.67	11.50	-2.83
B-15	8.14	5.00	3.14
B-16	9.00	9.00	0.00
B-17	8.87	9.00	-0.13
B-18	9.56	9.00	0.56

1 - All elevations based on NAVD88.

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#### 4.4 Electrochemical Testing

Electrochemical classification testing was performed on selected soil samples to aid in the evaluation of the aggressiveness of the subsurface environment. As mentioned in *Section 3.2 Laboratory Testing*, pH, Soil Resistivity, Chloride Ion Content, and Sulfate Ion Content tests were performed on six soil samples. Because the Task 210: Surficial Site Investigation conducted in 1999 identified contamination within surficial soil layers, samples were taken near the ground surface in borings B-2, B-3, B-7, B-10, B-13, and B-18. According to FHWA’s Publication No. NHI-05-042 “Design and Construction of Driven Pile Foundations – Volume 1”, whenever the pH value is 4.5 or less, or when the soil resistivity is less than 2,000 ohms-cm, the site should be treated as aggressive. Additionally, when the soil resistivity test results are between 2,000 and 5,000 ohms-cm, Chloride Ion and Sulfate Ion content tests should be performed to further classify the subsurface environment, per FHWA Publication No. NHI-05-042. The site should be treated as aggressive according to the FHWA when the Chloride Ion content is greater than 100 parts per million (ppm) or the Sulfate Ion content is greater than 200 ppm. A summary of the results is included in Table 2; complete laboratory test results are included in Appendix D of this report.

**Table 2: Electrochemical Test Results**

Sample	Depth (ft)	pH		Soil Resistivity, ohms-cm		Soluble Sulfates, ppm	Soluble Chlorides, ppm
		<i>Distilled H<sub>2</sub>O</i>	<i>CaCl<sub>2</sub></i>	<i>At 21°C</i>	<i>At 15.5°C</i>		
B-2, S-4	7-9	7.6	7.2	1,550	1,763	600	232
B-3, S-4	7-9	7.0	6.5	465	529	271	160
B-7, S-1	1-3	6.8	5.6	620	705	288	174
B-10, S-2	3-5	8.5	7.6	1,446	1,645	811	<100
B-13, S-2	3-5	7.5	6.4	2,996	3,408	<100	213
B-18, S-3	5-7	7.0	6.3	2,789	3,173	<100	232

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## 4.5 Geophysical Investigation Results

The site may contain buried concrete or masonry foundation walls and other buried obstructions because of its past uses. The GPR investigation conducted by NDT Corporation indicated the presence of an underground obstruction at the southeast end of the site, believed to be an abandoned platform consisting of a reinforced slab with a thin veneer of asphalt. Another obstruction running longitudinally from north to south was identified as a possible abandoned rail bed or roadway. Other GPR anomalies identified in the investigation correlate with mapped utilities or indicate possible debris, metal utilities, or filled utility trenches. The detailed findings of the GPR investigation are summarized in the NDT report provided for information in Appendix E.

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## 5.0 EVALUATION AND RECOMMENDATIONS

Site soils consist of fill overlying sandy soils with interbedded layers of organic silt. The existing fill soils and very loose or soft underlying soils are not suitable for support of spread footings for a seven-level parking garage at shallow depths. Excavation to below these layers for the purpose of replacing the material with structural fill is beyond typical excavation depths and would require handling and disposal of a significant volume of contaminated material. The site constraints limit the practicality of constructing spread footings at these depths. The continuous operation of the site and project schedule makes ground improvement alternatives such as preloading impractical.

Fill will be placed along the exterior of the building at the north and south entrances and no fill will be placed within the footprint of the structure. Placement of fill within the footprint of the structure to meet the proposed finished floor elevations (FFE) would cause loading of the compressible cohesive soil layers. Based on initial evaluation, this loading would result in settlement of 1.0 to 5.5 inches across the site if conventional fill soil is used. The proposed parking garage, including all structural components associated with the proposed bridge or ramp connections between the existing and proposed parking garages and the elevator/stair core, should be supported by a deep foundation system.

Since a structurally supported slab will experience minimal settlement, settlement of the fill adjacent to the structure could result in differential settlement between the structure and the ground surface at the entrances and downdrag loading on adjacent pile groups. The use of lightweight aggregate fill materials are recommended for reducing post-construction settlement of the fill outside the structure and eliminating potential downdrag loading.

The potential impacts of fill loading and construction vibrations on existing brick sewer on the southwest end of the site will be evaluated during final design. At a minimum, it is anticipated that the existing sewer will be lined.

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## 5.1 Deep Foundations

A deep foundation system consisting of driven piles is recommended for support of the proposed parking garage and associated structures, as it is a proven system used at surrounding sites with similar soil conditions. A drilled foundation system (shafts or micropiles) was considered but would result in contaminated soil cuttings and waste generated by its installation and is generally considered less economical given the site conditions. Cast-in-place concrete piles and prestressed precast concrete piles are appropriate deep foundation systems for support of similar structures in granular materials. Driven piles will derive support from a combination of side friction and end bearing resistance. Since fill is required to raise grades on-site, downdrag due to settlement of the soft, cohesive layers within the soil profile was evaluated.

### 5.1.1 Cast-in-Place Concrete Piles

CHA recommends using driven cast-in-place concrete piles with a tapered end section for this project. Recent load testing on local projects has indicated that this pile type with tapered end sections have achieved comparable capacities to similarly sized driven prestressed concrete piles. Driven cast-in-place piles with a tapered end section are preferred for this project based on this information and since they can be more readily driven to deeper depths and higher capacities than prestressed concrete piles without the difficult splicing concerns associated with prestressed concrete piles. This will allow for a lesser number of piles overall and smaller pile caps.

Steel pipes or shells with a tapered end section diameter from 8 inches to 16 inches over the bottom 25 feet length and straight shell or pipe extensions with a diameter of 16 inches are recommended for this project. A conical point should be used on the pile toe to prevent distortion during driving. An allowable single pile axial capacity of 240 kips and an estimated tip elevation of -86.0 feet (90 feet embedded length) is recommended for design with a factor of safety of 2.25.

Based on the initial evaluation, it was estimated that the placement of fill to raise grades for the proposed entrances would result in ground settlement and downdrag loads on the adjacent pile groups. Based on supplemental analysis, replacing the conventional soil fill in these areas with lightweight aggregate fill will reduce estimated ground settlement at the pile cap locations below thresholds typically considered for downdrag. Lightweight fill meeting the requirements of

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Section 5.5 is recommended for raising grades outside of the building to mitigate ground settlement and downdrag loads.

Due to the potential for obstructions within the existing fill, the Contractor should be prepared to pre-auger specific pile locations in the event that shallow obstructions are encountered. Any augered material spoils should be handled and properly disposed of. To better identify the presence of these obstructions, additional explorations should be performed as described in *Section 5.6*. Depending on the evaluation of the existing brick sewer and what is selected for stabilizing it, preaugering could also be considered in the vicinity of the existing structure to reduce construction vibrations.

### **5.1.2 Pile Installation**

All pile installations should conform to CTDOT Standard Specifications, Form 817, *Section 7.02 Piles*. The selected factor of safety of 2.25 assumes that pile drivability and the proposed hammer system will be checked prior to installation with a wave equation analysis, and that capacities are verified during installation with Dynamic Pile Driving Analysis (PDA) Tests in accordance with the standard specification. Dynamic PDA Tests should be performed on a minimum of 2 percent of the production piles. The restrike Dynamic PDA Tests should be performed a minimum of 5 calendar days after initial drive.

### **5.1.3 Lateral Loads**

CHA recommends that deep foundation systems subjected to lateral loads be analyzed utilizing a lateral-load response analysis program such as LPILE to evaluate lateral deflection and internal bending moments as a result of the lateral load. Recommended soil parameters for use in performing lateral response analysis are provided in Table 3.

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**Table 3: Soil Design Parameters for Lateral Pile Analysis**

<b>Stratum<sup>1</sup></b>	<b>LPILE Soil Type</b>	<b>Effective Unit Weight (pcf)</b>	<b>Cohesion (psf)</b>	<b>Angle of Internal Friction (degrees)</b>	<b>Strain at 50% Principle Stress, e50</b>	<b>Soil Modulus Parameter, k (pci)</b>
Fill (Surf. to EL. 3.5 ft)	Reese Sand	115	NA	30	NA	60
Sand (EL. 3.5 to -4.5 ft)	Reese Sand	37.6	NA	28	NA	20
Organic Silt (EL. -4.5 to -10 ft)	Soft Clay (Matlock)	37.6	300	NA	0.02	NA
Sand (EL. -10 to -25 ft)	Reese Sand	47.6	NA	31	NA	60
Organic Silt (EL. -25 to -45 ft)	Soft Clay (Matlock)	37.6	300	NA	0.02	NA
Sand (below EL. -45 ft)	Reese Sand	52.6	NA	32	NA	60

<sup>1</sup>Refer to individual boring logs and final grading plan for depths/elevations of strata change at each location.

Based on preliminary p-y analysis, a lateral resistance ranging from 20 kips to 45 kips per pile is recommended for the 16-inch tapered cast-in-place concrete pile described in Section 5.1.1 at a center to center spacing of three times the diameter and a service lateral deflection of 0.5 inches. The resistance varies depending on the position of the pile in the pile group and the resulting p-multiplier. A final pile lateral load analysis is recommended during final design.

#### **5.1.4 Corrosion and Pile Treatments**

Based on the test results summarized in Section 4.4, each sample qualifies the soil as an aggressive environment for proposed structural elements in contact with the ground. Corrosion and chemical attack can lead to deterioration of foundation elements, and this should be considered in design.

Special treatment of pile foundation elements will be required due to the aggressive subsurface environment identified at the site. Capacities provided in the previous sections do not account for this aggressive environment. For steel, corrosion protection should be applied; this could include sacrificial steel (utilizing a larger steel section than is required for the design) or use of protective coatings such as coal tar epoxy. FHWA recommends a conservative corrosion rate of

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0.003 inches per year for steel piles buried in fill or disturbed natural soils.

Concrete elements in contact with the ground will also require special treatment due to the high concentration of sulfates and chlorides found in areas of the site. Sulfate attack can be reduced by using a dense concrete to decrease permeability or using a cement with pozzolanic material to resist sulfate; Type V cement or a Portland-pozzolan cement with comparable sulfate resistance should be used. Chlorides cause corrosion of steel within concrete piles and structural elements. Concrete elements can be protected against this type of degradation by increasing concrete cover over steel reinforcement and using galvanized or epoxy coated reinforcement.

### **5.1.5 Construction Noise and Vibrations**

Columns for the proposed garage structure are to be located in close proximity to the existing parking garage, brick sewer, and rail yard. In addition, neighboring buildings are in close proximity to the project site and would be susceptible to construction-related vibrations. The construction of deep foundations, particularly driven piles, results in noise and ground-borne vibrations that may be transmitted across the property lines to adjacent structures. Prior to pile driving, pre-construction condition surveys should be performed on all structures within a 200 foot radius of the project site. The pre-construction condition surveys should document the condition of those structures at the time of the survey and identify vibration tolerances (in terms of Peak Particle Velocity) based on the relative age, condition, and construction of each structure. Pre-construction condition surveys should include documentation of the existing conditions within, around, and on the exterior of the existing structures, and should include detailed measurements, photographs, and other applicable forms of record keeping for the purposes of documenting the existing condition of the structures prior to pile driving. The pre-construction condition survey report will serve as a baseline document in the event that claims of damage are made as a result of construction activities.

During deep foundation construction, monitoring should be performed to document the noise and vibrations associated with construction. Noise levels should be monitored at the property line and possibly at adjacent structures using a noise meter with accuracy no less than 1 decibels. Monitoring during construction should be performed at the site as well as at nearby structures to provide documented recordings of vibrations induced by pile driving. Vibration monitoring

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should be accomplished using a 3-component geophone capable of measuring and recording continuous vibration data in terms of Peak Particle Velocity at a frequency of 1024 cycles per second. If pile driving vibrations approach the thresholds established during the pre-construction condition surveys, or if damage suspected to be caused by vibrations during pile driving are observed, the Contractor should be required to revise driving practices in a manner that will lessen the observed vibrations.

## 5.2 Seismic Site Classification and Design Parameters

The structure will be designed in accordance with the 2016 Connecticut State Building Code which includes the 2012 International Building Code (IBC) and a Connecticut Supplement. Based upon the subsurface conditions encountered in the borings and in accordance with the 2012 IBC Section 1613, the site class for the project site is defined as E for the proposed seven-level parking structure. In addition, the following seismic design parameters were determined:

- Mapped Spectral Response Acceleration for Short Periods ( $S_s$ ) 0.186 g
- Mapped Spectral Response Acceleration for 1.0-Second Period ( $S_1$ ) 0.062 g
- Site Coefficient  $F_a$  2.5
- Site Coefficient  $F_v$  3.5

Loose, saturated sand layers were identified in the borings, indicating a need for an analysis of liquefaction potential across the site. In this type of analysis, layers with factors of safety below 1.1 are considered potentially liquefiable. Based on the “Final Report, Seismic Design Criteria, I-95 New Haven Corridor” (March 2001), the Safety Evaluation Earthquake with a return period of 2,500 years is an earthquake of magnitude 6.3 with a peak ground acceleration value of 0.15 g for the site consisting of fills and organic clayey silts over stiff silt with bedrock at great depth. This earthquake was used to determine potential for liquefaction at the proposed parking garage site. The loose sand layers were generally isolated vertically, with no contiguous samples identified with factors of safety against liquefaction below 1.1. Therefore, earthquake induced liquefaction is considered to be unlikely.

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## 5.3 Retaining Walls

### 5.3.1 Temporary Retaining Walls

Temporary earth retaining systems will be required for excavation support along the street and adjacent to the existing parking structure and railyard. The temporary earth retaining systems should be designed by the contractor in accordance with CTDOT Form 817, Section 7.16.

### 5.3.2 Permanent Retaining Walls

The parking garage walls adjacent to fill areas will retain lightweight fill used to raise grade, will be restrained against lateral movement, and should be designed to resist “at rest” ( $K_o$  condition) earth pressures.

Walls retaining lightweight fill per the requirement of Section 5.5 should be designed based on the engineering properties of the lightweight fill, as follows:

- Total unit weight 65 pcf
- Buoyant unit weight 2.6 pcf
- Angle of internal friction 40 degrees
- At-rest earth pressure coefficient,  $K_o$  0.36 (level backfill)

Appropriate surcharge loads should be included in the wall design and permanent walls should include drainage features to prevent the build-up of hydrostatic pressures.

## 5.4 Groundwater and Control of Water

Based on the groundwater level observations summarized in *Section 4.3*, the proposed pile cap excavations may extend below the water table. It should be the responsibility of the Contractor to maintain dry conditions so that foundation construction will be completed in the dry in accordance with CTDOT Form 817, Section 2.03.

## 5.5 Fill Materials

Pile cap excavations should be backfilled with Granular Fill per the requirements of CTDOT Form 817, Section 2.13. The lightweight fill materials used for raising grades outside of the

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building footprint should meet the requirements of the Lightweight Fill Special Provision included in Appendix F of this report.

## **5.6 Additional Explorations**

The results of the subsurface exploration and GPR investigation indicate that obstructions may be present within the existing fill layer at the site. To better identify the potential for encountering obstructions during pile driving, test pit explorations should be performed at those areas indicated to have the potential for subsurface obstructions. Further detailed information concerning the existing brick sewer could be obtained during this exploration, if required.

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## 6.0 EXCAVATIONS

All excavations should be performed in accordance with the Occupational Safety and Health Administration (OSHA) standards and other applicable State and Federal regulations. In areas where sufficient sloping of excavation cuts is not possible, the excavation should be shored, sheeted, and braced. A registered professional engineer (licensed in the State of Connecticut) should design these systems, as required by OSHA.

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## 7.0 OBSERVATIONS DURING CONSTRUCTION

A qualified geotechnical engineer should carefully observe all deep foundations system installations and load tests as well as excavations and backfilling. Existing buildings or structures located on or adjacent to the site should be inspected for their condition prior to construction and monitored for vibrations throughout construction. Tolerable vibration thresholds should be established prior to construction for each building or structure to be monitored and clear direction of appropriate action should be provided for instances when measured vibrations exceed thresholds.

The materials used as fill should be tested by a qualified soils laboratory to verify they meet the specified gradations and to determine their maximum dry density for compaction. In-place density tests should be performed to verify that compaction methods and equipment achieve the required densities.

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## 8.0 CLOSURE

The geotechnical recommendations presented in this report are based, in part, on project and subsurface information available at the time this report was prepared and in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made. Some variation of subsurface conditions may occur between locations explored that may not become evident until construction. Depending on the nature and extent of the variations, it may be necessary to re-evaluate the recommendations presented in this report.

This report has been prepared solely for design purposes and shall not be incorporated by reference or other means in the Contract Documents. If this report is included in the Contract Documents, it shall be for information only. Specification clauses shall take precedence.

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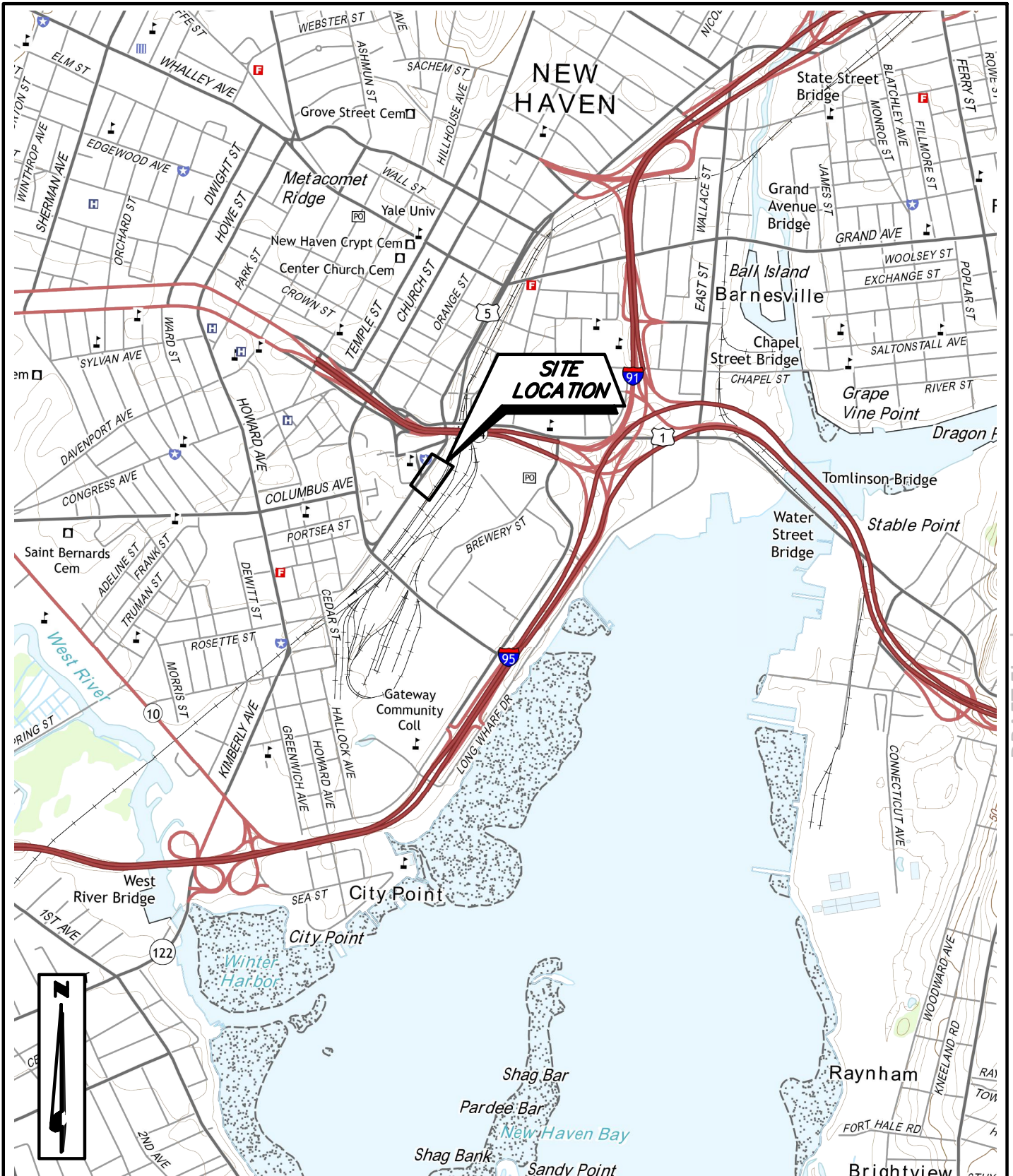
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**APPENDIX A**

**FIGURES**

DRAFT Final

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SOURCE: U.S.G.S. 7.5' Topographic  
 QUADRANGLE: NEW HAVEN, CT

SCALE: 1"=2000'

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### SITE LOCATION MAP

UNION STATION PARKING GARAGE  
 NEW HAVEN, CONNECTICUT

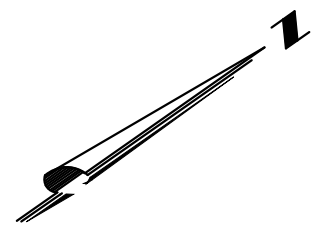
PROJECT NO.  
 30617

DATE: 04/2016

FIGURE 1

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UNION AVENUE

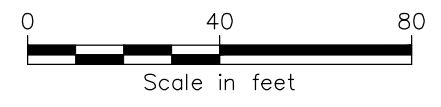
EXISTING  
PARKING GARAGE

PROPOSED PARKING  
GARAGE ENTRANCE

PROPOSED PARKING  
GARAGE FOOTPRINT

**LEGEND**

 **B-1** APPROXIMATE BORING LOCATION



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**BORING LOCATION PLAN**

UNION STATION PARKING GARAGE  
NEW HAVEN, CONNECTICUT

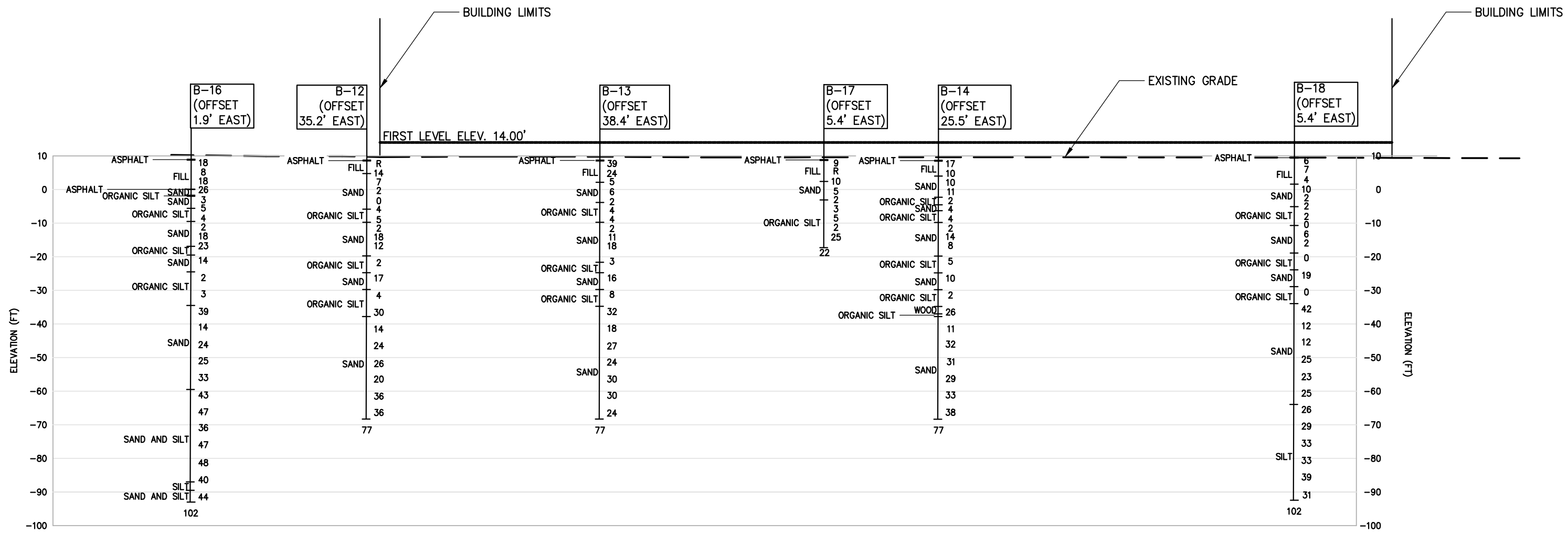
PROJECT NO.  
30617

DATE: 03/2018

**FIGURE 2**

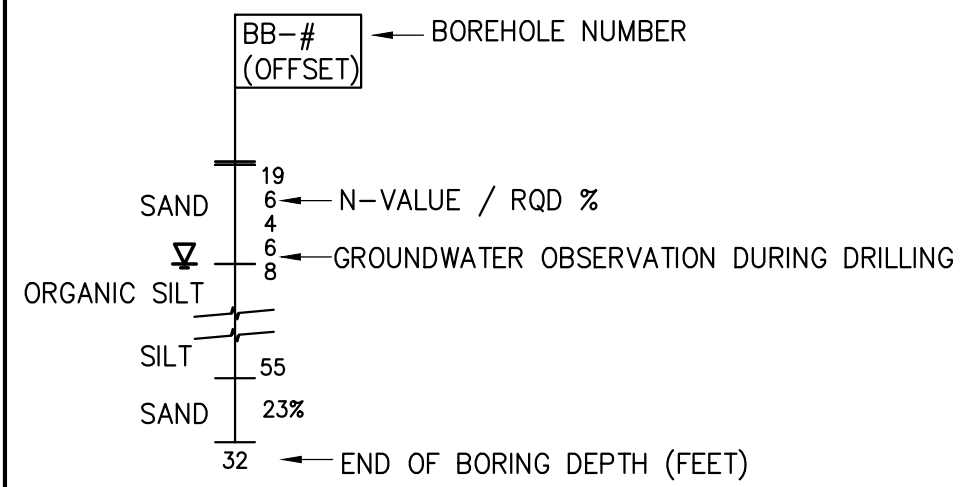
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HORIZONTAL SCALE: 1" = 30'  
VERTICAL SCALE: 1" = 30'

**LEGEND**



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**SUBSURFACE PROFILE A-A'**

UNION STATION PARKING GARAGE  
NEW HAVEN, CONNECTICUT

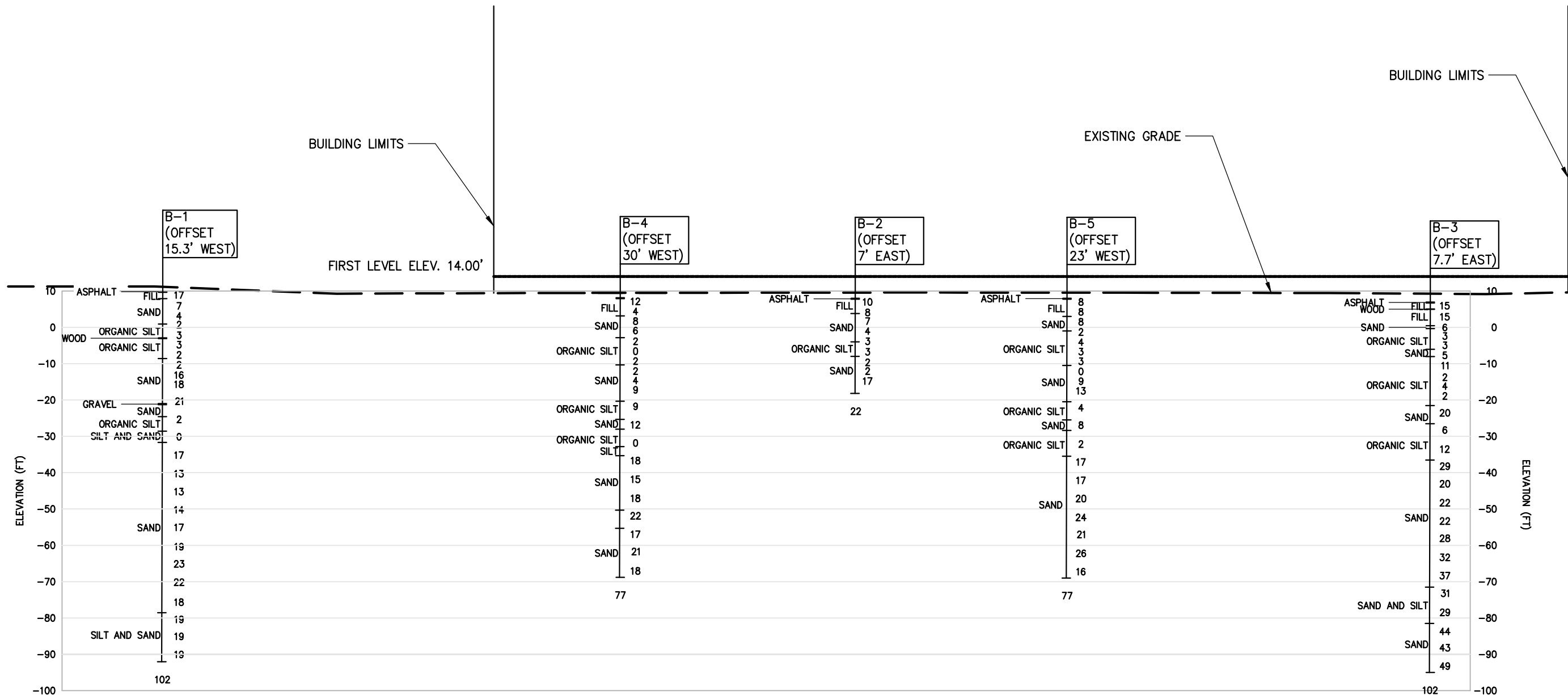
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30617

DATE: 03/2018

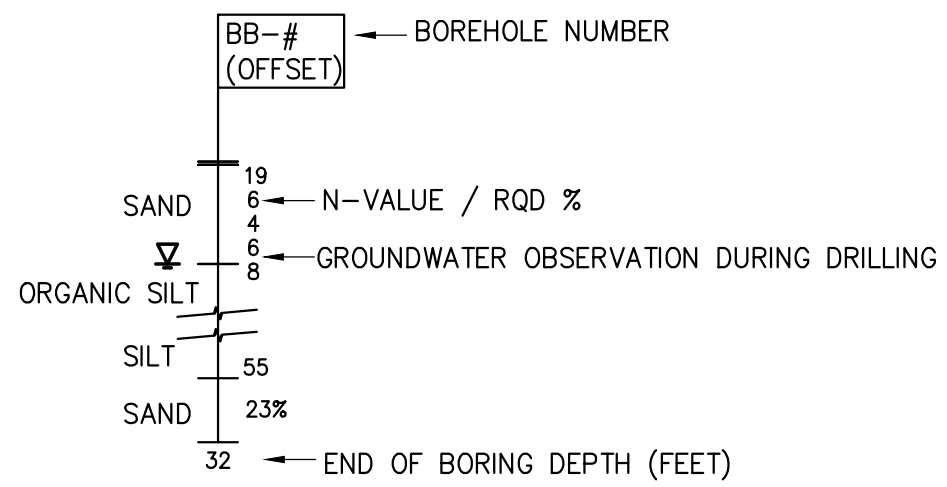
**FIGURE 3**

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**LEGEND**



HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 30'

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**SUBSURFACE PROFILE B-B'**

UNION STATION PARKING GARAGE  
 NEW HAVEN, CONNECTICUT

PROJECT NO.  
 30617

DATE: 03/2018

**FIGURE 4**

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**APPENDIX B**  
**PHOTOGRAPH LOG**

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1



Project site, looking southwest

2



Loading soil barrels into roll-off container, looking north



CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018

3



Drilling operations at B-1, looking south

4



Drilling operations at B-16, looking southeast



CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018

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Project site, looking southwest

6



Parking Garage driveway in western corner of site



CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018

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Project site, looking north from the southern corner of the site

8



Project site, looking east from the southern corner of the site



CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018

9



Drilling operations at B-1, looking northwest

10



Drilling operations at B-2, looking northeast



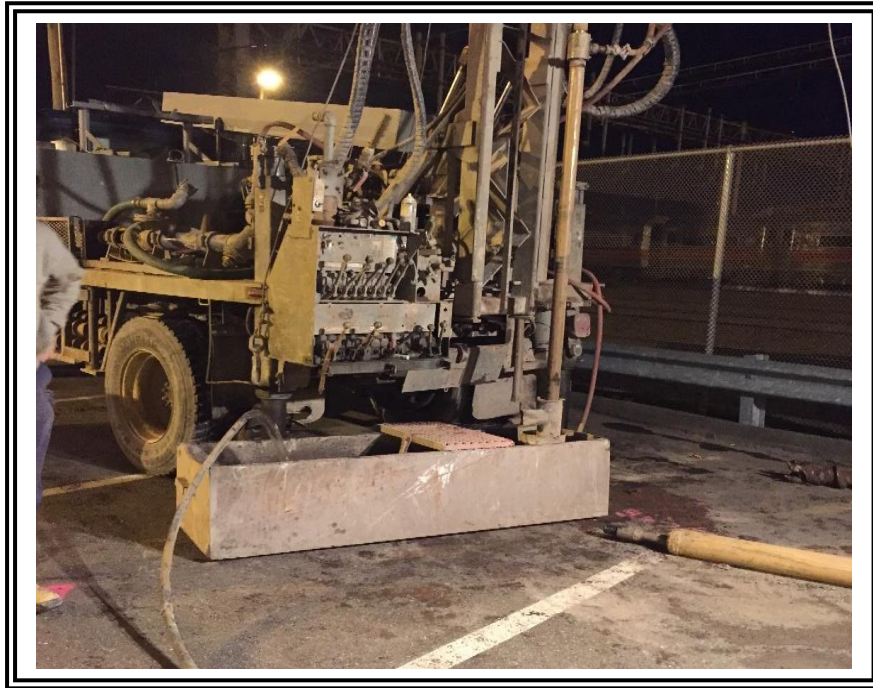
CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018

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Drilling operations at B-3, looking east

12



Drilling operations at B-4, looking northwest



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**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018

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Drilling operations at B-5, looking southeast

14



Drilling operations at B-6, looking north



CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018



15



Drilling operations at B-7, looking east

16



Drilling operations at B-8, looking north



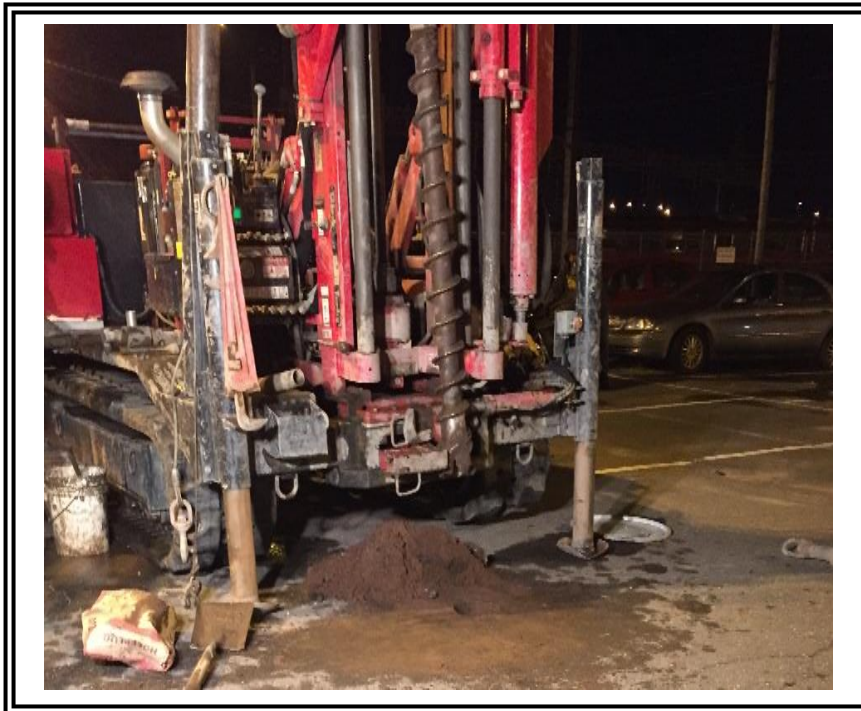
CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018

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Drilling operations at B-9, looking east

18



Drilling operations at B-10, looking east



CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018

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Drilling operations at B-11, looking north

20



Drilling operations at B-12, looking south



CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018

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Drilling operations at B-13, looking north

22



Drilling operations at B-14, looking north



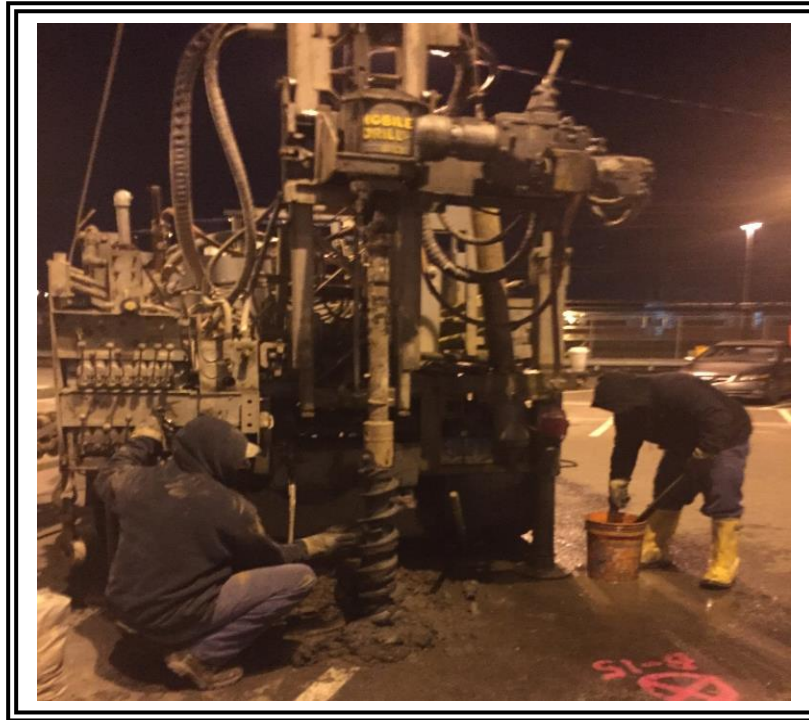
CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018

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Drilling operations at B-15, looking east

24



Drilling operations at B-16, looking south



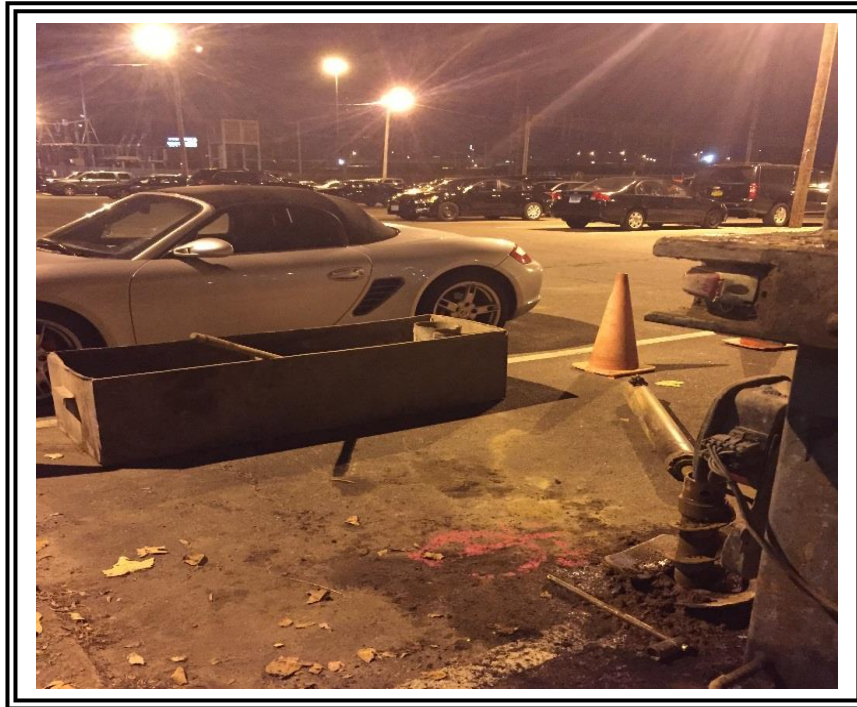
CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

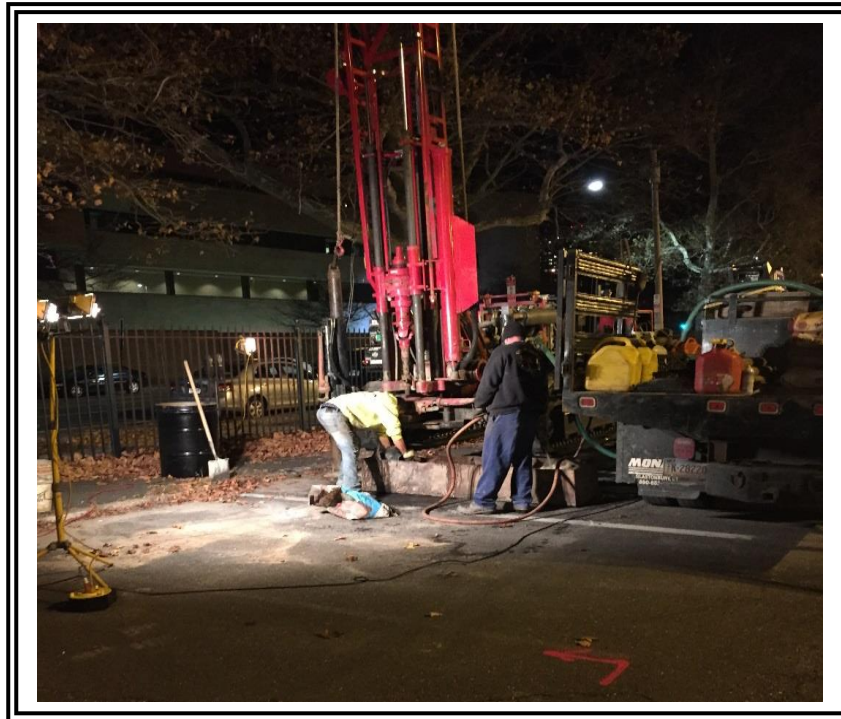
February 2018

25



Drilling operations at B-15, looking east

26



Drilling operations at B-12, looking north



CHA # 30617.5003.32000

**Proposed Parking Garage  
at Union Station**

**New Haven, Connecticut**

February 2018

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**APPENDIX C**  
**BORING LOGS**

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-1
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669588.61	
Start Date: 11-16-15	Route No.:	Easting: 915836.07	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9.92	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	10	9	8	5	24	16		Dark brown C-F SAND, little silt
								SAND	Red-brown M-F SAND, trace silt
	S-S-2	5	4	3	3	24	12		Similar Soil
5									
	S-S-3	3	2	2	1	24	19		Similar Soil
	S-S-4	2	1	1	1	24	12		grades to little silt becomes red/dark brown
								organic SILT	
10	S-S-5	1	1	2	3	24	24		Dark gray organic SILT trace shells, trace wood
	S-S-6	1	2	1	4	24	24		Similar Soil
								WOOD	WOOD
	S-S-7	2	1	1	1	24	12		Dark gray organic SILT, trace shells, trace wood
15								organic SILT	
	S-S-8	1	1	1	1	24	24		grades to no wood
								SAND	
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 1 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final



Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-1
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669588.61	
Start Date: 11-16-15	Route No.:	Easting: 915836.07	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9.92	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	6	7	9	9	24	17		SAND (con't)	Brown-gray M-F SAND, trace silt	
25	S-S-10	7	8	10	9	24	18			Brown-gray C-F SAND, trace silt	-15
30	S-S-11	9	10	11	8	24	20		GRAVEL SAND	grades to little f gravel Gray-brown-red F GRAVEL, trace silt, trace f sand Brown-gray C-F SAND, little silt	-20
35	S-S-12	1	1	1	1	24	24		organic SILT	Dark gray organic SILT, trace shells, trace f sand	-25
40									SILT AND SAND		-30

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 2 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-1
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669588.61	
Start Date: 11-16-15	Route No.:	Easting: 915836.07	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9.92	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
40	S-S-13	WH	WH	WH	WH	24	24		SILT AND SAND (cont)	Dark brown-gray clayey SILT And F SAND	
									SAND	Brown F SAND, Some Silt	
45	S-S-14	7	7	10	14	24	19			Red-brown M-F SAND, trace silt grades to trace f gravel	-35
50	S-S-15	6	5	8	11	24	14			Red-brown F SAND, trace silt	-40
55	S-S-16	7	6	7	7	24	12			Red-brown M-F SAND, trace silt	-45
60											-50

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 3 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-1
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669588.61	
Start Date: 11-16-15	Route No.:	Easting: 915836.07	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9.92	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
60	S-S-17	5	6	8	11	24	13		SAND (con't)	Red-brown F SAND, Some Silt	
65	S-S-18	7	7	10	14	24	17			Similar Soil	-55
70	S-S-19	7	7	12	11	24	23			Similar Soil	-60
75	S-S-20	11	11	12	12	24	11			Similar Soil	-65
80											-70

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 4 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-1
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669588.61	
Start Date: 11-16-15	Route No.:	Easting: 915836.07	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9.92	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
80	S-S-21	7	10	12	14	24	19		SAND (con't)	Similar Soil	
85	S-S-22	7	9	9	11	24	6			Similar Soil	-75
90	S-S-23	8	9	10	14	24	22		SILT AND SAND	Red-brown SILT And F SAND	-80
95	S-S-24	10	10	9	13	24	14			grades to trace f gravel	-85
100											-90

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 5 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-1
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669588.61	
Start Date: 11-16-15	Route No.:	Easting: 915836.07	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9.92	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
100	S-S-25	10	10	9	13	24	14		SILT AND SAND (con't)	Similar Soil	
105										END OF BORING 102ft	-95
110											-100
115											-105
120											-110

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 6 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-2
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669733.32	
Start Date: 11-13-15	Route No.:	Easting: 951962.52	
Finish Date: 11-13-15	Bridge No.:	Surface Elevation: 8	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	3	5	5	2	24	12	Brown-black C-F SAND, little silt, little f gravel, trace f cinders, trace red brick fragments	5
	S-S-2	2	3	5	7	24	14	Similar Soil	
5								SAND	Red-brown M-F SAND, trace silt
	S-S-3	6	5	2	3	24	0	No Recovery	
	S-S-4	1	2	2	1	24	12	Red-brown-gray C-F SAND, trace silt, trace f gravel Red-brown M-F SAND, little silt	0
10	S-S-5	1	1	2	4	24	12	Similar Soil becomes gray/brown	
	S-S-6	1	1	2	3	24	18	Similar Soil organic SILT	Dark gray organic SILT, trace shells
	S-S-7	1	1	1	2	24	19	grades to trace f sand	-5
15	S-S-8	2	1	1	6	24	29	Similar Soil SAND	Gray C-F SAND, trace silt, trace shells
20									-10

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 22ft Rock: ft	NOTES:	Sheet 1 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-2
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669733.32	
Start Date: 11-13-15	Route No.:	Easting: 951962.52	
Finish Date: 11-13-15	Bridge No.:	Surface Elevation: 8	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	5	6	11	13	24	24		SAND (con't)	Brown C-F SAND, trace f gravel	
										END OF BORING 22ft	-15
25											
30											-20
35											-25
40											-30

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 22ft Rock: ft	NOTES:	Sheet 2 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-3
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669863.64	
Start Date: 11-15-15	Route No.:	Easting: 952052.77	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 6.96	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @6.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	13	8	7	58/3"	21	12	Brown-black C-F SAND, Some f Gravel, little silt Brown M-F SAND, little silt WOOD	-5
							WOOD FILL		
	S-S-2	11	10	6	5	24	0	No Recovery	
5								Brown-black M-F SAND, little silt, trace f asphalt fragments	
	S-S-3	5	4	2	1	24	12	Brown C-F SAND, little silt	
								SAND	
	S-S-4	1	1	2	2	24	13	organic SILT Dark gray-black organic SILT, trace shells	0
10	S-S-5	2	1	2	7	24	12	Similar Soil	
	S-S-6	1	1	4	8	24	16	Similar Soil	-5
								SAND	
	S-S-7	4	5	6	7	24	12	Black-gray-red/brown M-F SAND, little silt	
15								organic SILT	
	S-S-8	1	1	1	1	24	20	Dark gray organic SILT, trace shells grades to little m-f sand	-10
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 1 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-3
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669863.64	
Start Date: 11-15-15	Route No.:	Easting: 952052.77	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 6.96	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @6.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	1	1	3	7	24	22		organic SILT (con't)	grades to trace f sand	-15
25	S-S-10	1	1	1	1	24	20		SAND	Similar Soil	-20
30	S-S-11	7	10	10	12	24	13			Gray-brown C-F SAND, trace silt, trace shells	-25
35	S-S-12	1	1	5	4	24	23		organic SILT	Dark gray organic SILT, trace f sand, trace shells grades to Some m-f Sand	-30
40											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 2 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-3
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669863.64	
Start Date: 11-15-15	Route No.:	Easting: 952052.77	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 6.96	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @6.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
40	S-S-13	3	5	7	10	24	20		organic SILT (con't)	Dark brown organic SILT, little f sand, trace clay	-35
45	S-S-14	16	20	9	8	24	10		SAND	Brown/red-brown C-F SAND, trace silt, trace f gravel	-40
50	S-S-15	6	10	10	8	24	4			Red-brown C-F SAND, Some c-f Gravel, little silt	-45
55	S-S-16	5	12	10	12	24	12			Red-brown F SAND, little silt	-50
60											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 3 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-3
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669863.64	
Start Date: 11-15-15	Route No.:	Easting: 952052.77	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 6.96	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @6.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)							
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %				
60	S-S-17	8	10	12	16	24	12		SAND (con't)	grades to Some Silt	-55				
65	S-S-18	10	15	13	13	24	12					Similar Soil	-60		
70	S-S-19	11	15	17	17	24	13							Similar Soil	-65
75	S-S-20	13	16	21	23	24	13								
80									SAND AND SILT						

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 4 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-3
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669863.64	
Start Date: 11-15-15	Route No.:	Easting: 952052.77	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 6.96	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @6.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
80	S-S-21	15	17	14	14	24	11		SAND AND SILT (cont)	Red-brown F SAND And SILT	-75
85	S-S-22	7	9	20	22	24	22				
90	S-S-23	16	20	24	24	24	14		SAND	Red-brown F SAND, Some Silt	-85
95	S-S-24	14	19	24	33	24	12			Similar Soil	-90
100											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 5 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-3
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669863.64	
Start Date: 11-15-15	Route No.:	Easting: 952052.77	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 6.96	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @6.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
100	S-S-25	16	23	26	30	24	14		SAND (con't)	Similar Soil	-95
105										END OF BORING 102ft	-100
110											-105
115											-110
120											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 6 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-4
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669700.88	
Start Date: 11-12-15	Route No.:	Easting: 951895.45	
Finish Date: 11-13-15	Bridge No.:	Surface Elevation: 8.18	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	4	5	7	4	24	16	Black C-F SAND, Some f Gravel, little silt, trace red brick fragments	5
	S-S-2	4	2	2	2	24	6	Brown-black C-M SAND, Some Silt, little f gravel, trace cinders	
5								SAND	
	S-S-3	2	4	4	4	24	11	Red-brown M-F SAND, trace silt	
	S-S-4	4	3	3	3	24	12	Similar Soil	0
10	S-S-5	1	1	1	1	24	6	grades to trace shells, becomes gray	
	S-S-6	WH	WH	WH	WH	24	24	organic SILT Dark gray organic SILT, trace shells, trace organic fibers	-5
	S-S-7	1	1	1	1	24	20	grades to trace m-f sand	
15									
	S-S-8	1	1	1	1	24	23	Dark gray organic SILT, trace shells	
								SAND	-10
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 1 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-4
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669700.88	
Start Date: 11-12-15	Route No.:	Easting: 951895.45	
Finish Date: 11-13-15	Bridge No.:	Surface Elevation: 8.18	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	1	1	3	5	24	24		SAND (con't)	Gray C-F SAND, Some Silt, trace shells	-15
25	S-S-10	3	3	6	7	24	20				
30	S-S-11	6	2	7	2	24	11		SAND	Dark gray organic SILT, trace m-f sand, trace shells	-25
35	S-S-12	8	6	6	3	24	23				
40											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 2 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-4
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669700.88	
Start Date: 11-12-15	Route No.:	Easting: 951895.45	
Finish Date: 11-13-15	Bridge No.:	Surface Elevation: 8.18	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
40	S-S-13	WH	WH	WH	WH	24	18		organic SILT (con't)	Dark gray organic SILT, trace shells	
									SAND		-35
45	S-S-14	8	9	9	11	24	16			Gray-red-brown M-F SAND, little silt	
											-40
50	S-S-15	7	7	8	10	24	12			Red-brown M-F SAND, trace silt	
											-45
55	S-S-16	7	8	10	12	24	10			Similar Soil	
									SAND AND SILT		-50
60											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 3 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-4
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669700.88	
Start Date: 11-12-15	Route No.:	Easting: 951895.45	
Finish Date: 11-13-15	Bridge No.:	Surface Elevation: 8.18	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
60	S-S-17	7	8	14	16	24	12		SAND AND SILT (cont)	Red-brown F SAND, And clayey SILT	-55
									SAND		
65	S-S-18	8	7	10	14	24	18			Red-brown F SAND, Some clayey Silt	-60
70	S-S-19	9	9	12	12	24	20			Similar Soil	-65
75	S-S-20	14	5	13	11	24	24			Similar Soil	-70
										END OF BORING 77ft	-70

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 4 of 4
No. of Soil Samples: 20	No. of Core Runs: ---	SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-5
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669798.49	
Start Date: 11-9-15	Route No.:	Easting: 951970.78	
Finish Date: 11-10-15	Bridge No.:	Surface Elevation: 8	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @13.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	8	5	3	4	24	18	Black-brown C-F SAND, little silt, little f gravel, trace cinders	5
	S-S-2	3	2	6	7	24	5	Brown-black C-F SAND, little silt, trace f gravel	
5								SAND	
	S-S-3	7	5	3	1	24	11	Red-brown M-F SAND, little silt	
	S-S-4	1	1	1	1	24	0	No Recovery	0
10								organic SILT	
	S-S-5	WH	WH	4	1	24	11	Dark gray-black organic SILT, trace shells	
	S-S-6	WH	2	1	1	24	24	Similar Soil	-5
	S-S-7	3	1	2	2	24	23	grades to trace m-f sand	
15								Similar Soil	
	S-S-8	WH	WH	WH	3	24	24	grades to some m-f sand	
								SAND	-10
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 1 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-5
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669798.49	
Start Date: 11-9-15	Route No.:	Easting: 951970.78	
Finish Date: 11-10-15	Bridge No.:	Surface Elevation: 8	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @13.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	3	2	7	2	24	5		SAND (con't)	Dark brown C-F SAND, little silt	-15
25	S-S-10	4	5	8	8	24	12				
30	S-S-11	WH	WH	4	2	24	22		SAND	Dark gray organic SILT, little m-f sand, trace shells	-25
35	S-S-12	6	5	3	4	24	22				
40											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 2 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-5
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669798.49	
Start Date: 11-9-15	Route No.:	Easting: 951970.78	
Finish Date: 11-10-15	Bridge No.:	Surface Elevation: 8	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @13.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
40	S-S-13	1	1	1	1	24	24		organic SILT (con't)	Dark gray organic SILT	-35
45	S-S-14	5	7	10	10	24	24		SAND	Gray M-F SAND, little silt	-40
50	S-S-15	6	7	10	9	24	13			Brown F SAND, Some Silt	-45
55	S-S-16	6	8	12	13	24	14			Similar Soil	-50

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 3 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-5
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669798.49	
Start Date: 11-9-15	Route No.:	Easting: 951970.78	
Finish Date: 11-10-15	Bridge No.:	Surface Elevation: 8	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @13.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)					
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %		
60	S-S-17	9	10	14	14	24	17		SAND (con't)	Similar Soil			
65	S-S-18	8	10	11	11	24	14					Brown F SAND, Some Silt, trace shells	-55
70	S-S-19	9	12	14	14	24	19					Red-brown F SAND, Some Silt	-60
75	S-S-20	7	4	12	14	24	24					Similar Soil	-65
80										END OF BORING 77ft	-70		

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 4 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-6
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669696.62	
Start Date: 11-15-15	Route No.:	Easting: 951832.02	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 8.32	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT	ASPHALT	
	S-S-1	9	12	9	7	24	16		
	S-S-2	4	5	5	5	24	12		
5	S-S-3	7	6	8	12	24	0		
	S-S-4	9	8	6	6	24	0		
10	S-S-5	1	1	1	2	24	20		
	S-S-6	1	1	1	1	24	24		
	S-S-7	WH	WH	WH	WH	24	12		
15	S-S-8	3	1	1	1	24	5		
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 1 of 6
No. of Soil Samples: 25	No. of Core Runs: ---	SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-6
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669696.62	
Start Date: 11-15-15	Route No.:	Easting: 951832.02	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 8.32	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	1	1	3	4	24	22		SAND AND SILT (cont)	Gray F SAND And SILT, trace shells	-15
									SAND		
25	S-S-10	2	6	6	3	24	12			Red-brown M-F SAND, trace silt, trace shells	-20
30	S-S-11	7	6	7	3	24	12			becomes gray	-25
									organic SILT		
35	S-S-12	WH	WH	WH	WH	24	20			Dark organic SILT, trace clay, trace shells	-30
40											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 2 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-6
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669696.62	
Start Date: 11-15-15	Route No.:	Easting: 951832.02	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 8.32	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
40	S-S-13	WH	WH	WH	WH	24	16		organic SILT (con't)	Similar Soil	
									organic SILT		-35
45	S-S-14	1	1	1	1	24	21			Dark organic SILT, trace f sand, trace shells	
											-40
50	S-S-15	WH	WH	WH	WH	24	10			Similar Soil	
									SAND		-45
55	S-S-16	6	6	8	8	24	22			Red-brown F SAND, Some Silt	
											-50
60											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 3 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-6
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669696.62	
Start Date: 11-15-15	Route No.:	Easting: 951832.02	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 8.32	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
60	S-S-17	6	7	7	8	24	18		DRAFT Final
65	S-S-18	7	7	9	10	24	22		
70	S-S-19	6	5	6	6	24	6		
75	S-S-20	8	9	10	11	24	13		
80									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 4 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-6
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669696.62	
Start Date: 11-15-15	Route No.:	Easting: 951832.02	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 8.32	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.:                      Fall: in.	Hammer Wt.: 140              Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)		
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)
80	S-S-21	10	10	10	12	24	8		-75	
85	S-S-22	8	10	11	10	24	17			-80
90	S-S-23	10	11	12	15	24	19		-85	
95	S-S-24	11	10	10	13	24	17		-90	
100								SILT	-90	

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft    Rock: ft	NOTES:	Sheet 5 of 6
No. of Soil Samples: 25    No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-6
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669696.62	
Start Date: 11-15-15	Route No.:	Easting: 951832.02	
Finish Date: 11-16-15	Bridge No.:	Surface Elevation: 8.32	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
100	S-S-25	6	7	8	11	24	24		SILT (cont)	Red-brown SILT, Some f Sand	
										END OF BORING 102ft	-95
105											
110											-100
115											-105
120											-110

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 6 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-7
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669731.32	
Start Date: 11-11-15	Route No.:	Easting: 951853.61	
Finish Date: 11-11-15	Bridge No.:	Surface Elevation: 8.48	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.75 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	3	3	2	3	24	11	Black C-F SAND, little f gravel, trace silt, trace cinders	
								Similar Soil	5
	S-S-2	3	2	3	3	24	11	Black-brown C-F SAND, little f gravel, trace silt	
5								Black C-F SAND, Some Cinders, Some Asphalt fragments, trace f gravel	
	S-S-3	3	3	4	4	24	14	Brown C-F SAND, trace f gravel	
								SAND	
	S-S-4	2	1	2	1	24	14	Brown M-F SAND, trace silt, trace f gravel	0
10	S-S-5	WH	WH	WH	WH	24	24	Similar Soil	
								organic SILT	
	S-S-6	1	1	1	1	24	13	Dark gray organic SILT, trace shells, trace f sand, trace organics	-5
								Dark gray organic SILT, trace shells	
15	S-S-7	1	1	1	1	24	18		
								Similar Soil	
	S-S-8	WH	WH	WH	WH	24	23		
								SAND	-10
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 22ft Rock: ft	NOTES:	Sheet 1 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-7
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669731.32	
Start Date: 11-11-15	Route No.:	Easting: 951853.61	
Finish Date: 11-11-15	Bridge No.:	Surface Elevation: 8.48	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.75 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	1	2	2	1	24	24		SAND (con't)	Gray M-F SAND, Some Silt, trace shells	
										END OF BORING 22ft	-15
25											
30											
35											
40											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 22ft Rock: ft	NOTES:	Sheet 2 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-8
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669772.15	
Start Date: 11-11-15	Route No.:	Easting: 951880.71	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.49	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.25 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	4	2	1	1	24	6	Brown C-F SAND, Some Silt, little f gravel, trace wood	
	S-S-2	1	22	18	4	24	7	grades to no wood	5
5								CONCRETE	Gray F GRAVEL, little f sand, trace silt
	S-S-3	5	4	4	2	24	0	SAND	No Recovery
	S-S-4	3	1	1	1	24	0		No Recovery
10	S-S-5	1	1	1	1	24	0		No Recovery
	S-S-6	1	1	1	1	24	24	organic SILT	Brown C-F SAND, trace silt Brown C-F SAND, trace silt Dark organic SILT, trace shells, trace root fibers
	S-S-7	WH	WH	WH	WH	24	20		Dark gray organic SILT, trace shells, trace root fibers
15	S-S-8	WH	WH	WH	WH	24	22		Similar Soil
								SAND	
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 1 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

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Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-8
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669772.15	
Start Date: 11-11-15	Route No.:	Easting: 951880.71	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.49	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.25 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	4	4	3	2	24	16		SAND (con't)	Gray C-F SAND, little silt, trace shells	
25	S-S-10	7	9	14	16	24	20			becomes reddish/gray Red-brown M-F SAND, little silt, trace shells	
30	S-S-11	4	5	4	2	24	16		organic SILT	becomes gray Dark gray organic SILT, trace f sand	
35	S-S-12	6	7	6	6	24	17		SAND	Gray M-F SAND, little silt, trace shells	
40									organic SILT		

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 2 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-8
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669772.15	
Start Date: 11-11-15	Route No.:	Easting: 951880.71	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.49	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.25 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches		Pen. (in.)	Rec. (in.)				RQD %		
40	S-S-13	WH	WH	1	2	24	16		organic SILT (con't)	Dark gray organic SILT, trace f sand, trace shells	
									WOOD		-35
45	S-S-14	6	5	6	7	24	24		WOOD	Gray-brown F SAND, little silt	
									SAND		-40
50	S-S-15	4	4	5	6	24	14			Red-brown M-F SAND, trace silt	
											-45
55	S-S-16	8	7	9	10	24	12			Red-brown F SAND, trace silt	
											-50
60											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 3 of 4
No. of Soil Samples: 20	No. of Core Runs: ---	SM-001-M REV. 1/02

DRAFT Final



Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-8
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669772.15	
Start Date: 11-11-15	Route No.:	Easting: 951880.71	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.49	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.25 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)		
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)
60	S-S-17	6	8	9	11	24	11		SAND (con't)  Red-brown F SAND, little silt  Similar Soil  Similar Soil  Similar Soil  END OF BORING 77ft	-55
65	S-S-18	7	7	11	8	24	8			-60
70	S-S-19	5	7	13	12	24	24			-65
75	S-S-20	5	4	8	9	24	24			-70

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 4 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-9
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669810.56	
Start Date: 11-10-15	Route No.:	Easting: 951926.48	
Finish Date: 11-10-15	Bridge No.:	Surface Elevation: 8.3	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.50 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	8	16	9	9	24	18	Gray-black C-F SAND, Some f Gravel, little silt, little concrete fragments	5
	S-S-2	4	4	6	6	24	18	Light brown C-F SAND, trace silt	
5								Similar Soil	
	S-S-3	6	8	10	11	24	5	SAND	
	S-S-4	11	10	7	6	24	12	Red-brown M-F SAND, trace f gravel, trace silt	
								Similar Soil	0
10	S-S-5	2	1	3	4	24	18	Similar Soil	
	S-S-6	3	3	2	3	24	24	Similar Soil	
								Similar Soil	-5
	S-S-7	1	2	2	3	24	12	Red-brown M-F SAND, little silt	
15								Dark gray organic SILT, trace m-f sand, trace shells	
	S-S-8	1	1	1	1	24	24	organic SILT	
								Similar Soil	
								SAND	-10
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 20ft Rock: ft	NOTES:	Sheet 1 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-9
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669810.56	
Start Date: 11-10-15	Route No.:	Easting: 951926.48	
Finish Date: 11-10-15	Bridge No.:	Surface Elevation: 8.3	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.50 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches			Pen. (in.)				Rec. (in.)	RQD %	
20	S-S-9	1	2	2	3	24	24		SAND (con't) organic SILT	Brown-gray C-F SAND, Some silty Clay Dark gray organic SILT, trace m-f sand, trace shells	
										END OF BORING 22ft	-15
25											
30											-20
35											-25
40											-30

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 20ft Rock: ft	NOTES:	Sheet 2 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-10
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669865.92	
Start Date: 11-8-15	Route No.:	Easting: 951954.08	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 8.15	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	19	14	6	6	24	7	Gray-black C-F SAND, little coal/ash, little f gravel, trace silt	5
	S-S-2	8	6	6	9	24	8	Similar Soil	
5	S-S-3	8	8	8	11	24	20	Similar Soil	
	S-S-4	13	6	6	6	24	18	SAND Brown-light brown M-F SAND, little silt, little f gravel	0
10	S-S-5	4	5	4	6	24	24	Similar Soil	
	S-S-6	3	4	3	2	24	5	Similar Soil	
	S-S-7	1	2	2	3	24	20	Similar Soil	-5
15	S-S-8	2	2	1	1	24	22	organic SILT Dark gray organic SILT, trace shells	
								Similar Soil	-10
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 1 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-10
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669865.92	
Start Date: 11-8-15	Route No.:	Easting: 951954.08	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 8.15	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
20	S-S-9	4	3	8	10	24	12		Similar Soil Gray C-F SAND, little silt, trace shells -15 Gray C-F SAND, little silt -20 Gray M-F SAND, little silt -25 Gray M-F SAND, little silt, little f gravel, little shells -30 organic SILT
25	S-S-10	7	10	8	5	24	7		
30	S-S-11	12	15	16	12	24	18		
35	S-S-12	7	11	22	30	24	14		
40									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 2 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-10
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669865.92	
Start Date: 11-8-15	Route No.:	Easting: 951954.08	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 8.15	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
40	S-S-13	1	1	2	3	24	24		organic SILT (con't)	Dark gray organic SILT, trace shells, trace m-f sand	-35
45	S-S-14	9	15	14	16	24	20		SAND	Gray M-F SAND, little f gravel, trace silt	-40
50	S-S-15	9	10	14	14	24	12			Red-brown F SAND, little silt	-45
55	S-S-16	11	13	15	15	24	13			grades to Some Silt	-50
60									SAND AND SILT		

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 3 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-10
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669865.92	
Start Date: 11-8-15	Route No.:	Easting: 951954.08	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 8.15	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
60	S-S-17	11	16	17	21	24	12		SAND AND SILT (cont) Red-brown F SAND And SILT -55 Similar Soil -60 Similar Soil -65 Similar Soil -70
65	S-S-18	11	15	15	15	24	12		
70	S-S-19	12	20	18	18	24	10		
75	S-S-20	13	19	21	25	24	12		
80									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 4 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-10
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669865.92	
Start Date: 11-8-15	Route No.:	Easting: 951954.08	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 8.15	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)					
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %		
80	S-S-21	11	20	23	24	24	17		SAND AND SILT (con't)	Similar Soil			
													-75
85	S-S-22	14	19	20	25	24	11					Similar Soil	
													-80
90	S-S-23	16	20	26	24	24	13			Similar Soil			
											-85		
95	S-S-24	15	25	29	23	24	12			Similar Soil			
											-90		
100													

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 5 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final



Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-10
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669865.92	
Start Date: 11-8-15	Route No.:	Easting: 951954.08	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 8.15	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)
	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %			
100	S-S-25	22 24 27 33	24	13		SAND AND SILT (con't)	Similar Soil	
							END OF BORING 102ft	-95
105								-100
110								-105
115								-110
120								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 6 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-11
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669664.82	
Start Date: 11-17-15	Route No.:	Easting: 951774.88	
Finish Date: 11-18-15	Bridge No.:	Surface Elevation: 8.99	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @5.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)		
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)
0							ASPHALT FILL	ASPHALT		
	S-S-1	37	41	18	12	24	1	Black-gray-brown C-F SAND, little c-f gravel, little silt		
	S-S-2	1	2	1	3	24	5	Similar Soil	-5	
5	S-S-3	7	6	6	7	24	20	Dark brown-gray C-F SAND, little silt, trace f gravel		
	S-S-4	8	4	3	6	24	16	Similar Soil		
								SAND	Brown-red M-F SAND, little silt	0
10	S-S-5	1	1	1	2	24	12	Similar Soil		
	S-S-6	1	1	1	2	24	24	Gray M-F SAND, Some silty CLAY		
								organic SILT	Dark gray organic SILT, trace shells, trace m-f sand	
	S-S-7	1	1	1	2	24	24	SAND	Red-brown M-F SAND, little silt	-5
15								organic SILT	Dark gray organic SILT, trace shells, trace f sand	
	S-S-8	1	1	1	1	24	16	Similar Soil		
20										-10

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 22ft Rock: ft	NOTES:	Sheet 1 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-11
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669664.82	
Start Date: 11-17-15	Route No.:	Easting: 951774.88	
Finish Date: 11-18-15	Bridge No.:	Surface Elevation: 8.99	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @5.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	2	2	7	16	24	24		organic SILT (con't) SAND	Similar Soil Gray/red-brown C-F SAND, little silt, trace shells	
25										END OF BORING 22ft	-15
30											-20
35											-25
40											-30

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 22ft Rock: ft	NOTES:	Sheet 2 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-12
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000		Northing: 669716.02
Start Date: 11-12-15	Route No.:	Easting: 951788.58	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.71	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)
	Sample Type/No.	Blows on Sampler per 6 inches						
0						ASPHALT FILL	ASPHALT	
	S-S-1	18	22	50/3"	15	5	Gray-black C-F SAND, little f gravel, trace silt	
							Similar Soil	
	S-S-2	9	9	5 5	24	12	Brown M-F SAND, trace silt	5
5								
	S-S-3	5	3	4 4	24	14	Similar Soil	
	S-S-4	2	1	1 3	24	19	Similar Soil	
10								
	S-S-5	WH	WH	WH 1	24	24	Similar Soil	
	S-S-6	1	2	2 3	24	7	Similar Soil	
	S-S-7	2	2	3 5	24	24	Similar Soil	-5
15							organic SILT	
	S-S-8	1	1	1 1	24	24	Similar Soil	
20							SAND	-10

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 1 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-12
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669716.02	
Start Date: 11-12-15	Route No.:	Easting: 951788.58	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.71	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	7	8	10	13	24	12		SAND (con't)	Gray/red-brown C-F SAND, little silt	-15
25	S-S-10	4	6	6	4	24	20			Similar Soil	-20
30	S-S-11	2	1	1	2	24	23		organic SILT	Dark gray organic SILT, trace shells, trace f sand	-25
35	S-S-12	7	8	9	5	24	11		SAND	Gray C-F SAND, little silt, trace shells	-30
40									organic SILT		

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 2 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-12
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669716.02	
Start Date: 11-12-15	Route No.:	Easting: 951788.58	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.71	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
40	S-S-13	1	2	2	3	24	23		-35
45	S-S-14	8	14	16	18	24	24		
50	S-S-15	8	7	7	8	24	12		
55	S-S-16	7	12	12	15	24	8		
60									-50

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 3 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-12
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669716.02	
Start Date: 11-12-15	Route No.:	Easting: 951788.58	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.71	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
60	S-S-17	6	9	17	12	24	13		-55 -60 -65 -70
65	S-S-18	10	10	10	12	24	8		
70	S-S-19	14	17	19	18	24	12		
75	S-S-20	8	14	22	23	24	12		
80									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 4 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-13
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669771.44	
Start Date: 11-11-15	Route No.:	Easting: 951830.88	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.72	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.50 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	11	21	18	15	24	13	Black C-F SAND, little f gravel, trace silt	
	S-S-2	9	12	12	9	24	11	Similar Soil	5
5								Black C-F SAND, little f gravel, trace silt, trace red brick fragments, trace glass, trace cinders	
	S-S-3	3	1	4	10	24	20		
								SAND	Red-brown M-F SAND, trace silt
	S-S-4	6	3	3	4	24	16	Similar Soil	0
10	S-S-5	1	1	1	3	24	7	Similar Soil	
	S-S-6	1	1	3	1	24	18	Similar Soil	
								organic SILT	Dark gray organic SILT, trace shells
	S-S-7	1	1	3	2	24	11	Similar Soil	-5
15									
	S-S-8	1	1	1	1	24	24	Similar Soil	
								SAND	-10
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 1 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final



Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-13
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669771.44	
Start Date: 11-11-15	Route No.:	Easting: 951830.88	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.72	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.50 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	5	6	5	11	24	12		SAND (con't)	Gray M-F SAND, little silt	-15
25	S-S-10	9	12	6	5	24	11			becomes gray/red-brown	-20
30	S-S-11	1	2	1	3	24	20		organic SILT	Dark gray organic SILT, trace shells, trace f sand	-25
35	S-S-12	7	9	7	9	24	19		SAND	Gray M-F SAND, little silt, trace shells	-30
40									organic SILT		

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 2 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-13
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669771.44	
Start Date: 11-11-15	Route No.:	Easting: 951830.88	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.72	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.50 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
40	S-S-13	2	4	4	5	24	22		organic SILT (con't)	Dark gray organic SILT, trace shells, trace f sand	
									SAND		-35
45	S-S-14	15	18	14	15	24	24			Gray F SAND, little silt	
										Red-brown M-F SAND, little silt	
50	S-S-15	7	9	9	12	24	12			Red-brown F SAND, little silt	
55	S-S-16	9	12	15	17	24	17			Similar Soil	
60											-50

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 3 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-13
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669771.44	
Start Date: 11-11-15	Route No.:	Easting: 951830.88	
Finish Date: 11-12-15	Bridge No.:	Surface Elevation: 8.72	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @8.50 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
60	S-S-17	10	12	12	13	24	20		-55
65	S-S-18	13	13	17	20	24	23		
70	S-S-19	14	10	20	20	24	14		-65
75	S-S-20	10	12	12	14	24	20		-70
80									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 4 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-14
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669861.45	
Start Date: 11-9-15	Route No.:	Easting: 951877.56	
Finish Date: 11-10-15	Bridge No.:	Surface Elevation: 8.67	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @11.50 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	7	9	8	8	24	11		Black-brown C-F SAND, little f gravel, little silt, trace cinders
									Similar Soil
	S-S-2	4	3	7	6	24	12		
5								SAND	Red-brown M-F SAND, trace silt
	S-S-3	3	4	6	6	24	14		Similar Soil
	S-S-4	7	6	5	6	24	6		Similar Soil
10	S-S-5	1	1	1	1	24	0		No Recovery
	S-S-6	1	2	2	2	24	24	organic SILT	Dark gray organic SILT, trace shells, trace c-f sand
	S-S-7	2	2	2	2	24	20	SAND	Gray-brown C-F SAND, little silt
15	S-S-8	1	1	1	1	24	23	organic SILT	Dark gray organic SILT, trace shells, trace m-f sand
								SAND	
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 1 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-14
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669861.45	
Start Date: 11-9-15	Route No.:	Easting: 951877.56	
Finish Date: 11-10-15	Bridge No.:	Surface Elevation: 8.67	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @11.50 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	3	5	9	7	24	11		SAND (con't)	Gray M-F SAND, trace silt, trace f gravel	-15
25	S-S-10	5	3	5	4	24	24				
30	S-S-11	1	1	4	8	24	24		SAND	Gray organic SILT And M-F SAND, trace shells	-25
35	S-S-12	5	6	4	5	24	24				
40											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 2 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-14
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669861.45	
Start Date: 11-9-15	Route No.:	Easting: 951877.56	
Finish Date: 11-10-15	Bridge No.:	Surface Elevation: 8.67	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @11.50 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
40	S-S-13	1	1	1	2	24	24		organic SILT (con't)	Dark gray organic SILT, little m-f sand grades to no m-f sand	
									WOOD		-35
45	S-S-14	3	8	18	14	24	24		WOOD organic SILT	WOOD Dark gray organic SILT	
									SAND	Gray C-F SAND, little f gravel, trace silt	-40
50	S-S-15	6	5	6	7	24	8			becomes red-brown	
55	S-S-16	4	16	16	15	24	12			Red-brown M-F SAND, trace silt	-45
60											-50

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 3 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-14
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669861.45	
Start Date: 11-9-15	Route No.:	Easting: 951877.56	
Finish Date: 11-10-15	Bridge No.:	Surface Elevation: 8.67	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @11.50 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
60	S-S-17	12	17	14	22	24	12		-55 -60 -65 -70
65	S-S-18	10	14	15	17	24	14		
70	S-S-19	10	13	20	24	24	16		
75	S-S-20	11	16	22	17	24	14		
80									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 77ft Rock: ft	NOTES:	Sheet 4 of 4
No. of Soil Samples: 20 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-15
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669926.91	
Start Date: 11-17-15	Route No.:	Easting: 951973.92	
Finish Date: 11-18-15	Bridge No.:	Surface Elevation: 8.14	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @5.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	18	28	19	11	24	10	Black-gray-brown C-F SAND, trace silt, trace f gravel, trace cinders, trace concrete/asphalt fragments	-5
	S-S-2	7	5	4	3	24	7	Similar Soil	
5									
	S-S-3	5	7	5	4	24	1	Black-gray-brown C-F SAND, trace silt, trace f gravel	
	S-S-4	5	1	1	1	24	2	Similar Soil	0
								organic SILT	
10	S-S-5	1	1	1	1	24	24	Dark gray organic SILT, trace shells	
	S-S-6	1	1	1	1	24	24	Similar Soil	-5
	S-S-7	1	1	1	3	24	24	Similar Soil	
15									
	S-S-8	WH	1	2	1	24	20	Dark gray organic SILT, trace shells, trace f sand	
								SAND	-10
20									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 22ft Rock: ft	NOTES:	Sheet 1 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final



Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-15
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669926.91	
Start Date: 11-17-15	Route No.:	Easting: 951973.92	
Finish Date: 11-18-15	Bridge No.:	Surface Elevation: 8.14	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @5.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	1	2	6	7	24	24		SAND (con't)	Gray/red-brown C-F SAND, trace silt, trace shells	
										END OF BORING 22ft	-15
25											
30											-20
35											-25
40											-30

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 22ft Rock: ft	NOTES:	Sheet 2 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-16
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669691.92	
Start Date: 11-16-15	Route No.:	Easting: 951731.22	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	10	10	8	4	24	5		Black-brown-gray C-F SAND, little f gravel, trace silt
	S-S-2	6	5	3	9	24	11		Brown-dark gray C-F SAND, little silt, trace f gravel
5	S-S-3	9	10	8	5	24	2		Similar Soil
	S-S-4	7	15	11	9	24	16		grades to trace red brick fragments
10	S-S-5	1	1	2	2	24	24		ASPHALT SAND
	S-S-6	2	3	2	2	24	24		organic SILT SAND
	S-S-7	2	2	2	2	24	24		Red-dark brown M-F SAND, trace silt
15	S-S-8	1	1	1	1	24	12		organic SILT
									Dark gray organic SILT, trace shells
									grades to little silt
									Dark gray organic SILT, trace shells
									Similar Soil
20									SAND

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 1 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-16
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669691.92	
Start Date: 11-16-15	Route No.:	Easting: 951731.22	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	5	9	9	13	24	12		SAND (con't)	Gray-brown M-F SAND, trace silt, trace f gravel, trace shells	
25	S-S-10	3	8	15	16	24	13		organic SILT	Similar Soil Dark gray organic SILT, trace shells	-15
30	S-S-11	7	6	8	6	24	17		SAND	Gray-red-brown M-F SAND, little silt grades to trace silt	-20
35	S-S-12	1	1	1	1	24	24		organic SILT	Dark gray organic SILT, trace shells	-25
40											-30

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 2 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-16
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669691.92	
Start Date: 11-16-15	Route No.:	Easting: 951731.22	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
40	S-S-13	1	1	2	3	24	11		organic SILT (con't)	Similar Soil	
45	S-S-14	9	18	21	21	24	23		SAND	Red-brown M-F SAND, little silt Red-brown M-F SAND, trace silt, trace f gravel	-35
50	S-S-15	7	7	7	11	24	12			Red-brown F SAND, little silt	-40
55	S-S-16	7	11	13	15	24	11			grades to Some Silt	-45
60											-50

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 3 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-16
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669691.92	
Start Date: 11-16-15	Route No.:	Easting: 951731.22	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
60	S-S-17	9	10	15	14	24	13		SAND (con't)	Similar Soil	
65	S-S-18	13	15	18	20	24	12				
70	S-S-19	14	22	21	24	24	14		SAND AND SILT	Red-brown F SAND And SILT	
75	S-S-20	14	23	24	24	24	18			Similar Soil	
80											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 4 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-16
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669691.92	
Start Date: 11-16-15	Route No.:	Easting: 951731.22	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
80	S-S-21	14	18	18	23	24	12		SAND AND SILT (cont)	Similar Soil	
85	S-S-22	15	23	24	28	24	12			Similar Soil	
90	S-S-23	18	22	26	28	24	11			Similar Soil	
95	S-S-24	12	16	24	23	24	22		SILT	Red-brown SILT, Some f Sand, little f gravel	
100									SAND AND SILT		

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 5 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-16
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669691.92	
Start Date: 11-16-15	Route No.:	Easting: 951731.22	
Finish Date: 11-17-15	Bridge No.:	Surface Elevation: 9	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
100	S-S-25	7	19	25	30	24	22		SAND AND SILT (cont)	Red-brown F SAND And SILT	
										END OF BORING 102ft	
105											-95
110											-100
115											-105
120											-110

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 6 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-17
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669844.92	
Start Date: 11-9-15	Route No.:	Easting: 951841.7	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 8.87	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0							ASPHALT FILL	ASPHALT	
	S-S-1	2	6	3	2	24	13	Black-red-brown C-F SAND, little coal, trace f gravel, trace silt	
	S-S-2	5	42	39/2"		14	6	Similar Soil	5
5								Similar Soil	
	S-S-3	4	5	5	5	24	11		
	S-S-4	3	3	2	2	24	0	Red-brown C-F SAND, trace f gravel, trace silt No Recovery	0
10	S-S-5	2	1	1	1	24	6	Brown M-F SAND, little f gravel, trace silt Similar Soil	
	S-S-6	1	2	1	1	24	23	organic SILT	
	S-S-7	2	2	3	4	24	22	Dark gray organic SILT, trace shells, trace m-f sand	-5
15	S-S-8	1	1	1	1	24	14	grades to no m-f sand	
20									-10

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 22ft Rock: ft	NOTES:	Sheet 1 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final



Driller: T. McGovern	<b>Connecticut DOT Boring Report</b>		Hole No.: B-17
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669844.92	
Start Date: 11-9-15	Route No.:	Easting: 951841.7	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 8.87	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 3.25 in. HSA	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	4	11	14	17	24	24		organic SILT (cont)	Dark gray organic SILT, Some c-f Sand, trace shells	
25										END OF BORING 22ft	-15
30											-20
35											-25
40											-30

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 22ft Rock: ft	NOTES:	Sheet 2 of 2
No. of Soil Samples: 9 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-18
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669959.82	
Start Date: 11-8-15	Route No.:	Easting: 951921.41	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 9.56	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)		
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)
0							ASPHALT FILL	ASPHALT		
	S-S-1	4	4	2	3	24	10	Black-gray C-F SAND, little coal/ash, little f gravel, trace silt		
	S-S-2	5	4	3	2	24	10	Black-brown-gray C-F SAND, little coal/ash, little f gravel, trace silt	5	
5	S-S-3	2	2	2	1	24	19	Black-brown-gray C-F SAND, little coal/ash, little f gravel, trace silt, trace red brick fragments		
	S-S-4	3	4	6	6	24	19	Brown C-F SAND, little coal/ash, trace silt		
								SAND	Brown C-F SAND, trace silt	
10	S-S-5	2	1	1	1	24	8	grades to little f gravel	0	
	S-S-6	1	1	1	1	24	12	Similar Soil		
	S-S-7	2	1	1	1	24	11	Gray M-F SAND, little f gravel, trace silt		
15								organic SILT	Dark gray organic SILT, trace shells	-5
	S-S-8	WH	WH	WH	WH	24	18	Similar Soil		
20										-10

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 1 of 6
No. of Soil Samples: 25	No. of Core Runs: ---	SM-001-M REV. 1/02

DRAFT-Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-18
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669959.82	
Start Date: 11-8-15	Route No.:	Easting: 951921.41	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 9.56	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
20	S-S-9	3	2	4	3	24	18		SAND	Similar Soil Gray C-F SAND, little silt	-15
25	S-S-10	1	1	1	1	24	8			Similar Soil	
30	S-S-11	WH	WH	WH	WH	24	24			organic SILT Dark gray organic SILT, little m-f sand	-20
35	S-S-12	7	10	9	4	24	13			SAND Brown-gray M-F SAND, little silt, trace f gravel	-25
40										organic SILT	-30

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 2 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-18
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669959.82	
Start Date: 11-8-15	Route No.:	Easting: 951921.41	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 9.56	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
40	S-S-13	WH	WH	WH	WH	24	24		organic SILT (con't)	Dark gray organic SILT, trace f sand	
45	S-S-14	8	24	18	17	24	12		SAND	Brown-gray C-F SAND, little f gravel, trace silt	-35
50	S-S-15	7	7	5	6	24	6			Gray-brown M-F SAND, little silt	-40
55	S-S-16	5	5	7	10	24	18			Red-brown F SAND, little silt	-45
60											-50

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 3 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-18
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669959.82	
Start Date: 11-8-15	Route No.:	Easting: 951921.41	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 9.56	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
60	S-S-17	10	13	12	13	24	16		SAND (con't)	grades to Some Silt	-55
65	S-S-18	8	11	12	14	24	16				
70	S-S-19	10	11	14	4	24	13				
75	S-S-20	8	12	14	16	24	13				
									SILT	Red-brown SILT, Some f Sand	-65
80											-70

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 4 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-18
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669959.82	
Start Date: 11-8-15	Route No.:	Easting: 951921.41	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 9.56	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)					
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %		
80	S-S-21	12	14	15	18	24	14		SILT (con't)	Similar Soil			
85	S-S-22	7	13	20	25	24	14						-75
90	S-S-23	13	16	17	20	24	22						-80
95	S-S-24	15	19	20	24	24	18						-85
100												-90	

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 5 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT Final

Driller: J. Casson	<b>Connecticut DOT Boring Report</b>		Hole No.: B-18
Inspector: A. Donahue	Town: New Haven	Stat./Offset:	
Engineer: S. Doehla	Project No.: 30617.5003.32000	Northing: 669959.82	
Start Date: 11-8-15	Route No.:	Easting: 951921.41	
Finish Date: 11-9-15	Bridge No.:	Surface Elevation: 9.56	

Project Description: Proposed Parking Garage at Union Station

Casing Size/Type: 4 in. FJC	Sampler Type/Size: Split Spoon 2 in.	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @9.00 ft

Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)	RQD %
100	S-S-25	11	13	18	20	24	13		SILT (cont)	Similar Soil	
105										END OF BORING 102ft	-95
110											-100
115											-105
120											-110

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test  
 Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 102ft Rock: ft	NOTES:	Sheet 6 of 6
No. of Soil Samples: 25 No. of Core Runs: ---		SM-001-M REV. 1/02

DRAFT-Final



**APPENDIX D**  
**LABORATORY TEST RESULTS**

DRAFT Final







Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	---	Sample Type:	---
Sample ID:	---	Test Date:	12/14/15
Depth :	---	Test Id:	356135
		Tested By:	jbr
		Checked By:	emm

## Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content, %
B-1	S- 8	15-17 ft	Moist, dark gray clay	70.5
B-1	S- 12	35-37 ft	Moist, dark gray silt	51.1
B-3	S- 21	80-82 ft	Moist, dark red silty sand	22.5
B-6	S- 12	35-37 ft	Moist, dark gray silt	16.6
B-6	S- 14	45-47 ft	Moist, dark gray clay	58.7
B-7	S- 5	9-11 ft	Moist, dark red sand with silt	16.4
B-8	S- 7	13-15 ft	Moist, dark gray clay	77.8
B-11	S- 8	15-17 ft	Moist, very dark gray silt	77.3
B-12	S- 13	40-42 ft	Moist, dark gray clay	56.2
B-13	S- 17	60-62 ft	Moist, dark red silty sand	23.7

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Notes: Temperature of Drying : 110° Celsius



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	---	Sample Type:	---
Sample ID:	---	Test Date:	12/10/15
Depth :	---	Test Id:	356139
		Tested By:	GA
		Checked By:	emm

## Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content, %
B-14	S- 11	30-32 ft	Moist, very dark greenish gray sandy silt	47.2
B-15	S- 6	11-13 ft	Moist, dark gray clay	75.7
B-16	S- 9	20-22 ft	Moist, brown sand with silt	19.1
B-18	S- 13	40-42 ft	Moist, very dark gray clay	54.4

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Notes: Temperature of Drying : 110° Celsius



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	---	Sample Type:	---
Sample ID:	---	Test Date:	12/11/15
Depth :	---	Test Id:	356145
		Tested By:	jbr
		Checked By:	emm

pH of Soil by ASTM D4972

Boring ID	Sample ID	Depth	Visual Description	pH of Soil in Distilled Water	pH of Soil in Calcium Chloride
B-2	S-4	7-9 ft	Moist, red sand	7.6	7.2
B-3	S-4	7-9 ft	Moist, mottled red sand and dark gray clay	7.0	6.5
B-7	S-1	1-3 ft	Moist, dark grayish brown sand with gravel	6.8	5.6
B-10	S-2	3-5 ft	Moist, dark brown sandy gravel	8.5	7.6
B-13	S-2	3-5 ft	Moist, dark brown sand with gravel	7.5	6.4
B-18	S-3	5-7 ft	Moist, very dark gray sand	7.0	6.3

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Notes: Sample Preparation: screened through #10 sieve  
 Method A, pH meter used



Client:	CHA Companies, Inc.
Project:	Proposed Union Station Parking Garage
Location:	New Haven, CT
GTX#:	304087
Test Date:	12/11/15
Tested By:	jbr
Checked By:	emm

**Laboratory Measurement of Soil Resistivity Using  
the Wenner Four-Electrode Method by ASTM G57  
(Laboratory Measurement)**

Boring ID	Sample ID	Depth, ft.	Sample Description	Electrical Resistivity, ohm-cm @ 21° C	Electrical Conductivity, (ohm-cm) <sup>-1</sup> @ 21° C	Electrical Resistivity, ohm-cm @ 15.5° C	Electrical Conductivity, (ohm-cm) <sup>-1</sup> @ 15.5° C
B-2	S-4	7-9	Moist, red sand	1,550	6.45E-04	1763	5.67E-04
B-3	S-4	7-9	Moist, mottled red sand and dark gray clay	465	2.15E-03	529	1.89E-03
B-7	S-1	1-3	Moist, dark grayish brown sand with gravel	620	1.61E-03	705	1.42E-03
B-10	S-2	3-5	Moist, dark brown sandy gravel	1,446	6.91E-04	1645	6.08E-04
B-13	S-2	3-5	Moist, dark brown sand with gravel	2,996	3.34E-04	3408	2.93E-04
B-18	S-3	5-7	Moist, very dark gray sand	2,789	3.59E-04	3173	3.15E-04

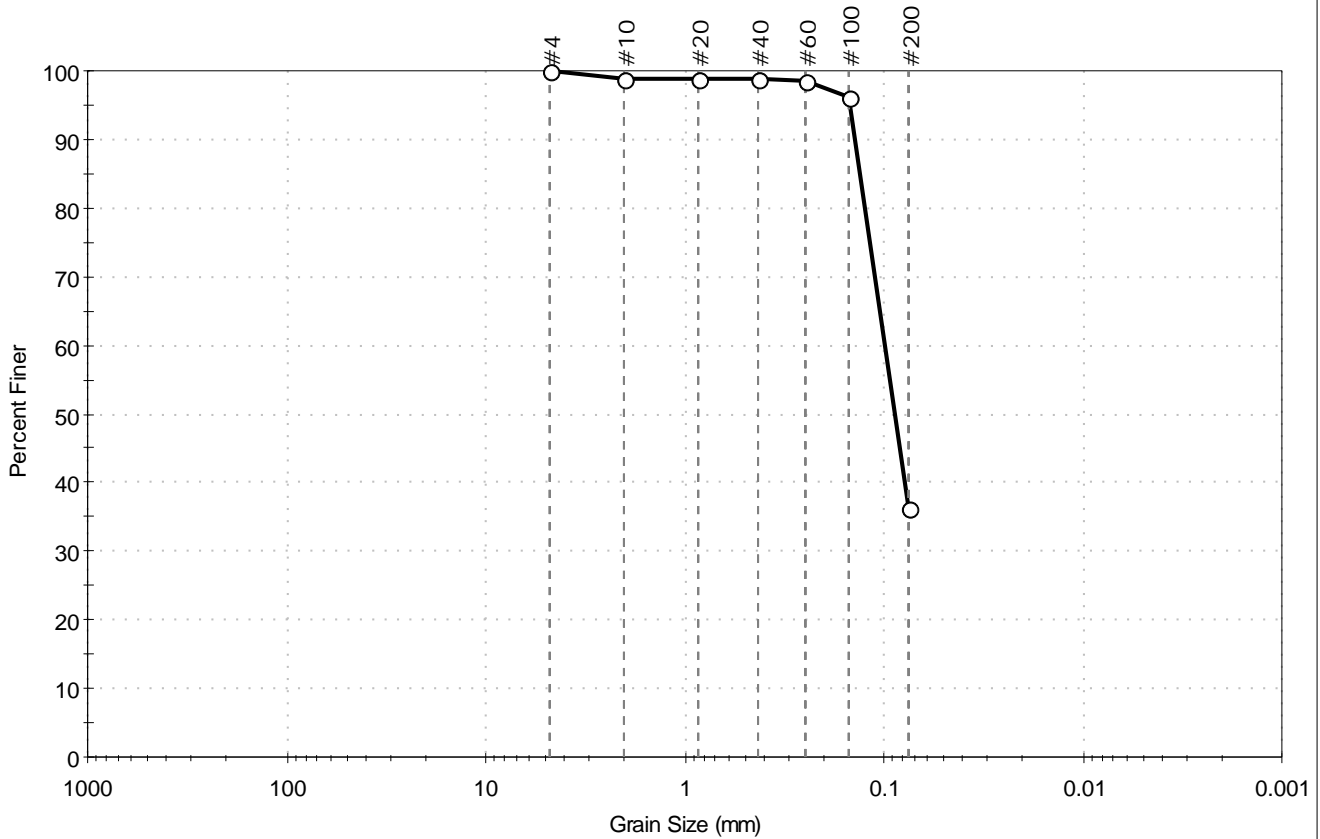
Notes: Test Equipment: Nilsson Model 400 Soil Resistance Meter, MC Miller Soil Box  
 Water added to sample to create a thick slurry prior to testing (saturated condition).  
 Electrical Conductivity is calculated as inverse of Electrical Resistivity (per ASTM G57)  
 Test conducted in standard laboratory atmosphere: 68-73 F

DRAFT FILE



Client: CHA Companies, Inc.	Project No: GTX-304087
Project: Proposed Union Station Parking Garage	
Location: New Haven, CT	
Boring ID: B-3	Sample Type: bag
Sample ID: S-21	Test Date: 12/07/15
Depth: 80-82 ft	Test Id: 356171
Test Comment: ---	Tested By: jbr
Visual Description: Moist, dark red silty sand	Checked By: emm
Sample Comment: ---	

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	63.7	36.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	99		
#60	0.25	99		
#100	0.15	96		
#200	0.075	36		

<u>Coefficients</u>	
D <sub>85</sub> = 0.1319 mm	D <sub>30</sub> = N/A
D <sub>60</sub> = 0.0987 mm	D <sub>15</sub> = N/A
D <sub>50</sub> = 0.0879 mm	D <sub>10</sub> = N/A
C <sub>u</sub> = N/A	C <sub>c</sub> = N/A

<u>Classification</u>	
ASTM	N/A
AASHTO	Silty Soils (A-4 (0))

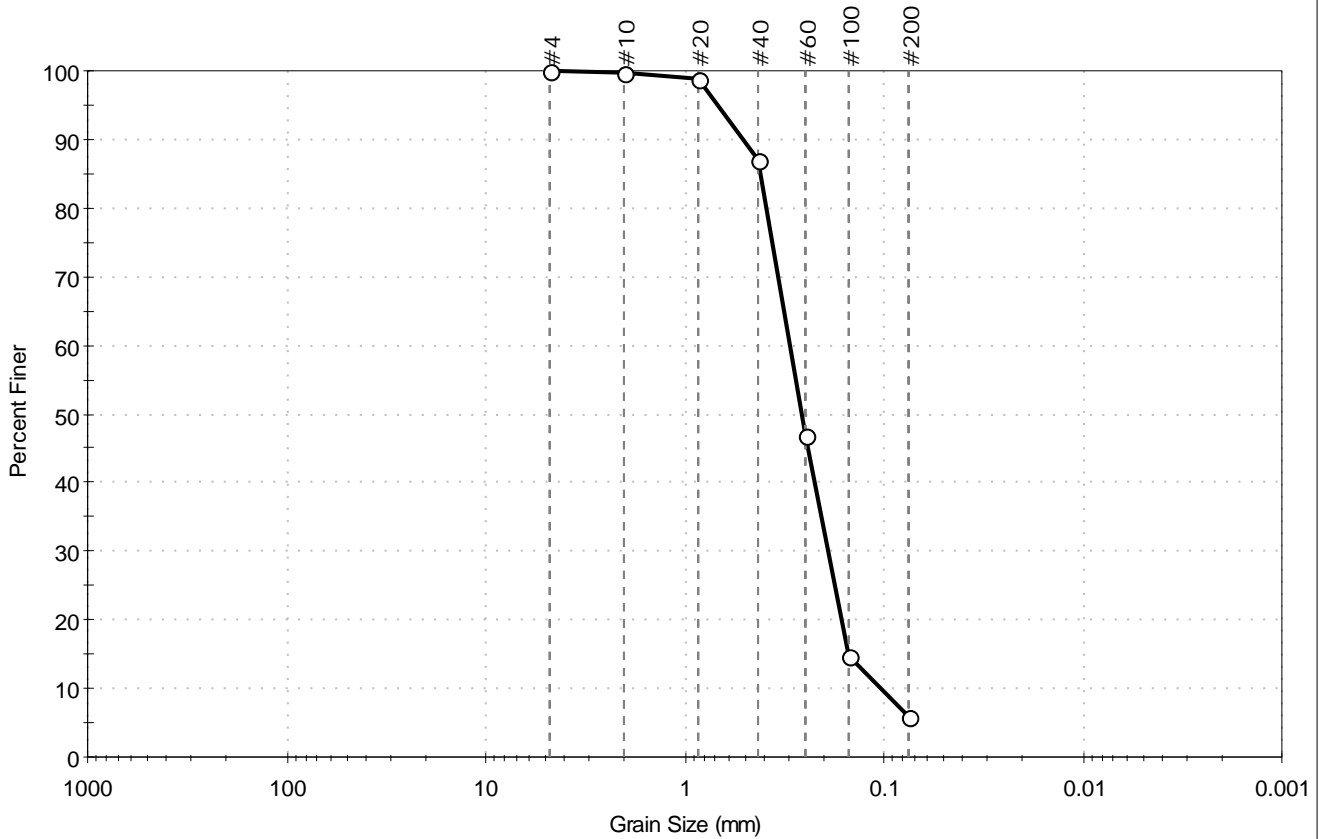
<u>Sample/Test Description</u>
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---

DRAFT Final



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-4	Sample Type:	bag
Sample ID:	S-15	Test Date:	12/07/15
Depth:	50-52 ft	Test Id:	356172
Test Comment:	---		
Visual Description:	Moist, dark red sand with silt		
Sample Comment:	----		

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	94.2	5.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	87		
#60	0.25	47		
#100	0.15	15		
#200	0.075	5.8		

<u>Coefficients</u>	
D <sub>85</sub> = 0.4132 mm	D <sub>30</sub> = 0.1912 mm
D <sub>60</sub> = 0.2973 mm	D <sub>15</sub> = 0.1506 mm
D <sub>50</sub> = 0.2606 mm	D <sub>10</sub> = 0.1038 mm
C <sub>u</sub> = 2.864	C <sub>c</sub> = 1.185

<u>Classification</u>	
ASTM	N/A
AASHTO	Fine Sand (A-3 (1))

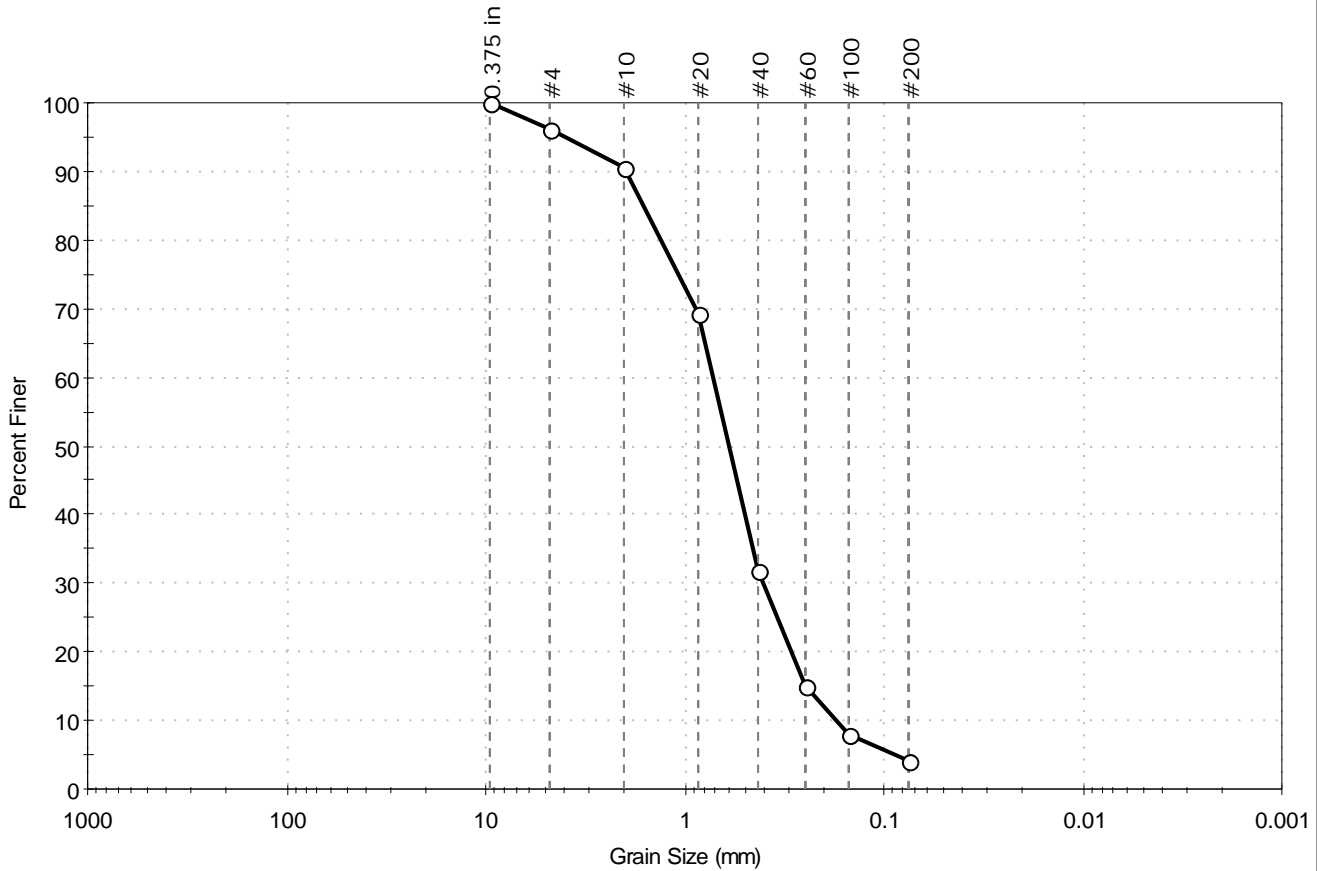
<u>Sample/Test Description</u>
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---

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Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-5	Sample Type:	bag
Sample ID:	S-10	Test Date:	12/07/15
Depth:	25-27 ft	Test Id:	356173
Test Comment:	---		
Visual Description:	Moist, brown sand		
Sample Comment:	---		

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	3.8	92.2	4.0

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Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	96		
#10	2.00	90		
#20	0.85	69		
#40	0.42	32		
#60	0.25	15		
#100	0.15	8		
#200	0.075	4.0		

<u>Coefficients</u>	
D <sub>85</sub> = 1.6030 mm	D <sub>30</sub> = 0.4006 mm
D <sub>60</sub> = 0.7142 mm	D <sub>15</sub> = 0.2468 mm
D <sub>50</sub> = 0.5939 mm	D <sub>10</sub> = 0.1741 mm
C <sub>u</sub> = 4.102	C <sub>c</sub> = 1.291

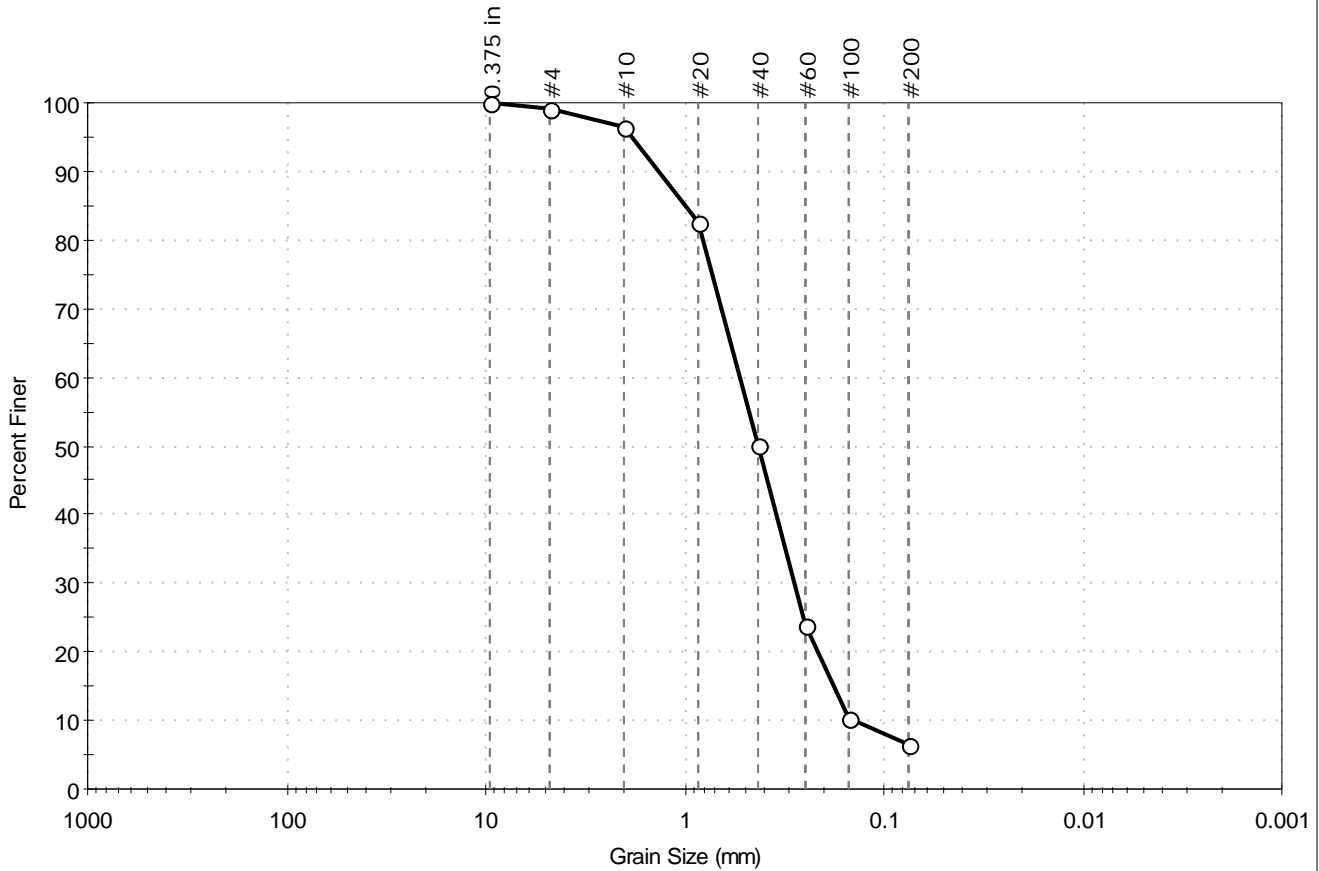
<u>Classification</u>	
<u>ASTM</u>	Poorly graded sand (SP)
<u>AASHTO</u>	Stone Fragments, Gravel and Sand (A-1-b (1))

<u>Sample/Test Description</u>	
Sand/Gravel Particle Shape :	ROUNDED
Sand/Gravel Hardness :	HARD



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-7	Sample Type:	bag
Sample ID:	S-5	Test Date:	12/07/15
Depth:	9-11 ft	Test Id:	356174
Test Comment:	---		
Visual Description:	Moist, dark red sand with silt		
Sample Comment:	---		

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.9	92.7	6.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	96		
#20	0.85	83		
#40	0.42	50		
#60	0.25	24		
#100	0.15	10		
#200	0.075	6.4		

<u>Coefficients</u>	
D <sub>85</sub> = 0.9911 mm	D <sub>30</sub> = 0.2828 mm
D <sub>60</sub> = 0.5250 mm	D <sub>15</sub> = 0.1785 mm
D <sub>50</sub> = 0.4239 mm	D <sub>10</sub> = 0.1400 mm
C <sub>u</sub> = 3.750	C <sub>c</sub> = 1.088

<u>Classification</u>	
ASTM	N/A
AASHTO	Fine Sand (A-3 (1))

<u>Sample/Test Description</u>
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---

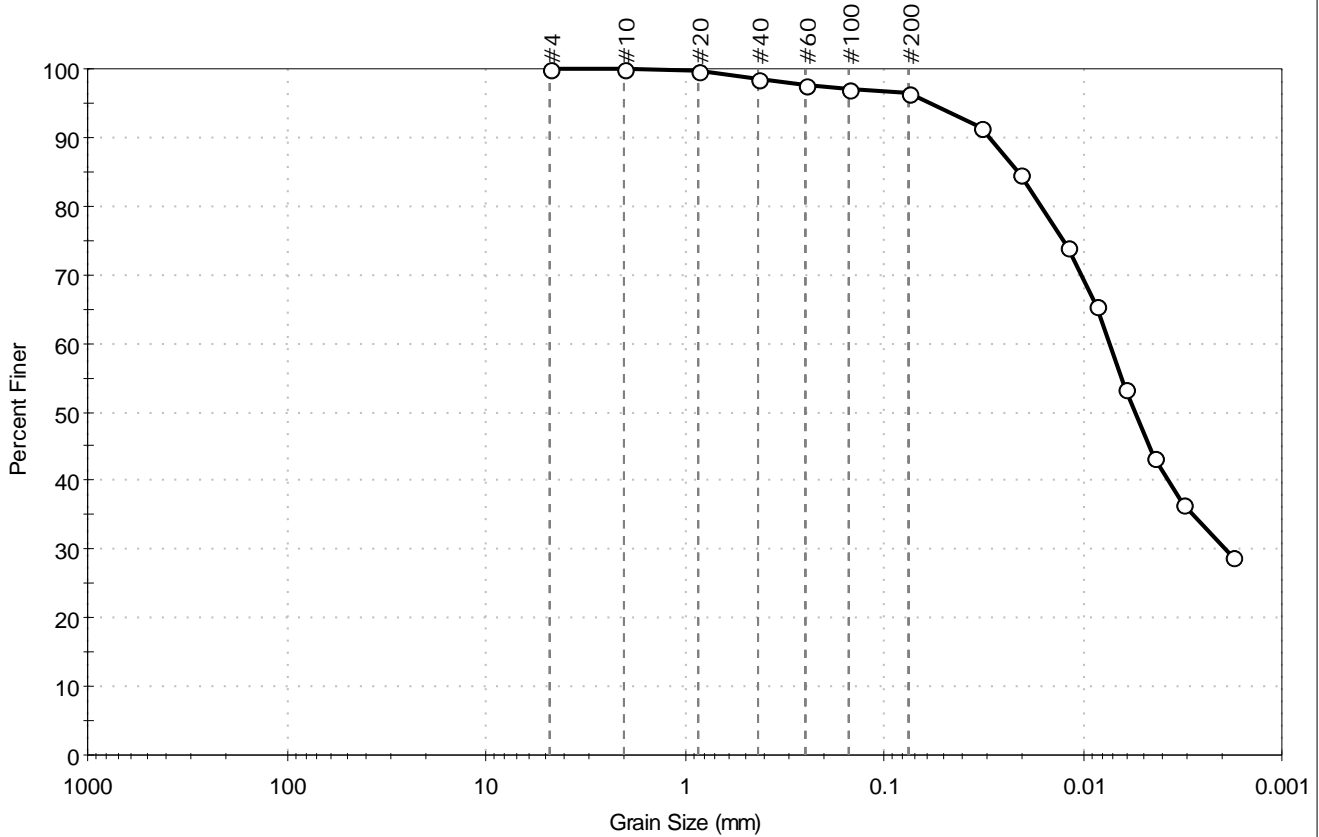
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Client: CHA Companies, Inc.	Project No: GTX-304087
Project: Proposed Union Station Parking Garage	
Location: New Haven, CT	
Boring ID: B-11	Sample Type: bag
Sample ID: S-8	Test Date: 12/10/15
Depth: 15-17 ft	Test Id: 356175
Test Comment: ---	Tested By: GA
Visual Description: Moist, very dark gray silt	Checked By: emm
Sample Comment: ---	

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	3.4	96.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	98		
#100	0.15	97		
#200	0.075	97		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0328	91		
---	0.0206	85		
---	0.0120	74		
---	0.0086	65		
---	0.0062	53		
---	0.0044	43		
---	0.0032	37		
---	0.0018	29		

<u>Coefficients</u>	
D <sub>85</sub> = 0.0213 mm	D <sub>30</sub> = 0.0019 mm
D <sub>60</sub> = 0.0074 mm	D <sub>15</sub> = N/A
D <sub>50</sub> = 0.0055 mm	D <sub>10</sub> = N/A
C <sub>u</sub> = N/A	C <sub>c</sub> = N/A

<u>Classification</u>	
<u>ASTM</u>	Elastic silt (MH)
<u>AASHTO</u>	Clayey Soils (A-7-5 (52))

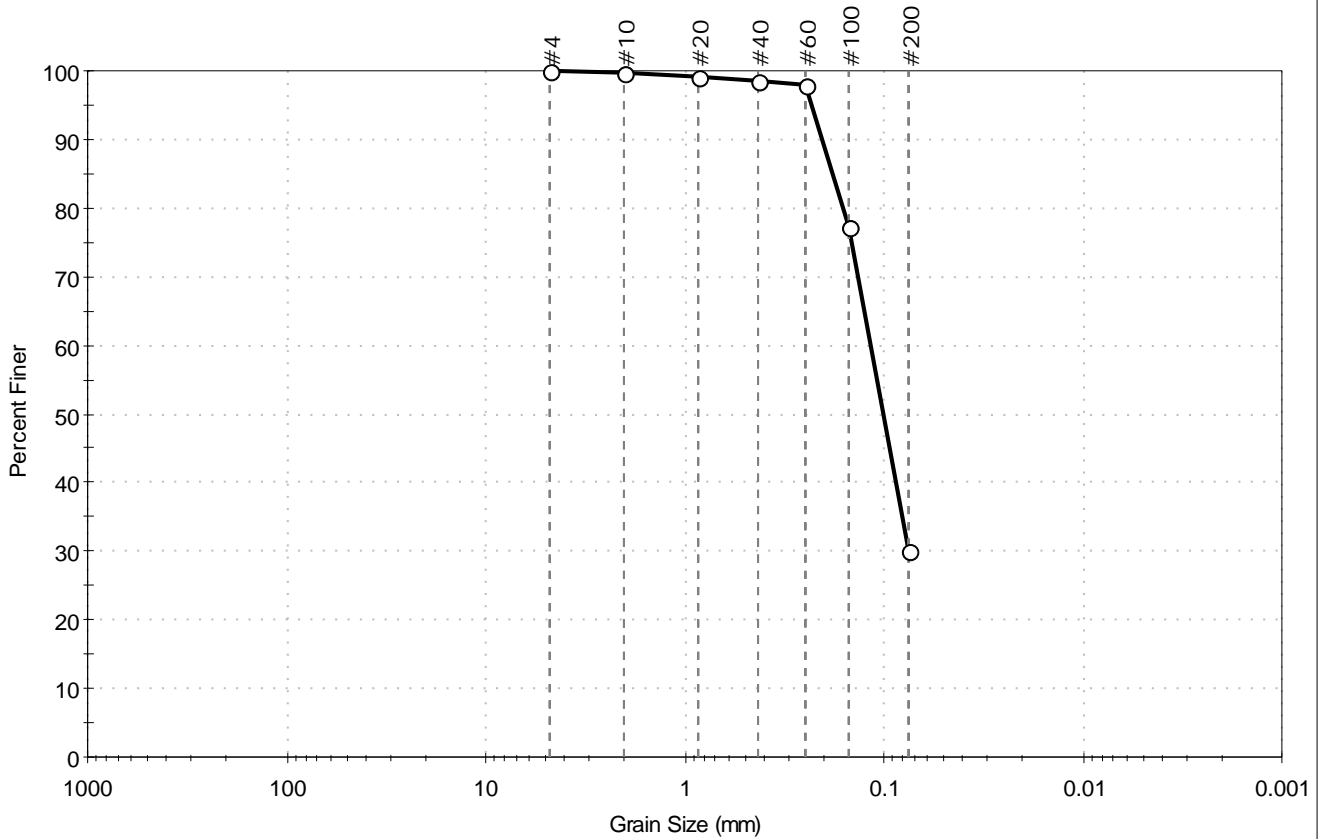
<u>Sample/Test Description</u>	
Sand/Gravel Particle Shape : ---	
Sand/Gravel Hardness : ---	
Dispersion Device : Apparatus A - Mech Mixer	
Dispersion Period : 1 minute	
Specific Gravity : 2.65	
Separation of Sample: #200 Sieve	

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Client: CHA Companies, Inc.	Project No: GTX-304087
Project: Proposed Union Station Parking Garage	
Location: New Haven, CT	
Boring ID: B-12	Sample Type: bag
Sample ID: S-19	Test Date: 12/07/15
Depth: 70-72 ft	Test Id: 356125
Test Comment: ---	Tested By: jbr
Visual Description: Moist, dark red silty sand	Checked By: emm
Sample Comment: ---	

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	69.9	30.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	98		
#60	0.25	98		
#100	0.15	77		
#200	0.075	30		

<u>Coefficients</u>	
D <sub>85</sub> = 0.1817 mm	D <sub>30</sub> = N/A
D <sub>60</sub> = 0.1164 mm	D <sub>15</sub> = N/A
D <sub>50</sub> = 0.1004 mm	D <sub>10</sub> = N/A
C <sub>u</sub> = N/A	C <sub>c</sub> = N/A

<u>Classification</u>	
ASTM	N/A
AASHTO	Silty Gravel and Sand (A-2-4 (0))

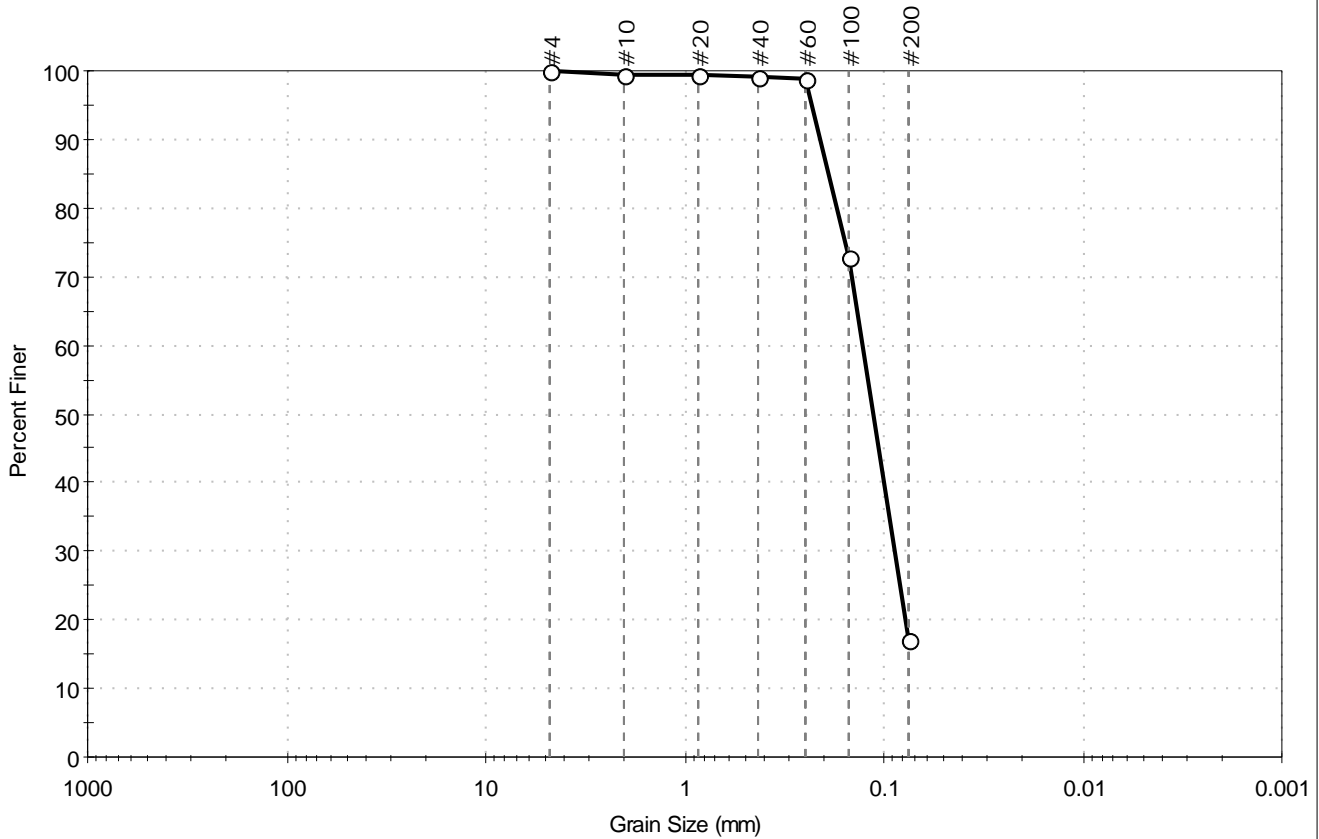
<u>Sample/Test Description</u>
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---

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Client: CHA Companies, Inc.	Project No: GTX-304087
Project: Proposed Union Station Parking Garage	
Location: New Haven, CT	
Boring ID: B-13	Sample Type: bag
Sample ID: S-17	Test Date: 12/07/15
Depth: 60-62 ft	Test Id: 356126
Test Comment: ---	Tested By: jbr
Visual Description: Moist, dark red silty sand	Checked By: emm
Sample Comment: ---	

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	82.8	17.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	99		
#60	0.25	99		
#100	0.15	73		
#200	0.075	17		

<u>Coefficients</u>	
D <sub>85</sub> = 0.1906 mm	D <sub>30</sub> = 0.0880 mm
D <sub>60</sub> = 0.1279 mm	D <sub>15</sub> = N/A
D <sub>50</sub> = 0.1129 mm	D <sub>10</sub> = N/A
C <sub>u</sub> = N/A	C <sub>c</sub> = N/A

<u>Classification</u>	
ASTM	N/A
AASHTO	Silty Gravel and Sand (A-2-4 (0))

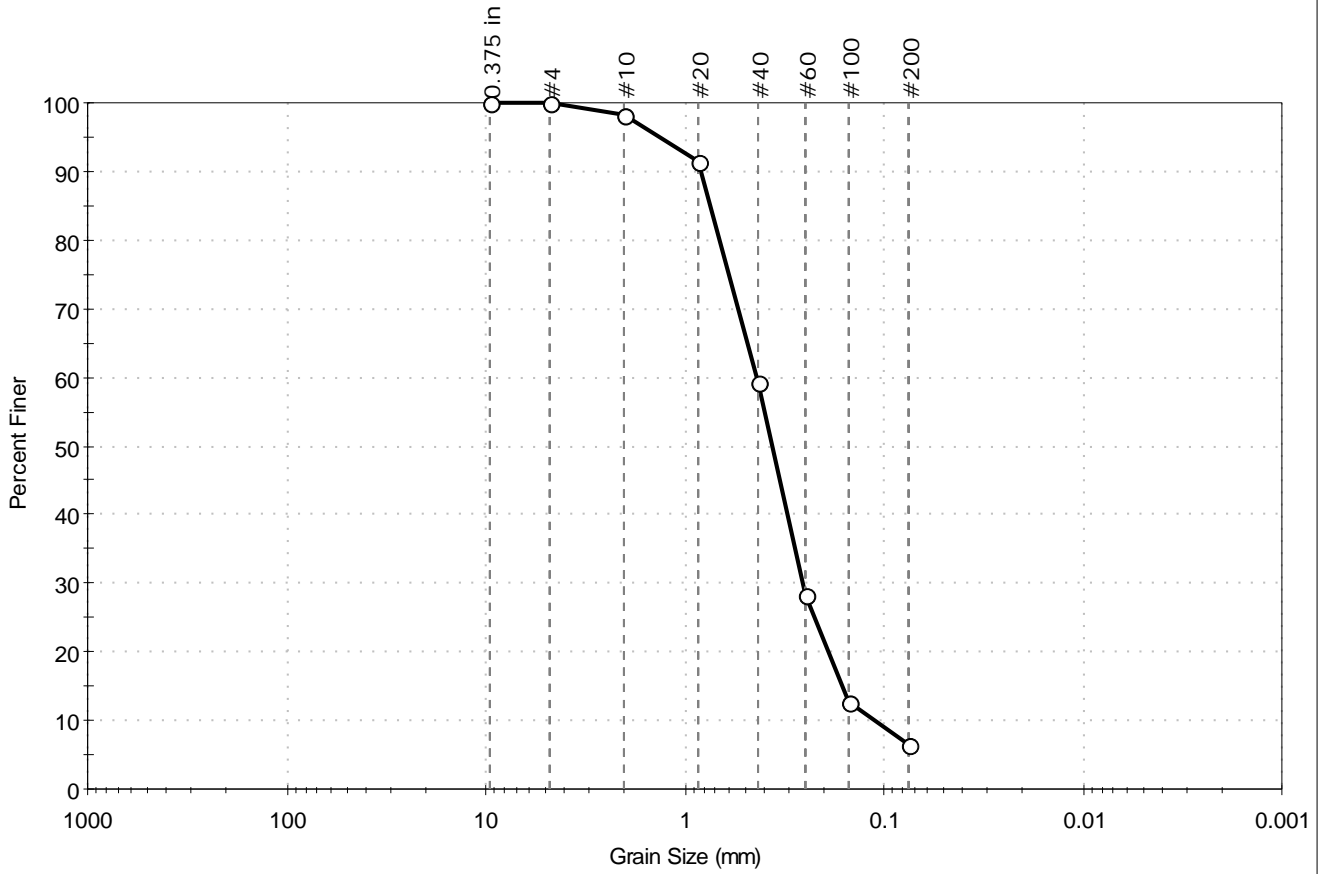
<u>Sample/Test Description</u>
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---

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Client: CHA Companies, Inc.	Project No: GTX-304087
Project: Proposed Union Station Parking Garage	
Location: New Haven, CT	
Boring ID: B-14	Sample Type: bag
Sample ID: S-9	Test Date: 12/07/15
Depth: 20-22 ft	Test Id: 356127
Tested By: jbr	Checked By: emm
Test Comment: ---	
Visual Description: Moist, gray sand with silt	
Sample Comment: ---	

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.1	93.4	6.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	98		
#20	0.85	91		
#40	0.42	59		
#60	0.25	28		
#100	0.15	13		
#200	0.075	6.5		

<u>Coefficients</u>	
D <sub>85</sub> = 0.7396 mm	D <sub>30</sub> = 0.2569 mm
D <sub>60</sub> = 0.4326 mm	D <sub>15</sub> = 0.1612 mm
D <sub>50</sub> = 0.3628 mm	D <sub>10</sub> = 0.1104 mm
C <sub>u</sub> = 3.918	C <sub>c</sub> = 1.382

<u>Classification</u>	
ASTM	N/A
AASHTO	Fine Sand (A-3 (1))

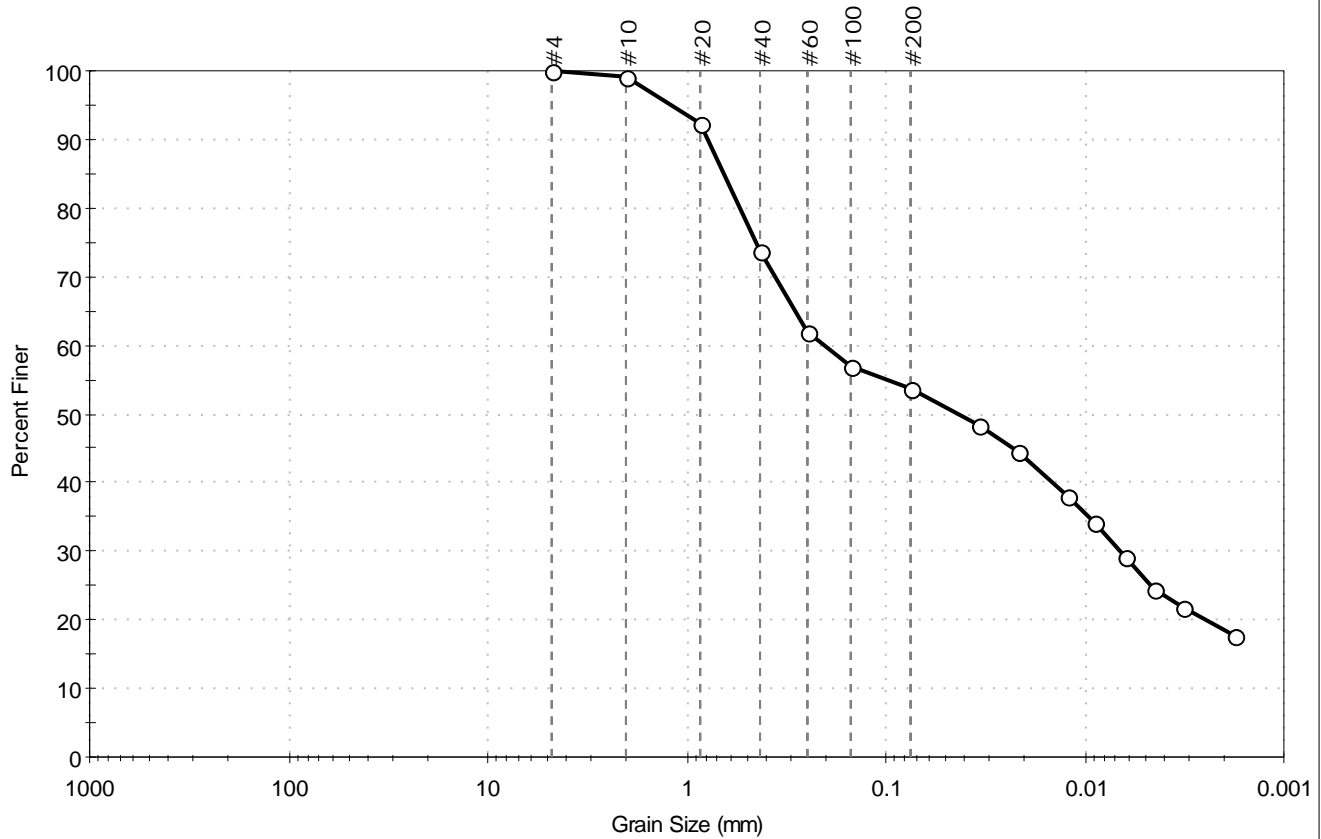
<u>Sample/Test Description</u>
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---

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Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-14	Sample Type:	bag
Sample ID:	S-11	Test Date:	12/10/15
Depth:	30-32 ft	Test Id:	356130
Test Comment:	---		
Visual Description:	Moist, very dark greenish gray sandy silt		
Sample Comment:	---		

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	46.4	53.6

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Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	92		
#40	0.42	74		
#60	0.25	62		
#100	0.15	57		
#200	0.075	54		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0343	48		
---	0.0215	45		
---	0.0123	38		
---	0.0089	34		
---	0.0062	29		
---	0.0045	24		
---	0.0032	22		
---	0.0018	18		

<u>Coefficients</u>	
D <sub>85</sub> = 0.6452 mm	D <sub>30</sub> = 0.0066 mm
D <sub>60</sub> = 0.2058 mm	D <sub>15</sub> = N/A
D <sub>50</sub> = 0.0436 mm	D <sub>10</sub> = N/A
C <sub>u</sub> = N/A	C <sub>c</sub> = N/A

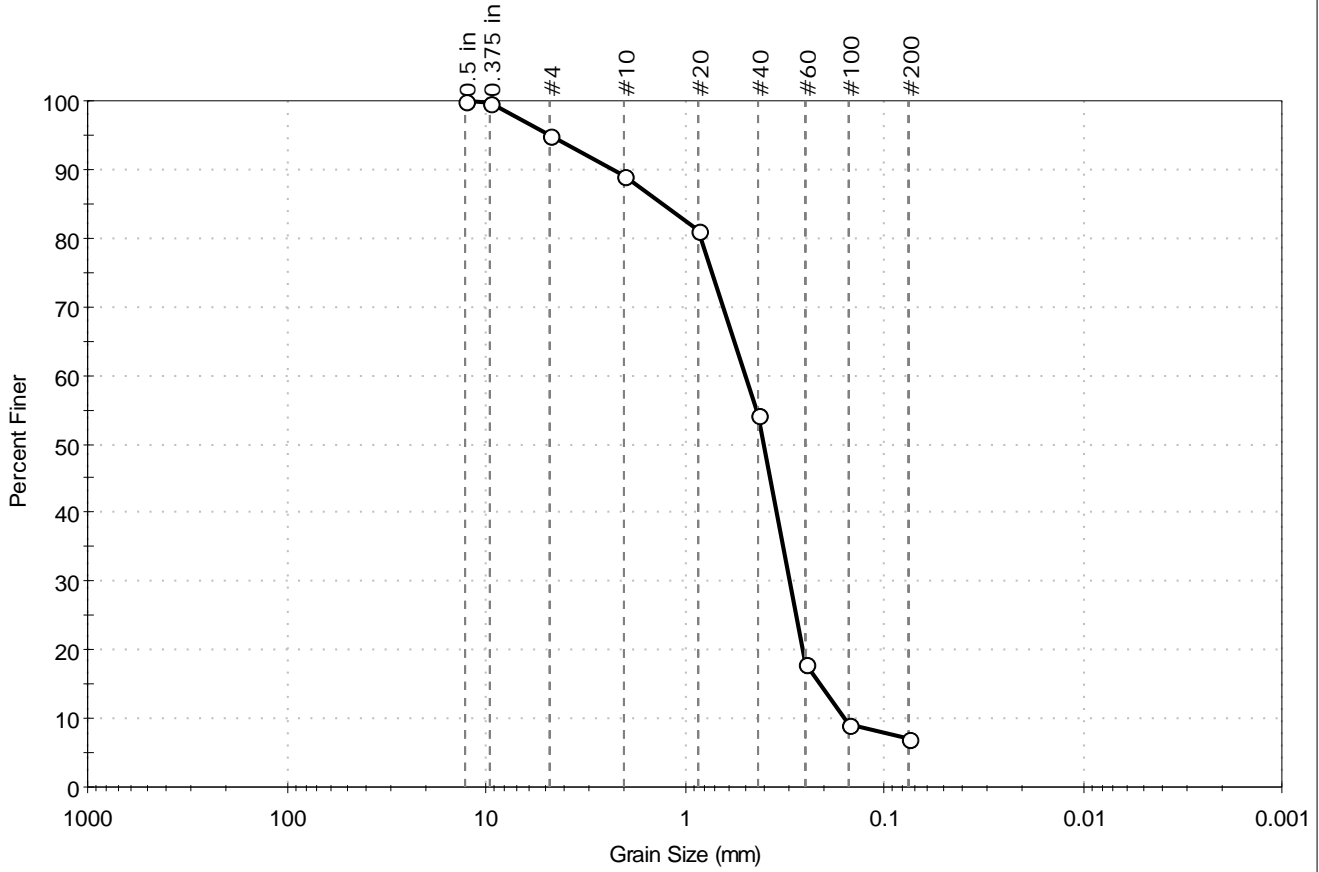
<u>Classification</u>	
<u>ASTM</u>	Sandy Elastic silt (MH)
<u>AASHTO</u>	Clayey Soils (A-7-5 (18))

<u>Sample/Test Description</u>	
Sand/Gravel Particle Shape : ---	
Sand/Gravel Hardness : ---	
Dispersion Device : Apparatus A - Mech Mixer	
Dispersion Period : 1 minute	
Specific Gravity : 2.65	
Separation of Sample: #200 Sieve	



Client: CHA Companies, Inc.	Project No: GTX-304087
Project: Proposed Union Station Parking Garage	
Location: New Haven, CT	
Boring ID: B-16	Sample Type: bag
Sample ID: S-9	Test Date: 12/07/15
Depth: 20-22 ft	Test Id: 356128
Test Comment: ---	Tested By: jbr
Visual Description: Moist, brown sand with silt	Checked By: emm
Sample Comment: ---	

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	4.9	88.0	7.1

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Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.70	100		
0.375 in	9.50	100		
#4	4.75	95		
#10	2.00	89		
#20	0.85	81		
#40	0.42	54		
#60	0.25	18		
#100	0.15	9		
#200	0.075	7.1		

<u>Coefficients</u>	
D <sub>85</sub> = 1.2968 mm	D <sub>30</sub> = 0.2979 mm
D <sub>60</sub> = 0.4940 mm	D <sub>15</sub> = 0.2093 mm
D <sub>50</sub> = 0.3997 mm	D <sub>10</sub> = 0.1566 mm
C <sub>u</sub> = 3.155	C <sub>c</sub> = 1.147

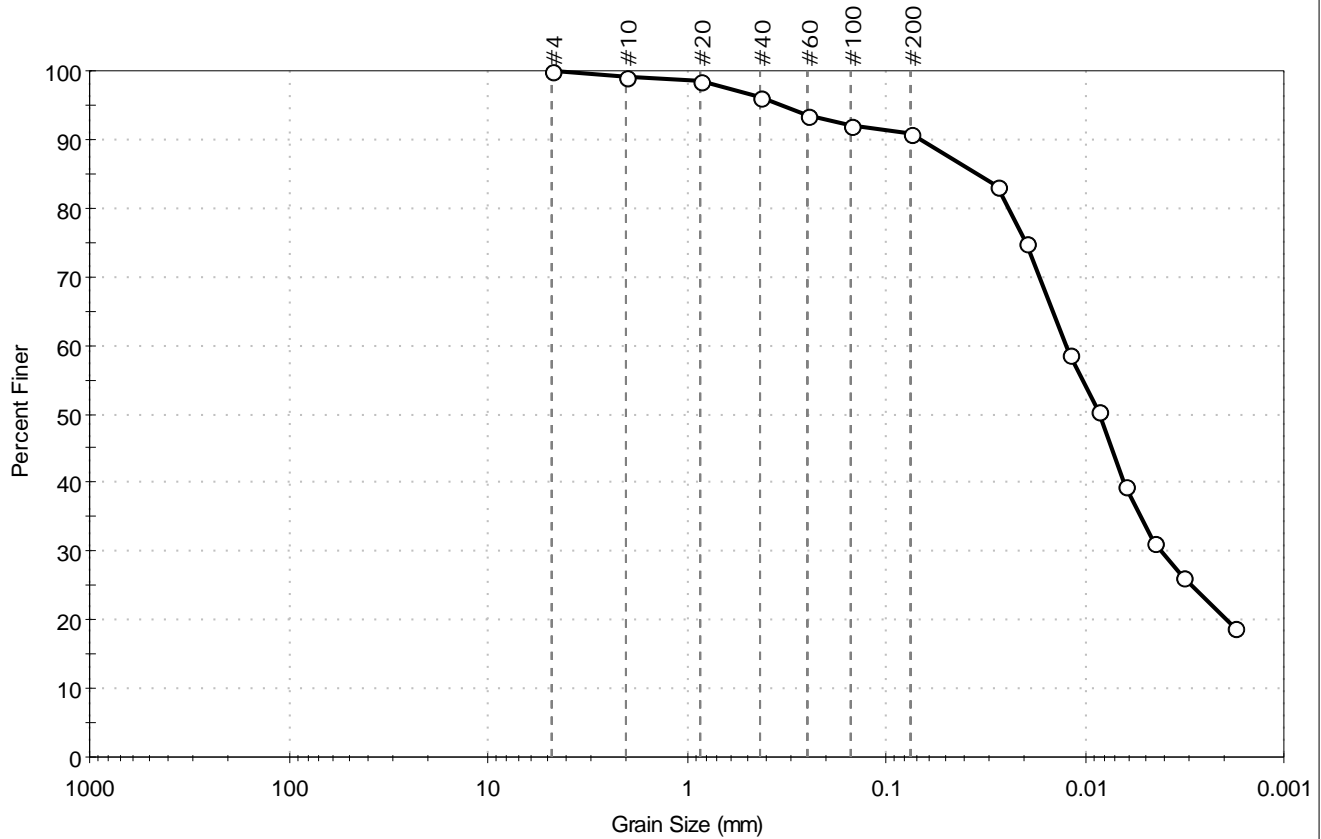
<u>Classification</u>	
ASTM	N/A
AASHTO	Fine Sand (A-3 (1))

<u>Sample/Test Description</u>
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-18	Sample Type:	bag
Sample ID:	S-13	Test Date:	12/10/15
Depth:	40-42 ft	Test Id:	356131
Test Comment:	---		
Visual Description:	Moist, very dark gray clay		
Sample Comment:	---		

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	9.3	90.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	96		
#60	0.25	94		
#100	0.15	92		
#200	0.075	91		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0279	83		
---	0.0200	75		
---	0.0121	59		
---	0.0086	50		
---	0.0063	39		
---	0.0045	31		
---	0.0032	26		
---	0.0018	19		

<u>Coefficients</u>	
D <sub>85</sub> = 0.0350 mm	D <sub>30</sub> = 0.0042 mm
D <sub>60</sub> = 0.0126 mm	D <sub>15</sub> = N/A
D <sub>50</sub> = 0.0086 mm	D <sub>10</sub> = N/A
C <sub>u</sub> = N/A	C <sub>c</sub> = N/A

<u>Classification</u>	
<u>ASTM</u>	Fat clay (CH)
<u>AASHTO</u>	Clayey Soils (A-7-5 (48))

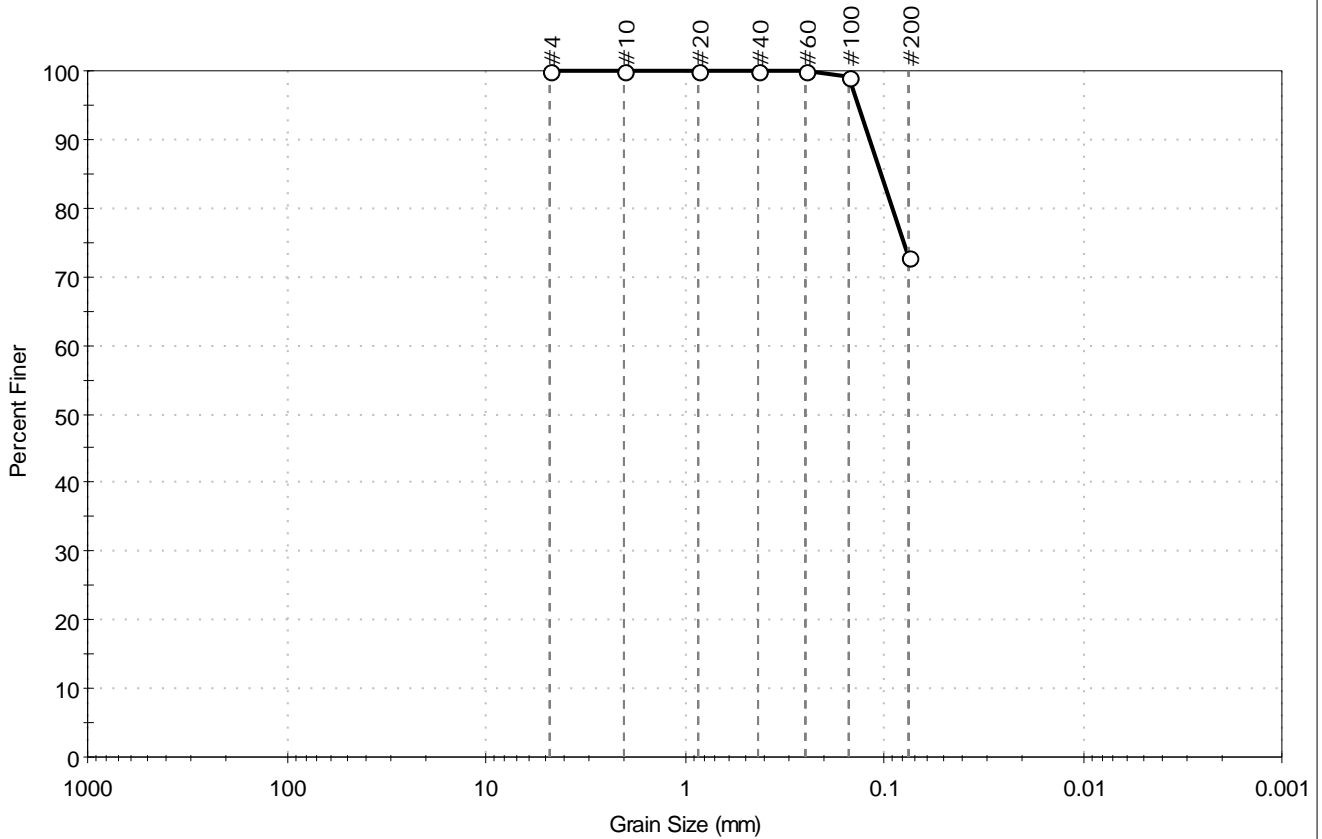
<u>Sample/Test Description</u>	
Sand/Gravel Particle Shape : ---	
Sand/Gravel Hardness : ---	
Dispersion Device : Apparatus A - Mech Mixer	
Dispersion Period : 1 minute	
Specific Gravity : 2.65	
Separation of Sample: #200 Sieve	

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Client: CHA Companies, Inc.	Project No: GTX-304087
Project: Proposed Union Station Parking Garage	
Location: New Haven, CT	
Boring ID: B-18	Sample Type: bag
Sample ID: S-20	Test Date: 12/07/15
Depth: 75-77 ft	Test Id: 356129
Tested By: jbr	Checked By: emm
Test Comment: ---	
Visual Description: Moist, dark red silt with sand	
Sample Comment: ---	

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	27.1	72.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#200	0.075	73		

<u>Coefficients</u>	
D <sub>85</sub> = 0.1032 mm	D <sub>30</sub> = N/A
D <sub>60</sub> = N/A	D <sub>15</sub> = N/A
D <sub>50</sub> = N/A	D <sub>10</sub> = N/A
C <sub>u</sub> = N/A	C <sub>c</sub> = N/A

<u>Classification</u>	
ASTM	N/A
AASHTO	Silty Soils (A-4 (0))

<u>Sample/Test Description</u>
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---

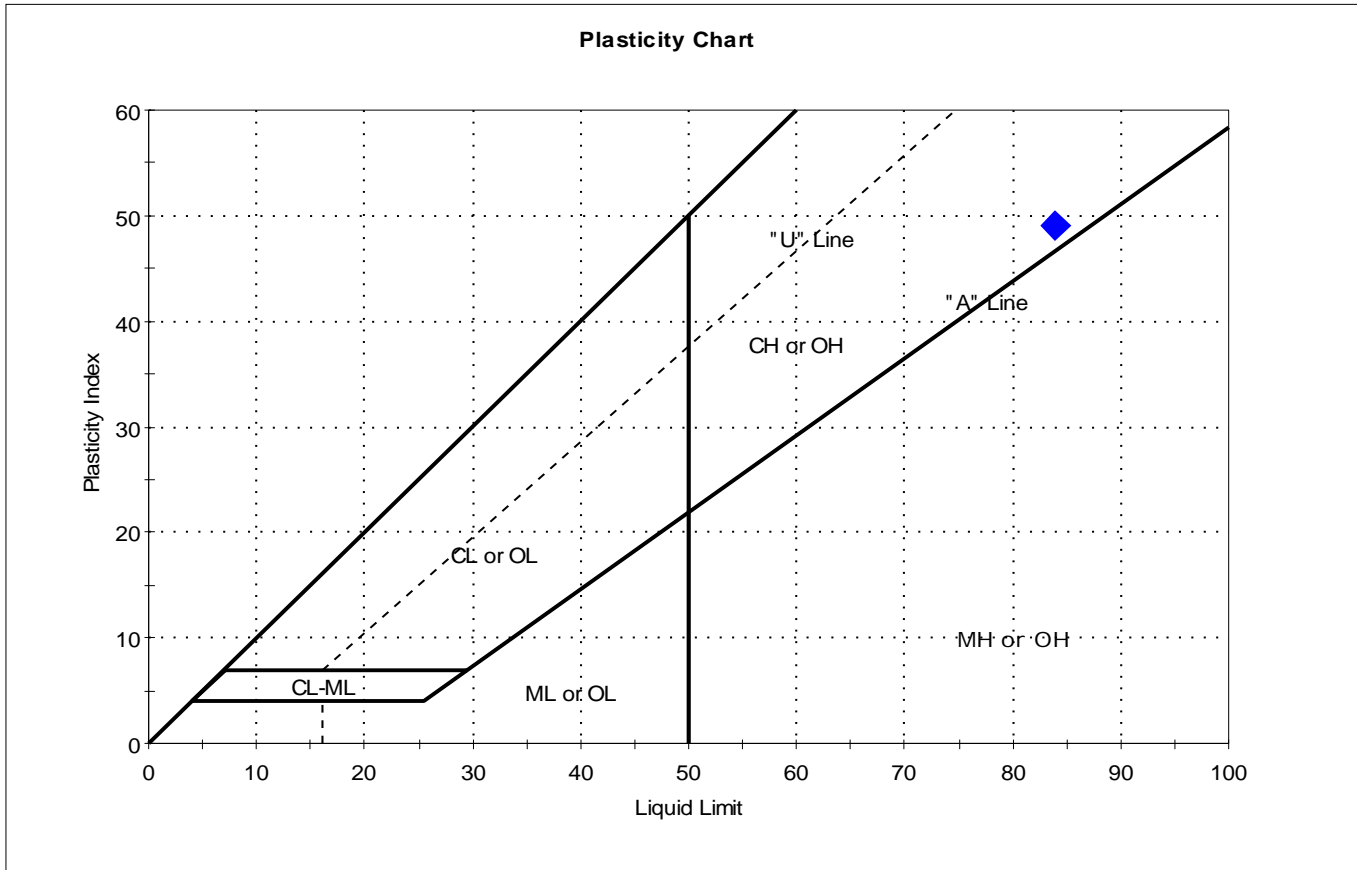
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Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-1	Sample Type:	bag
Sample ID:	S-8	Test Date:	12/11/15
Depth :	15-17 ft	Test Id:	356164
Test Comment:	---		
Visual Description:	Moist, dark gray clay		
Sample Comment:	---		

## Atterberg Limits - ASTM D4318



DRAFT Final

Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-8	B-1	15-17 ft	70	84	35	49	0.7	

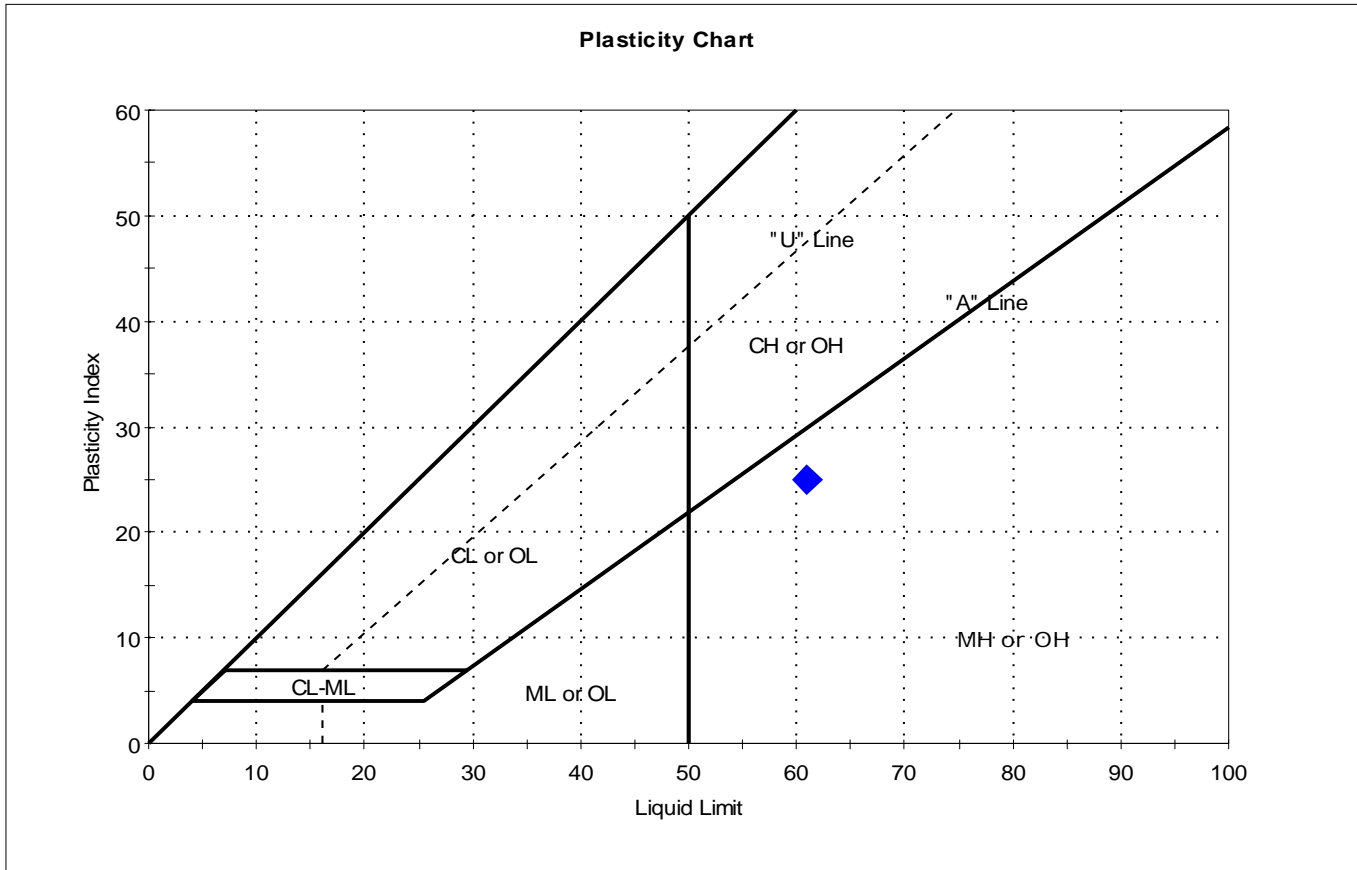
Sample Prepared using the WET method

Dry Strength: HIGH  
 Dilatancy: NONE  
 Toughness: MEDIUM



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-1	Sample Type:	bag
Sample ID:	S-12	Test Date:	12/10/15
Depth :	35-37 ft	Test Id:	356165
Test Comment:	---		
Visual Description:	Moist, dark gray silt		
Sample Comment:	---		

## Atterberg Limits - ASTM D4318



DRAFT Final

Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-12	B-1	35-37 ft	51	61	36	25	0.6	

Sample Prepared using the WET method

Dry Strength: MEDIUM

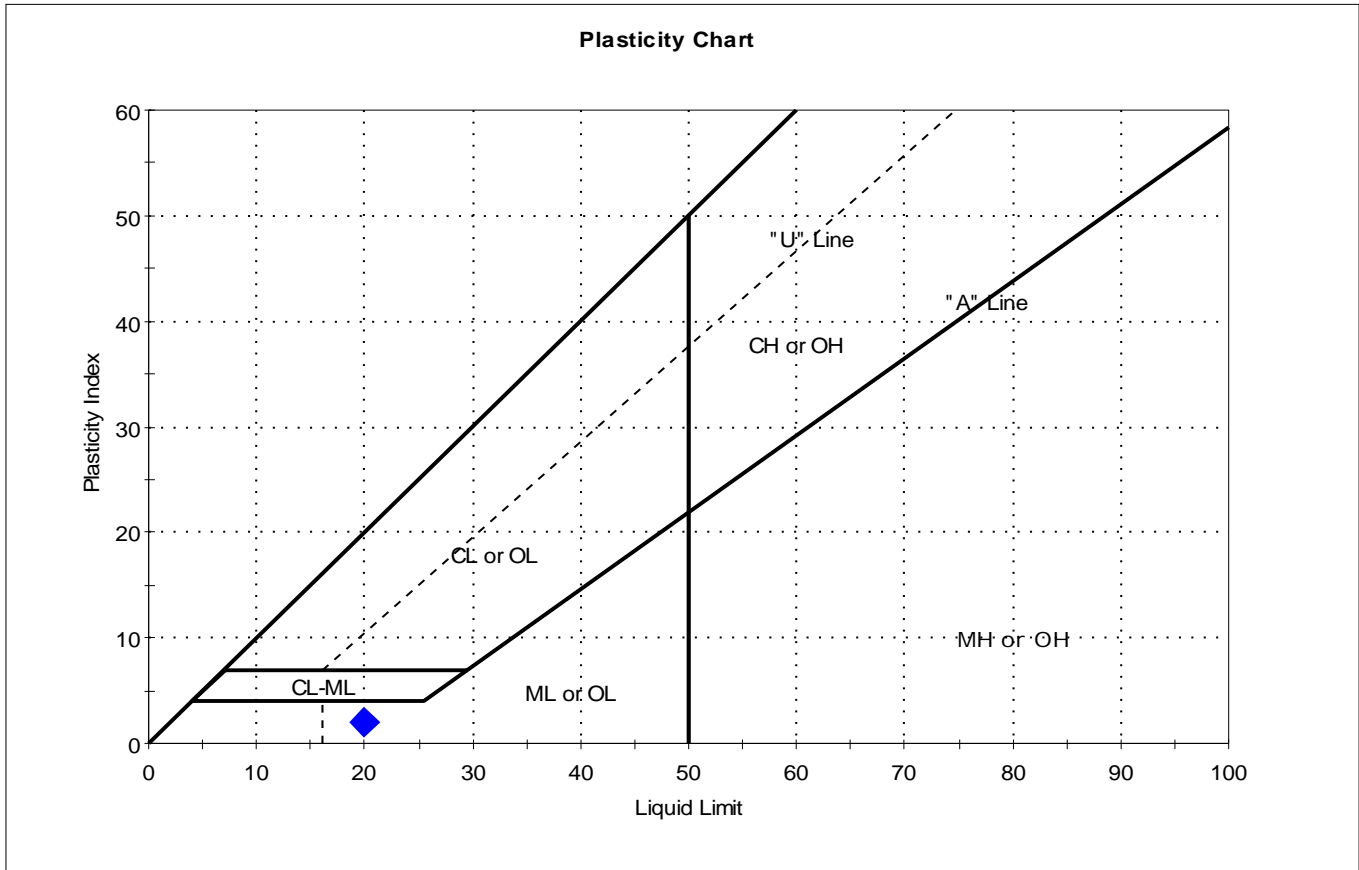
Dilatancy: NONE

Toughness: MEDIUM



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-6	Sample Type:	bag
Sample ID:	S-12	Test Date:	12/11/15
Depth :	35-37 ft	Test Id:	356166
Test Comment:	---		
Visual Description:	Moist, dark gray silt		
Sample Comment:	---		

## Atterberg Limits - ASTM D4318



DRAFT Final

Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-12	B-6	35-37 ft	17	20	18	2	-0.7	

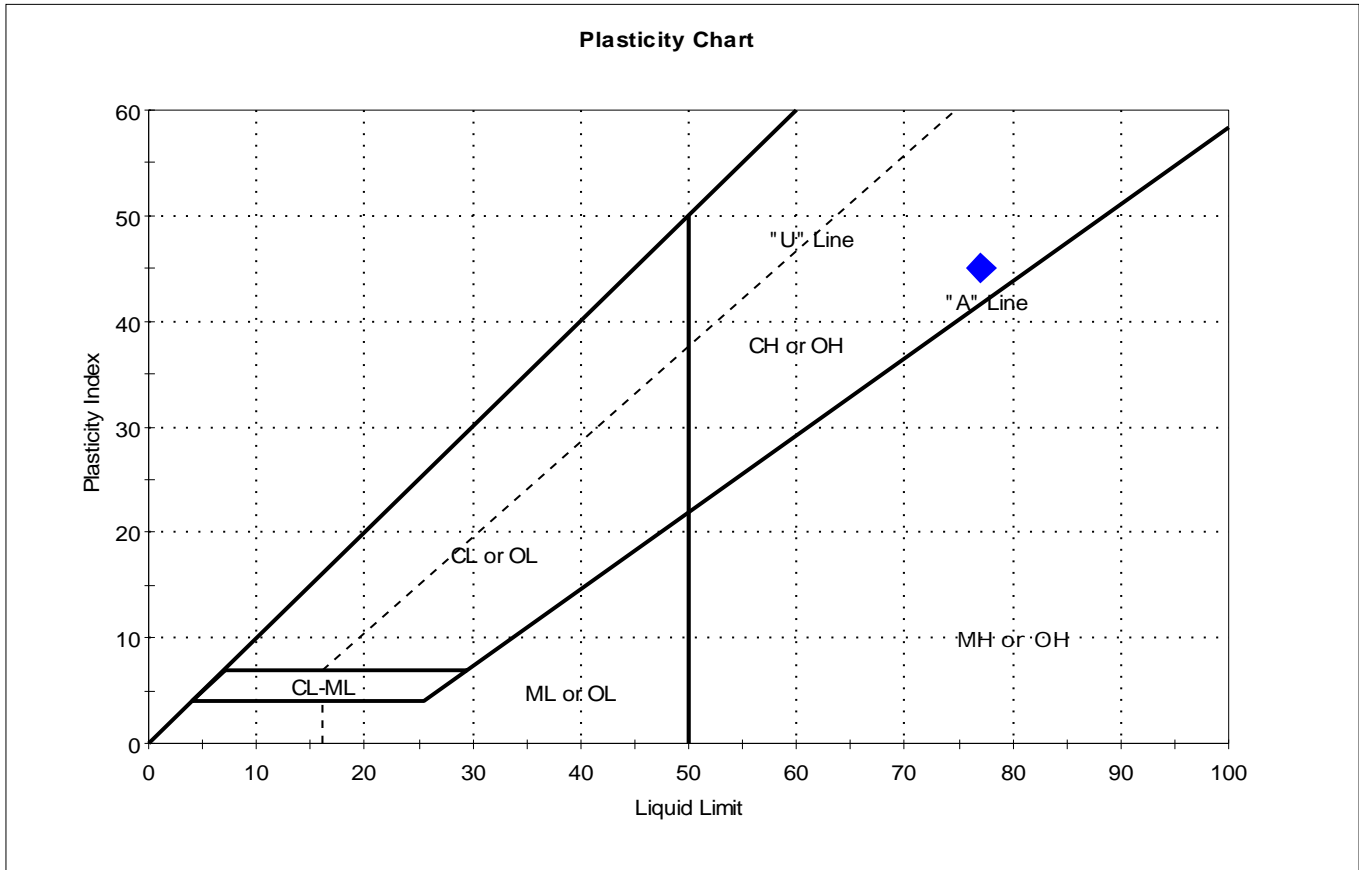
Sample Prepared using the WET method

- Dry Strength: LOW
- Dilatancy: SLOW
- Toughness: LOW



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-6	Sample Type:	bag
Sample ID:	S-14	Test Date:	12/11/15
Depth :	45-47 ft	Test Id:	356167
Test Comment:	---		
Visual Description:	Moist, dark gray clay		
Sample Comment:	---		

## Atterberg Limits - ASTM D4318



DRAFT Final

Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-14	B-6	45-47 ft	59	77	32	45	0.6	

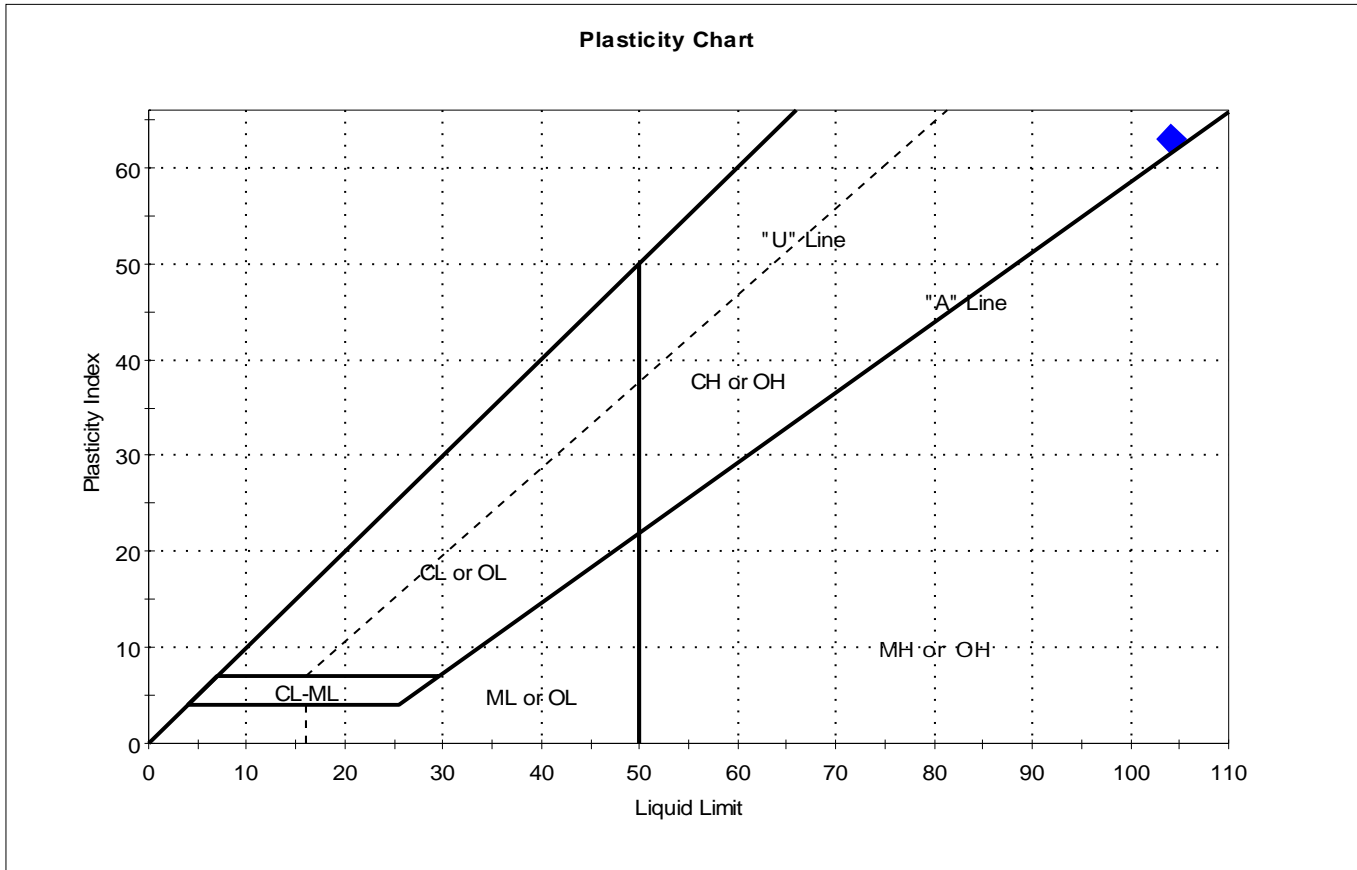
Sample Prepared using the WET method

Dry Strength: HIGH  
 Dilatancy: NONE  
 Toughness: MEDIUM



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-8	Sample Type:	bag
Sample ID:	S-7	Test Date:	12/11/15
Depth :	13-15 ft	Test Id:	356168
Test Comment:	---		
Visual Description:	Moist, dark gray clay		
Sample Comment:	---		

## Atterberg Limits - ASTM D4318



DRAFT Final

Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-7	B-8	13-15 ft	78	104	41	63	0.6	

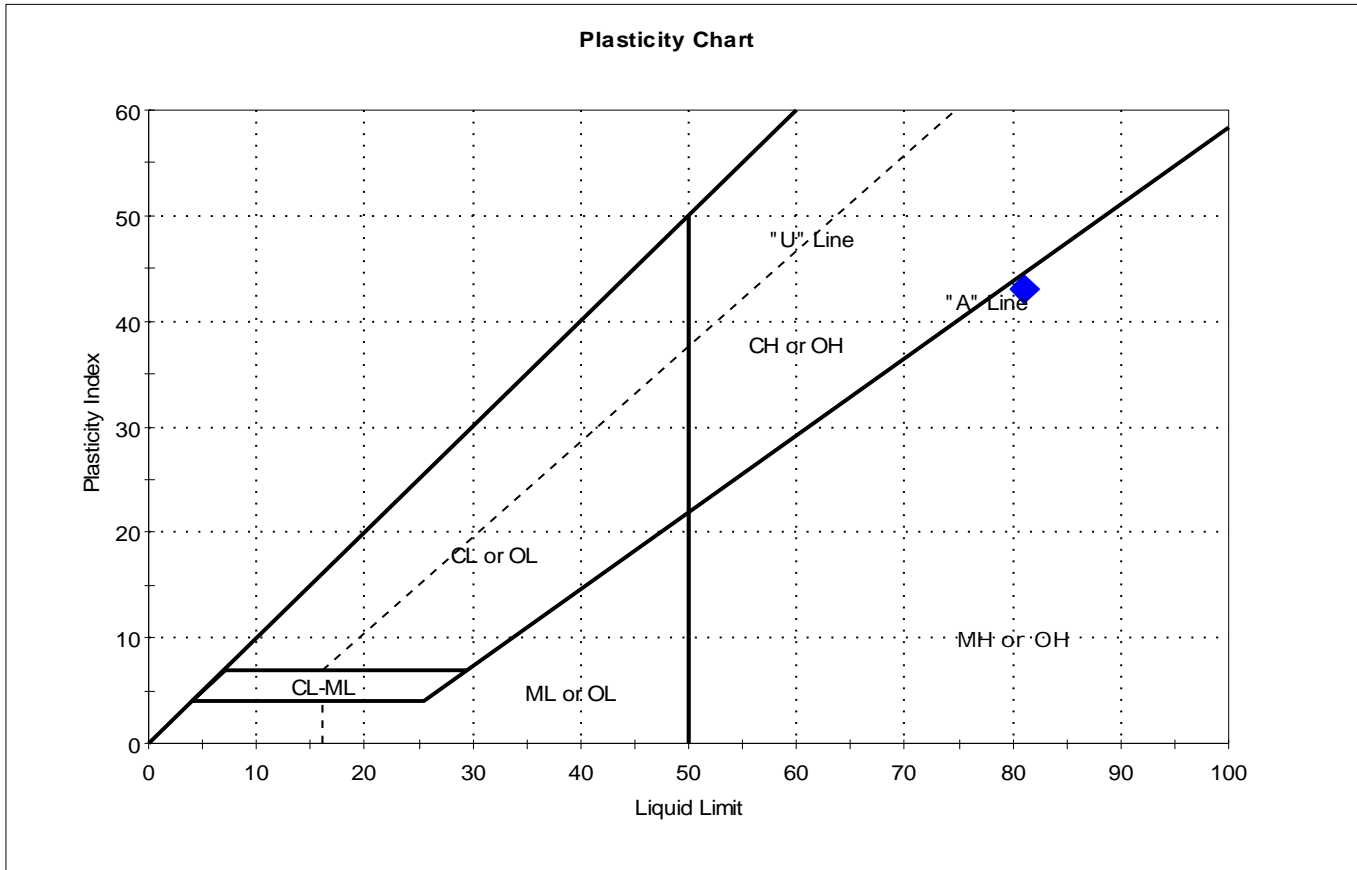
Sample Prepared using the WET method

Dry Strength: HIGH  
 Dilatancy: NONE  
 Toughness: MEDIUM



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-11	Sample Type:	bag
Sample ID:	S-8	Test Date:	12/11/15
Depth :	15-17 ft	Test Id:	356169
Test Comment:	---		
Visual Description:	Moist, very dark gray silt		
Sample Comment:	---		

## Atterberg Limits - ASTM D4318



DRAFT Final

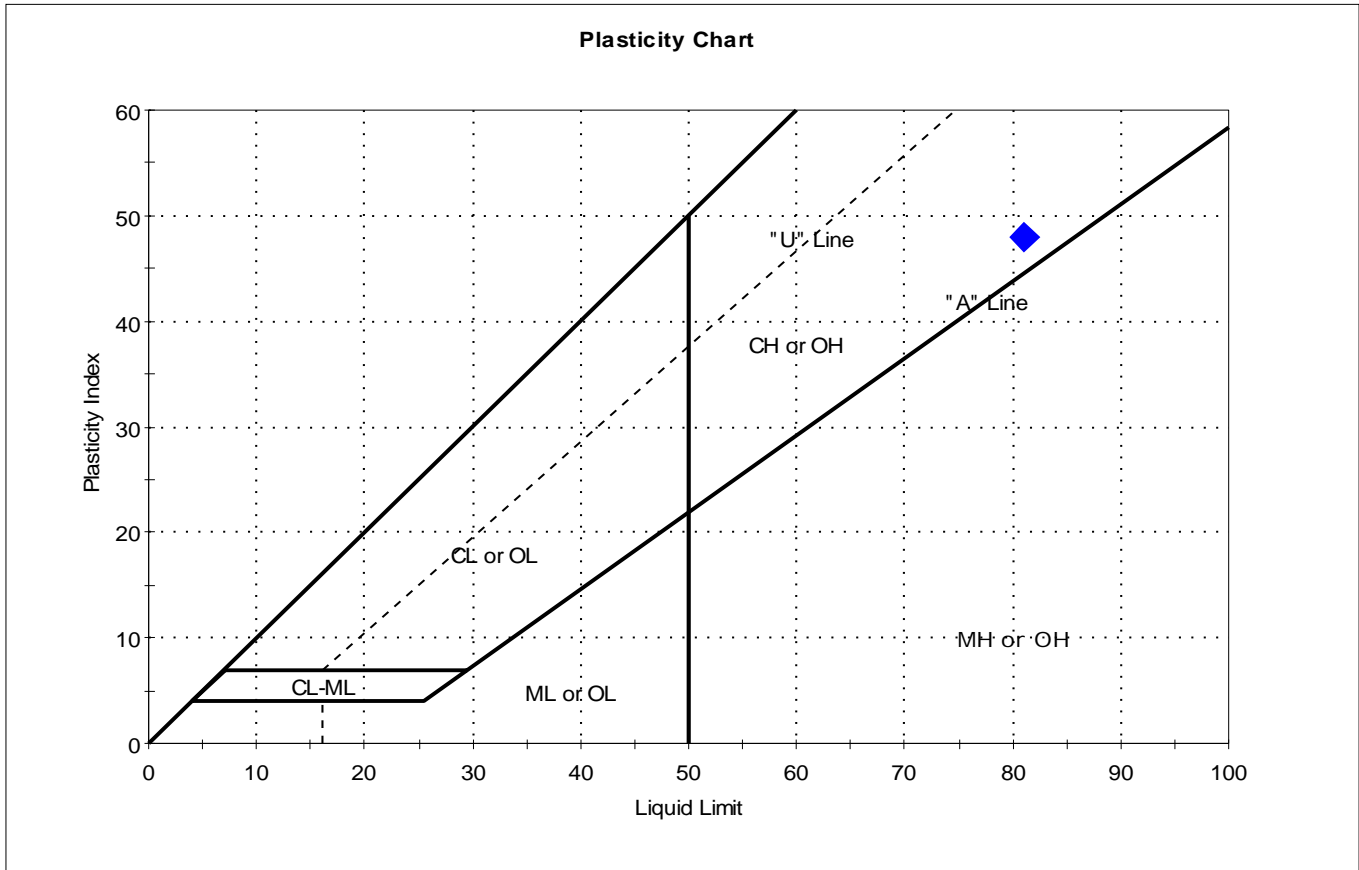
Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-8	B-11	15-17 ft	77	81	38	43	0.9	Elastic silt (MH)

Sample Prepared using the WET method  
 1% Retained on #40 Sieve  
 Dry Strength: HIGH  
 Dilatancy: NONE  
 Toughness: MEDIUM



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-12	Sample Type:	bag
Sample ID:	S-13	Test Date:	12/11/15
Depth :	40-42 ft	Test Id:	356170
Test Comment:	---		
Visual Description:	Moist, dark gray clay		
Sample Comment:	---		

## Atterberg Limits - ASTM D4318



DRAFT Final

Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-13	B-12	40-42 ft	56	81	33	48	0.5	

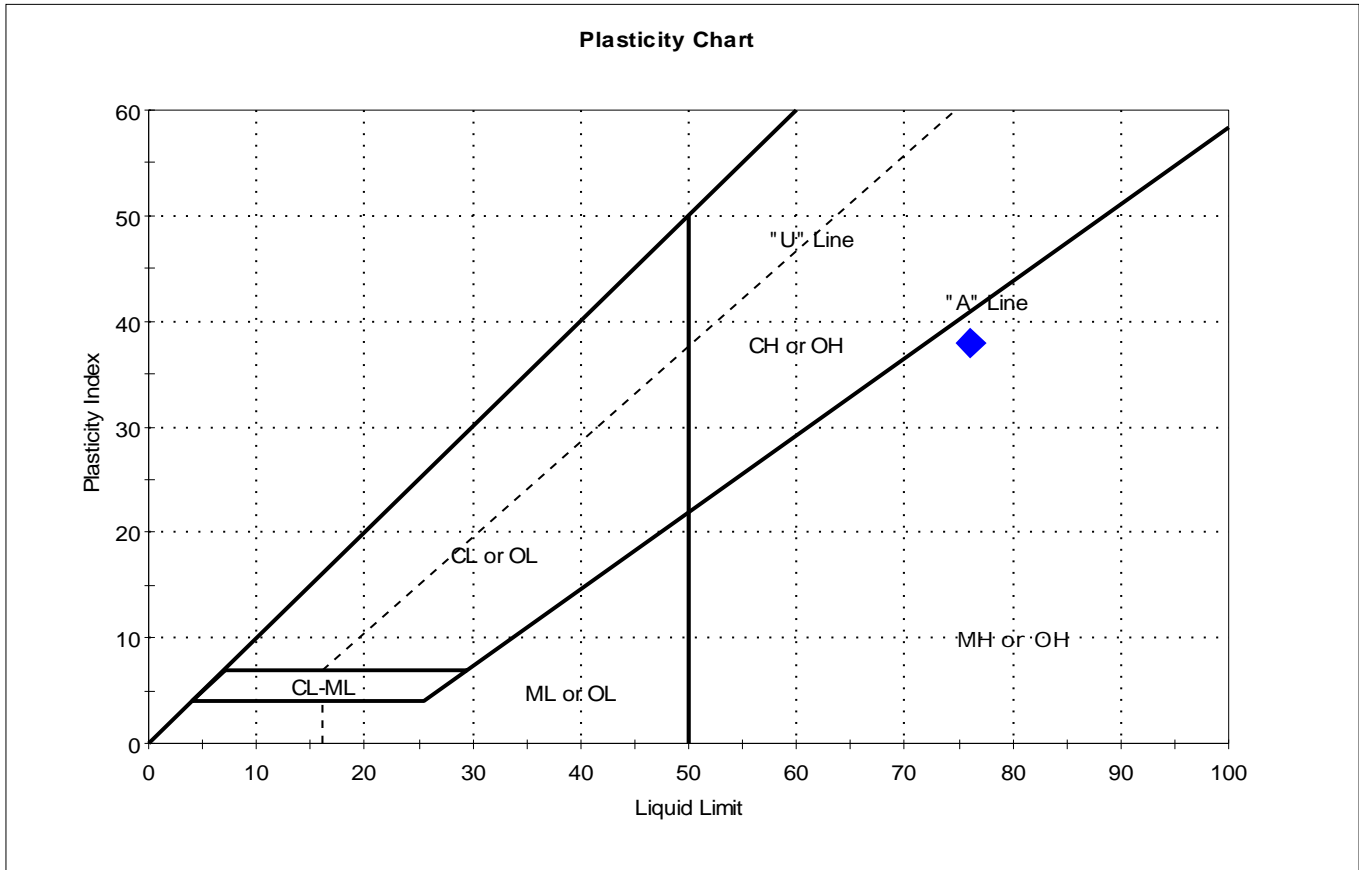
Sample Prepared using the WET method

Dry Strength: HIGH  
 Dilatancy: NONE  
 Toughness: MEDIUM



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-14	Sample Type:	bag
Sample ID:	S-11	Test Date:	12/11/15
Depth :	30-32 ft	Test Id:	356132
Test Comment:	---		
Visual Description:	Moist, very dark greenish gray sandy silt		
Sample Comment:	---		

## Atterberg Limits - ASTM D4318



DRAFT Final

Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-11	B-14	30-32 ft	47	76	38	38	0.2	Sandy Elastic silt (MH)

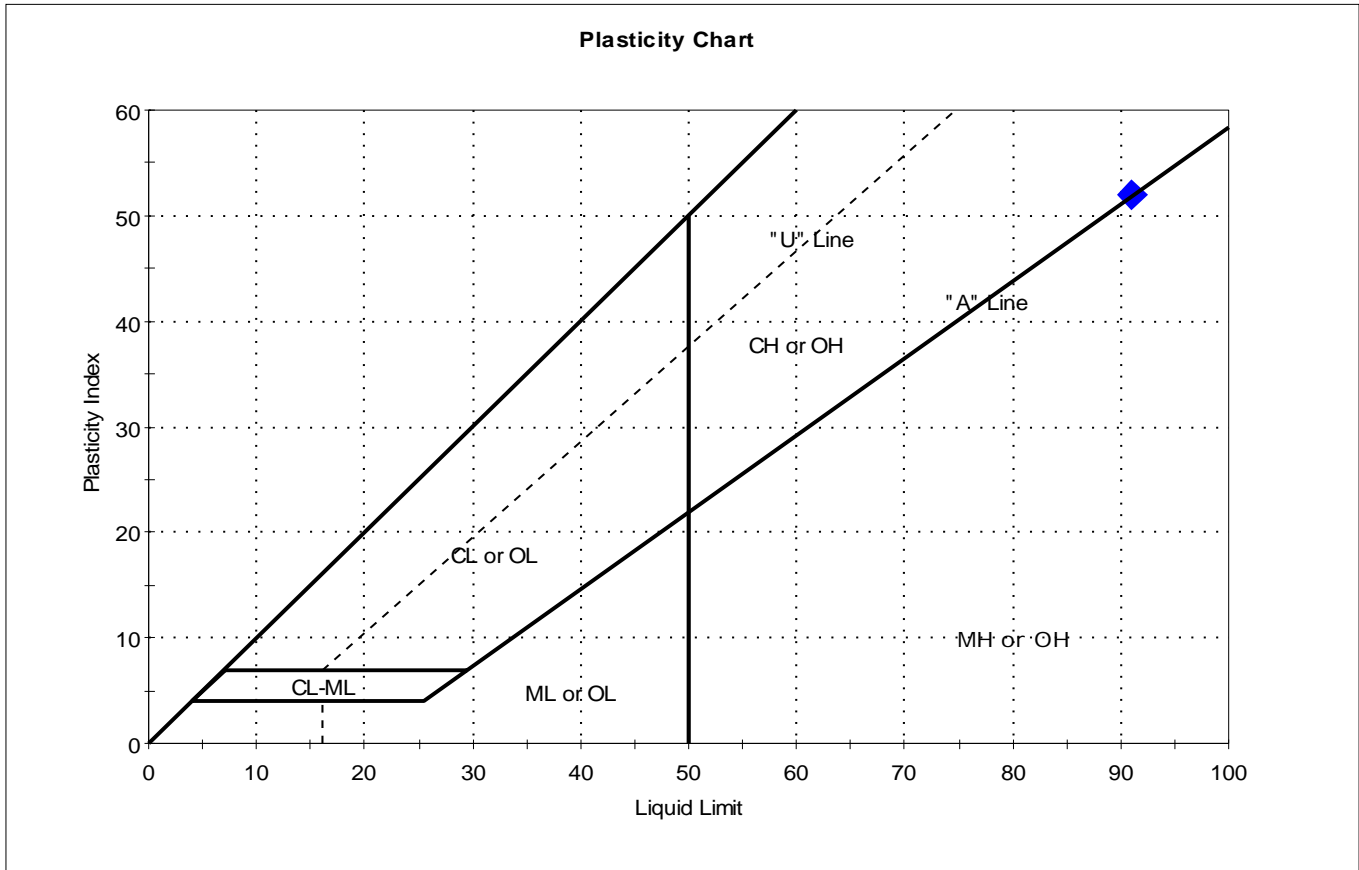
Sample Prepared using the WET method  
 26% Retained on #40 Sieve  
 Dry Strength: HIGH  
 Dilatancy: NONE  
 Toughness: MEDIUM





Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-15	Sample Type:	bag
Sample ID:	S-6	Test Date:	12/11/15
Depth :	11-13 ft	Test Id:	356133
Test Comment:	---		
Visual Description:	Moist, dark gray clay		
Sample Comment:	---		

## Atterberg Limits - ASTM D4318



DRAFT Final

Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-6	B-15	11-13 ft	76	91	39	52	0.7	

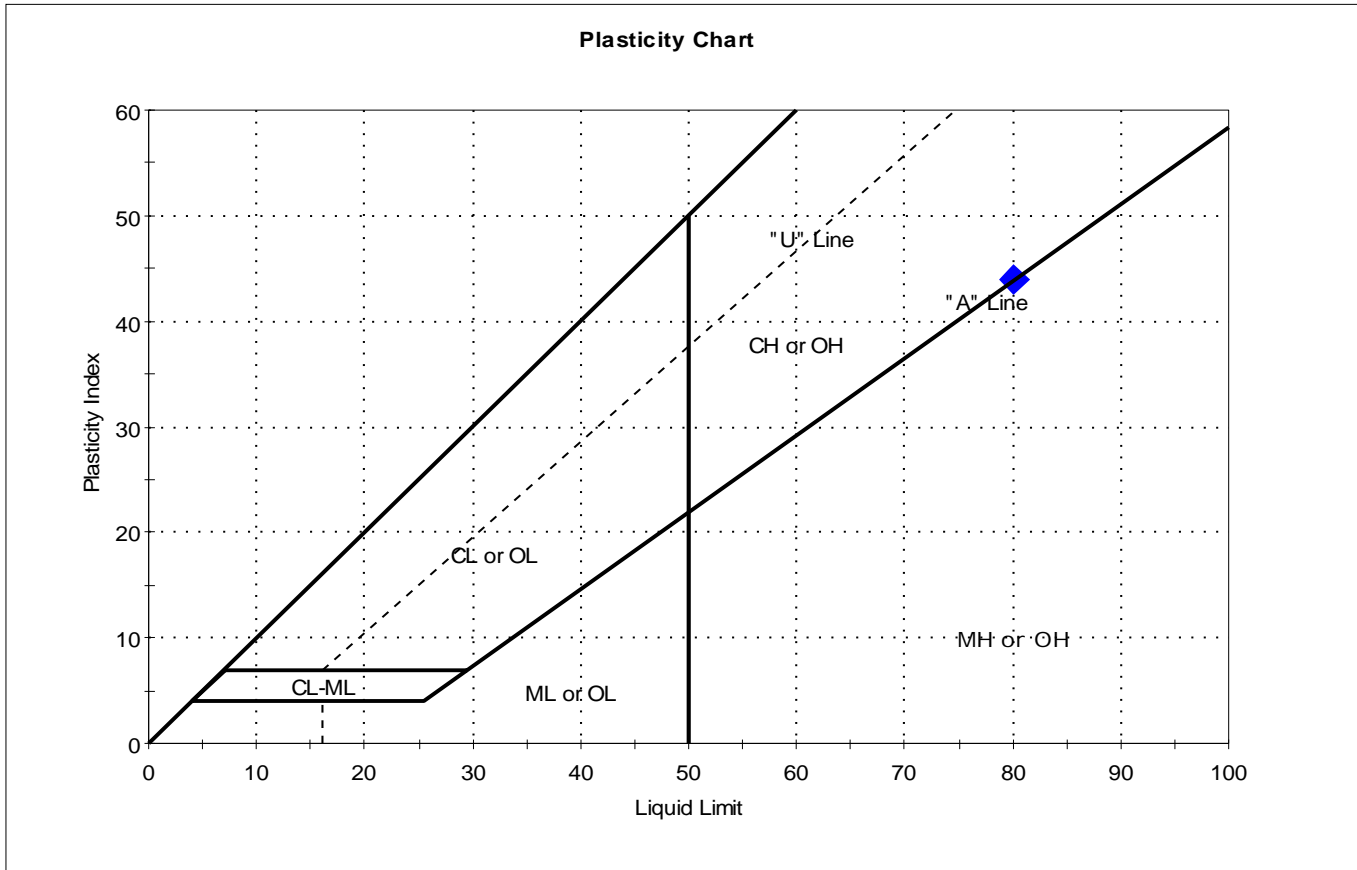
Sample Prepared using the WET method

Dry Strength: HIGH  
 Dilatancy: NONE  
 Toughness: MEDIUM



Client:	CHA Companies, Inc.		
Project:	Proposed Union Station Parking Garage		
Location:	New Haven, CT	Project No:	GTX-304087
Boring ID:	B-18	Sample Type:	bag
Sample ID:	S-13	Test Date:	12/11/15
Depth :	40-42 ft	Test Id:	356134
Test Comment:	---		
Visual Description:	Moist, very dark gray clay		
Sample Comment:	---		

## Atterberg Limits - ASTM D4318



DRAFT Final

Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-13	B-18	40-42 ft	54	80	36	44	0.4	Fat clay (CH)

Sample Prepared using the WET method  
 4% Retained on #40 Sieve  
 Dry Strength: HIGH  
 Dilatancy: NONE  
 Toughness: MEDIUM



6100 HILLCROFT  
PHONE (713) 369-5400

HOUSTON, TEXAS 77081  
FAX (713) 369-5518

**RESULTS OF TESTS**

PROJECT: PROPOSED UNION STATION PARKING GARAGE  
SAMPLE ID: B-2, S-4, 7-9' (GTX304087)

FOR: GEOTESTING EXPRESS, INC.  
125 NAGOG PARK ACTION, MA 01720

REPORTED TO: ETHAN MARRO

LAB NUMBER: 11209026

REPORT DATE: 12-11-15

CLIENT NUMBER:

JOB NUMBER: 04.1115-0003

REPORT NUMBER:

DATE SAMPLED:

TIME SAMPLED:

SAMPLED BY: CLIENT

DATE RECEIVED: 12-09-15

TIME RECEIVED: 1230

RECEIVED BY: SD

PARAMETER	RESULTS	UNITS	METHOD	TIME/DATE	ANALYST
Sulfate, Soluble	600 *	mg/kg	ASTM D-516 **	0800/12-11-15	SD
Chloride, Soluble	232 *	mg/kg	ASTM D-512 C **	0900/12-11-15	SD

SO4CL 112-15

Respectfully submitted,

\* Dry weight basis

Steve DeGregorio  
Chemist

SD

\*\* WATER EXTRACTION PERFORMED BY USING A 1:10 RATIO OF SAMPLE AND REAGENT WATER FOLLOWED BY CENTRIFUGE AND VACUUME FILTRATION. THE WATER EXTRACT IS THEN ANALYZED USING THE ASTM D-512 AND D-516 METHODS.

THE RESULTS RELATE AS TO THE LOCATION TESTED AND NO OTHER REFERENCE SHALL BE MADE.  
THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY.

**END OF REPORT**

DRAFT Final



6100 HILLCROFT  
PHONE (713) 369-5400

HOUSTON, TEXAS 77081  
FAX (713) 369-5518

**RESULTS OF TESTS**

PROJECT: PROPOSED UNION STATION PARKING GARAGE  
SAMPLE ID: B-3, S-4, 7-9' (GTX304087)

FOR: GEOTESTING EXPRESS, INC.  
125 NAGOG PARK ACTION, MA 01720

REPORTED TO: ETHAN MARRO

LAB NUMBER: 11209027

REPORT DATE: 12-11-15

CLIENT NUMBER:

JOB NUMBER: 04.1115-0003

REPORT NUMBER:

DATE SAMPLED:

TIME SAMPLED:

SAMPLED BY: CLIENT

DATE RECEIVED: 12-09-15

TIME RECEIVED: 1230

RECEIVED BY: SD

PARAMETER	RESULTS	UNITS	METHOD	TIME/DATE	ANALYST
Sulfate, Soluble	271 *	mg/kg	ASTM D-516 **	0800/12-11-15	SD
Chloride, Soluble	160 *	mg/kg	ASTM D-512 C **	0900/12-11-15	SD

SO4CL 112-15

Respectfully submitted,

\* Dry weight basis

Steve DeGregorio  
Chemist

SD

\*\* WATER EXTRACTION PERFORMED BY USING A 1:10 RATIO OF SAMPLE AND REAGENT WATER FOLLOWED BY CENTRIFUGE AND VACUUME FILTRATION. THE WATER EXTRACT IS THEN ANALYZED USING THE ASTM D-512 AND D-516 METHODS.

THE RESULTS RELATE AS TO THE LOCATION TESTED AND NO OTHER REFERENCE SHALL BE MADE.  
THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY.

**END OF REPORT**

DRAFT Final



6100 HILLCROFT  
PHONE (713) 369-5400

HOUSTON, TEXAS 77081  
FAX (713) 369-5518

**RESULTS OF TESTS**

PROJECT: PROPOSED UNION STATION PARKING GARAGE  
SAMPLE ID: B-7, S-1, 1 - 3' (GTX304087)

FOR: GEOTESTING EXPRESS, INC.  
125 NAGOG PARK ACTION, MA 01720

REPORTED TO: ETHAN MARRO

LAB NUMBER: 11209028

REPORT DATE: 12-11-15

CLIENT NUMBER:

JOB NUMBER: 04.1115-0003

REPORT NUMBER:

DATE SAMPLED:

TIME SAMPLED:

SAMPLED BY: CLIENT

DATE RECEIVED: 12-09-15

TIME RECEIVED: 1230

RECEIVED BY: SD

PARAMETER	RESULTS	UNITS	METHOD	TIME/DATE	ANALYST
Sulfate, Soluble	288 *	mg/kg	ASTM D-516 **	0800/12-11-15	SD
Chloride, Soluble	174 *	mg/kg	ASTM D-512 C **	0900/12-11-15	SD

SO4CL 112-15

Respectfully submitted,

\* Dry weight basis

Steve DeGregorio  
Chemist

SD

\*\* WATER EXTRACTION PERFORMED BY USING A 1:10 RATIO OF SAMPLE AND REAGENT WATER FOLLOWED BY CENTRIFUGE AND VACUUME FILTRATION. THE WATER EXTRACT IS THEN ANALYZED USING THE ASTM D-512 AND D-516 METHODS.

THE RESULTS RELATE AS TO THE LOCATION TESTED AND NO OTHER REFERENCE SHALL BE MADE.  
THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY.

**END OF REPORT**

DRAFT Final



6100 HILLCROFT  
PHONE (713) 369-5400

HOUSTON, TEXAS 77081  
FAX (713) 369-5518

**RESULTS OF TESTS**

PROJECT: PROPOSED UNION STATION PARKING GARAGE  
SAMPLE ID: B-10, S-2, 3 - 5' (GTX304087)

FOR: GEOTESTING EXPRESS, INC.  
125 NAGOG PARK ACTION, MA 01720

REPORTED TO: ETHAN MARRO

LAB NUMBER: 11209029

REPORT DATE: 12-11-15

CLIENT NUMBER:

JOB NUMBER: 04.1115-0003

REPORT NUMBER:

DATE SAMPLED:

TIME SAMPLED:

SAMPLED BY: CLIENT

DATE RECEIVED: 12-09-15

TIME RECEIVED: 1230

RECEIVED BY: SD

PARAMETER	RESULTS	UNITS	METHOD	TIME/DATE	ANALYST
Sulfate, Soluble	811 *	mg/kg	ASTM D-516 **	0800/12-11-15	SD
Chloride, Soluble	< 100 *	mg/kg	ASTM D-512 C **	0900/12-11-15	SD

SO4CL 112-15

Respectfully submitted,

\* Dry weight basis

Steve DeGregorio  
Chemist

SD

\*\* WATER EXTRACTION PERFORMED BY USING A 1:10 RATIO OF SAMPLE AND REAGENT WATER FOLLOWED BY CENTRIFUGE AND VACUUME FILTRATION. THE WATER EXTRACT IS THEN ANALYZED USING THE ASTM D-512 AND D-516 METHODS.

THE RESULTS RELATE AS TO THE LOCATION TESTED AND NO OTHER REFERENCE SHALL BE MADE.  
THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY.

**END OF REPORT**

DRAFT Final



6100 HILLCROFT  
PHONE (713) 369-5400

HOUSTON, TEXAS 77081  
FAX (713) 369-5518

**RESULTS OF TESTS**

PROJECT: PROPOSED UNION STATION PARKING GARAGE  
SAMPLE ID: B-13, S-2, 3 - 5' (GTX304087)

FOR: GEOTESTING EXPRESS, INC.  
125 NAGOG PARK ACTION, MA 01720

REPORTED TO: ETHAN MARRO

LAB NUMBER: 11209030

REPORT DATE: 12-11-15

CLIENT NUMBER:

JOB NUMBER: 04.1115-0003

REPORT NUMBER:

DATE SAMPLED:

TIME SAMPLED:

SAMPLED BY: CLIENT

DATE RECEIVED: 12-09-15

TIME RECEIVED: 1230

RECEIVED BY: SD

PARAMETER	RESULTS	UNITS	METHOD	TIME/DATE	ANALYST
Sulfate, Soluble	< 100 *	mg/kg	ASTM D-516 **	0800/12-11-15	SD
Chloride, Soluble	213 *	mg/kg	ASTM D-512 C **	0900/12-11-15	SD

SO4CL 112-15

Respectfully submitted,

\* Dry weight basis

Steve DeGregorio  
Chemist

SD

\*\* WATER EXTRACTION PERFORMED BY USING A 1:10 RATIO OF SAMPLE AND REAGENT WATER FOLLOWED BY CENTRIFUGE AND VACUUME FILTRATION. THE WATER EXTRACT IS THEN ANALYZED USING THE ASTM D-512 AND D-516 METHODS.

THE RESULTS RELATE AS TO THE LOCATION TESTED AND NO OTHER REFERENCE SHALL BE MADE.  
THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY.

**END OF REPORT**

DRAFT Final



6100 HILLCROFT  
PHONE (713) 369-5400

HOUSTON, TEXAS 77081  
FAX (713) 369-5518

**RESULTS OF TESTS**

PROJECT: PROPOSED UNION STATION PARKING GARAGE  
SAMPLE ID: B-18, S-3, 5 - 7' (GTX304087)

FOR: GEOTESTING EXPRESS, INC.  
125 NAGOG PARK ACTION, MA 01720

REPORTED TO: ETHAN MARRO

LAB NUMBER: 11209031

REPORT DATE: 12-11-15

CLIENT NUMBER:

JOB NUMBER: 04.1115-0003

REPORT NUMBER:

DATE SAMPLED:

TIME SAMPLED:

SAMPLED BY: CLIENT

DATE RECEIVED: 12-09-15

TIME RECEIVED: 1230

RECEIVED BY: SD

PARAMETER	RESULTS	UNITS	METHOD	TIME/DATE	ANALYST
Sulfate, Soluble	< 100 *	mg/kg	ASTM D-516 **	0800/12-11-15	SD
Chloride, Soluble	232 *	mg/kg	ASTM D-512 C **	0900/12-11-15	SD

SO4CL 112-15

Respectfully submitted,

\* Dry weight basis

Steve DeGregorio  
Chemist

SD

\*\* WATER EXTRACTION PERFORMED BY USING A 1:10 RATIO OF SAMPLE AND REAGENT WATER FOLLOWED BY CENTRIFUGE AND VACUUME FILTRATION. THE WATER EXTRACT IS THEN ANALYZED USING THE ASTM D-512 AND D-516 METHODS.

THE RESULTS RELATE AS TO THE LOCATION TESTED AND NO OTHER REFERENCE SHALL BE MADE.  
THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY.

**END OF REPORT**

DRAFT Final





**APPENDIX E**

**NDT CORPORATION GPR INVESTIGATION**

DRAFT Final



GPR INVESTIGATION  
FOR  
SUBSURFACE FOUNDATIONS  
AT  
PROPOSED LOCATION FOR UNION STATION  
PARKING GARAGE  
NEW HAVEN, CONNECTICUT

Prepared for

CHA CONSULTING, INC.

January, 2016

DRAFT Final





153 Clinton Road • Sterling, MA 01564

Tel: 978-563-1327

Fax: 978-563-1340

January 27, 2016

Mr. Charlie Symmes, P.E.  
CHA Consulting, Inc.  
III Winner Circle  
Albany, NY

Dear Mr. Symmes:

NDT Corporation conducted geophysical ground penetrating radar (GPR) measurements in the parking lot northeast of the Union Station Railroad Station in New Haven Connecticut on November 14, 2015. The objective of this investigation was to locate buried concrete or masonry foundation walls and other buried obstructions. This report presents the findings of this investigation.

If you have any questions or require additional information, call the undersigned at 978-563-1327.

Sincerely,

NDT Corporation

A handwritten signature in cursive script that reads "Paul S. Fisk".

Paul S. Fisk

DRAFT Final

## TABLE OF CONTENTS

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2.0	METHODS OF INVESTIGATION	page 1
3.0	DISCUSSION OF RESULTS	page 2

### FIGURES

APPENDIX 1	GPR METHOD OF INVESTIGATION
------------	-----------------------------

## 1.0 INTRODUCTION AND PURPOSE

NDT Corporation conducted geophysical ground penetrating radar (GPR) measurements in an open parking area northeast of the Union Station Rail Road Station in New Haven Connecticut on November 14, 2015. Figure 1 shows the location of this investigation. The objective of this investigation was to locate buried remnants of concrete or masonry foundation walls and other obstructions.

## 2.0 METHODS OF INVESTIGATION

### 2.1 Survey Control

GPR data were acquired on a 5 foot grid of survey lines. The 0+00 South and 0+00 West point for this grid was the northeast corner of the parking lot fence along Union Avenue. The grid was laid out with tape measurements along the parking lot curb lines and distances along each survey line were determined with a calibrated measuring wheel integral with the GPR antenna. Figure 2 is a plan map with the GPR lines of coverage and survey results.

### 2.2 Ground Penetrating Radar (GPR)

GPR data were acquired using a digital system coupled with a 400 MHz antenna and an attached distance measuring wheel (Pictured below). The 400 MHz antenna is high resolution with an approximate depth of investigation of 10 to 15 feet. The actual depth of investigation is dependent on the soil types and moisture conditions; the depth of penetration at this site was approximately 7 feet, which is the approximate depth to the top of the water table determined from boring data. Depths of investigation are usually deeper in dry sands and gravels than in moist silts and clays and typically do not penetrate beyond the water table especially in brackish or salt water.



Ground Penetrating Radar (GPR) is an electrical geophysical method for evaluating subsurface conditions by transmitting high frequency electromagnetic waves into the ground and detecting the energy reflected back to the surface. Electromagnetic signals are transmitted from the antenna (transmitter and receiver) at ground surface and reflected back to the antenna from interfaces with differing electrical (dielectric constant and conductivity) properties. The greater the contrast in the electrical properties between two materials, the more energy that is reflected to the surface and the more defined results are. Foundations, footings and other buried obstructions can be difficult to uniquely identify since they may have a similar signal characteristics as the surrounding soils (particularly in an environment where the near surface materials are mostly fill). A detailed discussion of the GPR Survey Method is included in Appendix 1.

### **3.0 DISCUSSION OF RESULTS**

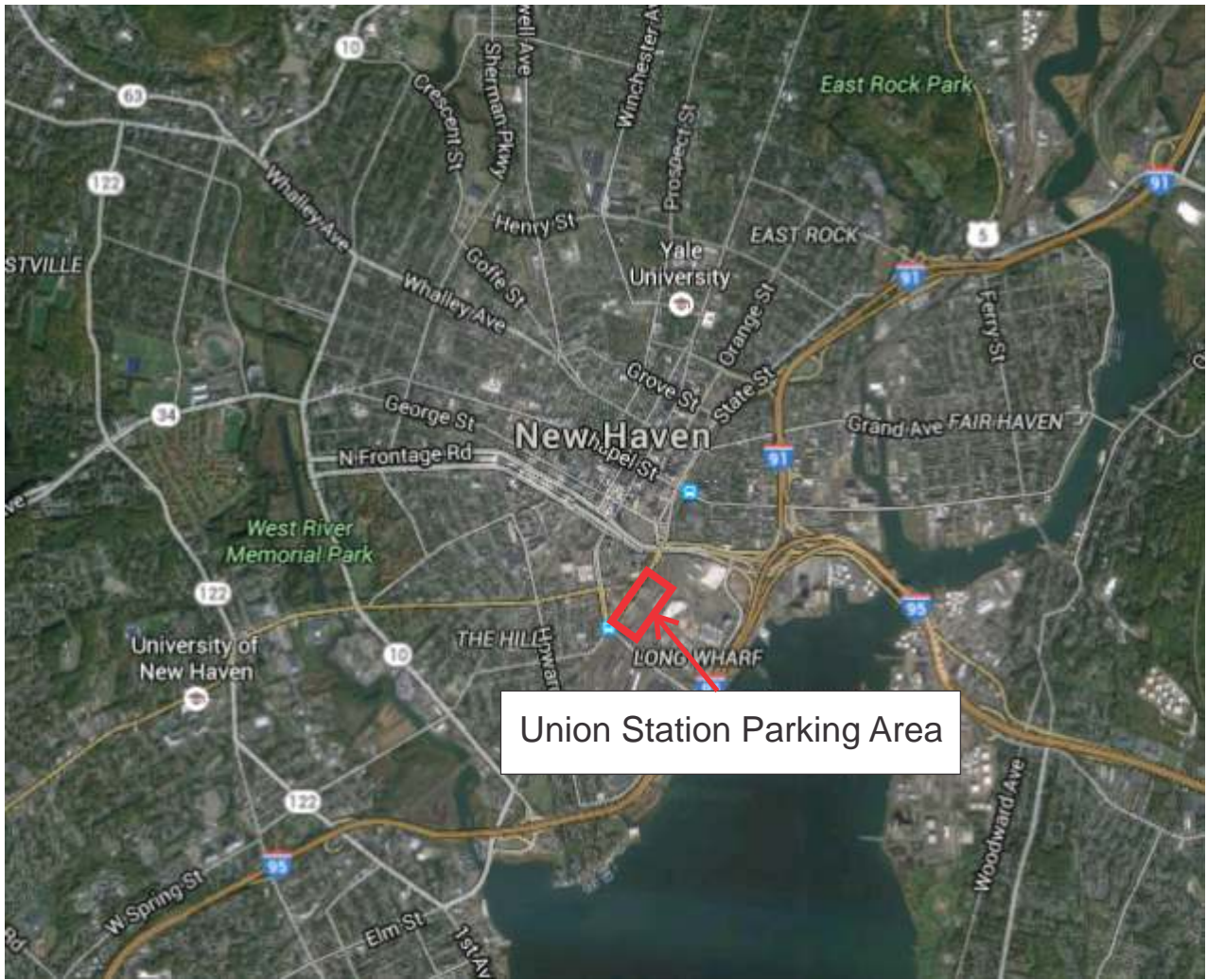
The results of this investigation are plotted on Figure 2 a plan with the foot print of the proposed garage provided to NDT Corporation by CHA. Annotated typical GPR records, (Figure 3) is also included illustrating the GPR data.

GPR data were used to identify individual “targets” along each line of coverage. If a “target” appears on multiple parallel lines or is continuous over distance it is considered to be a utility or a buried structure. Individual/isolated point targets can be boulders, buried debris, scrap metal, etc. GPR reflectors for utilities and debris are typically indicated by a hyperbolic signal reflector. GPR reflectors for buried structures: foundations, reinforced slabs, unreinforced slab, consolidated soil or masonry layer are typically indicated by a GPR reflector that is wider and extends laterally several tens of feet.

GPR data interpretations are based on pattern recognition and associating these patterns with potential subsurface conditions/features. Four GPR patterns were identified in the Union Station Parking Lot data: 1) buried obstructions continuous horizontal reflector possibly a foundation, remnants of a walkway, railroad bed or road way (light brown shading); 2) small hyperbolic GPR reflectors (small red boxes) believed to be debris or metal utilities; 3) filled utility trenches no metal pipe detected but could have a PVC or concrete piping ( green shading); and 4) hyperbolic targets that are detected on adjacent lines and are likely metal utilities (dashed red lines). GPR data can only indicate the presence of conditions associated with foundations but is not able to determine the composition of the layer. Boring and test pit data will be necessary to determine the composition of the material causing the GPR anomalies.

The depths to the top of all of the GPR conditions associated with buried obstructions are shallow (less than 2 feet deep). The brown shaded area at the south east end of the site (closest to the active tracks) is a reinforced slab with a thin veneer of asphalt and is believed to be an abandoned platform. The brown shaded area that boring B-10 is within, may be an abandoned rail bed or roadway since boring B-10 detected coal and cinders. Most of the GPR anomalies in the existing roadway entrance to the parking lot correlate with utilities mapped by the utility marking contractor or with piping between drains (show as open red boxes).

# FIGURES

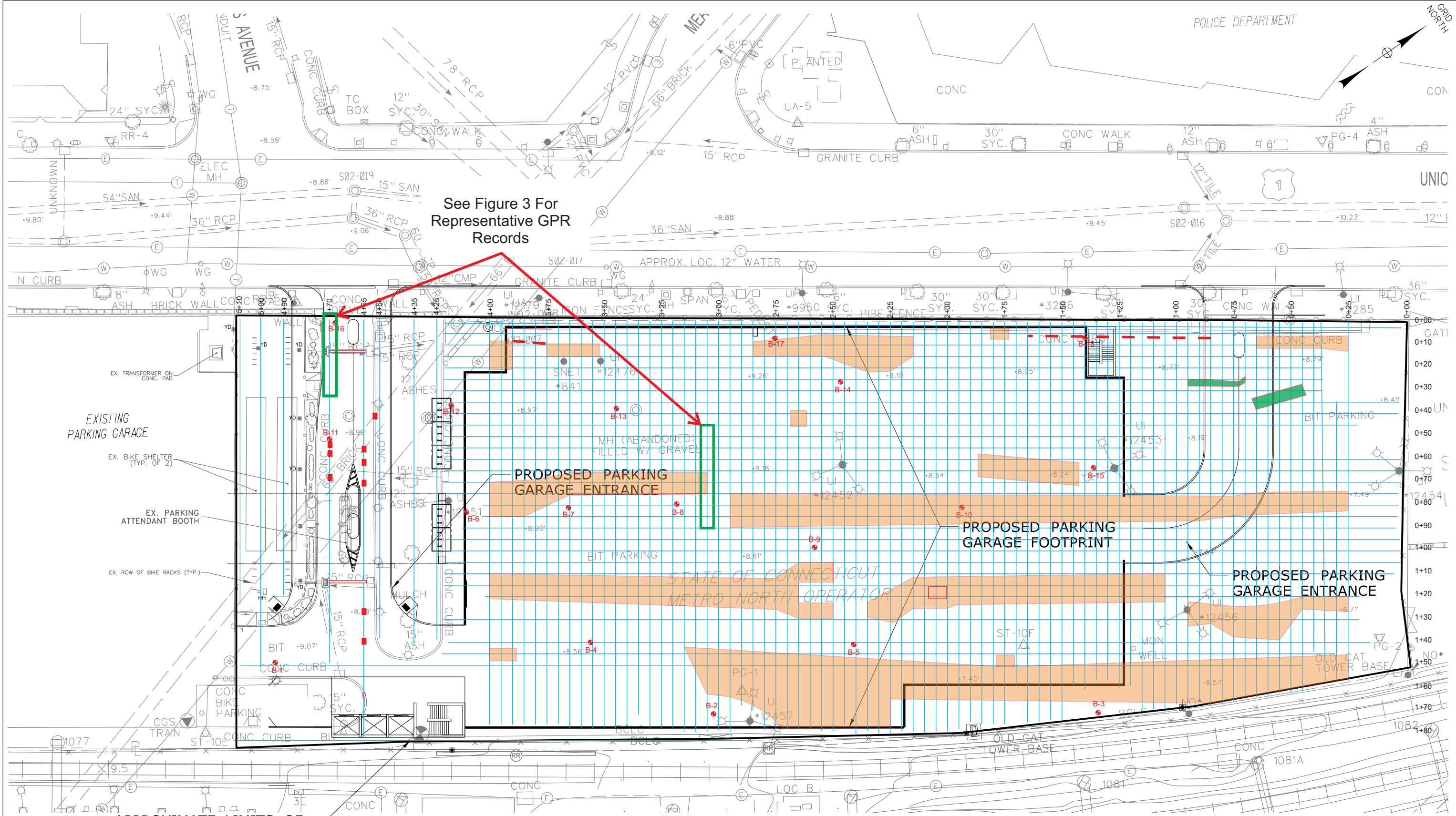


DRAFT Final

<p>NDT Corporation 153 Clinton Road Sterling, Ma. 01588</p>	<p>Location of Union Station GPR Survey</p>	<p>FIGURE <b>1</b></p>
	<p>UNION STATION PARKING GARAGE NEW HAVEN, CONNECTICUT</p>	<p>DATE: 12/2015</p>

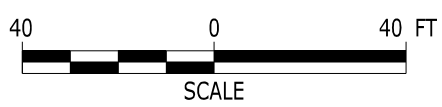


See Figure 3 For  
Representative GPR  
Records



APPROXIMATE LIMITS OF  
GEOPHYSICAL TESTING

- Buried Obstruction (see text for explanation)
- Utility Trench
- Utility



NDT  
Corporation  
153 Clinton Road  
Sterling, Ma. 01588

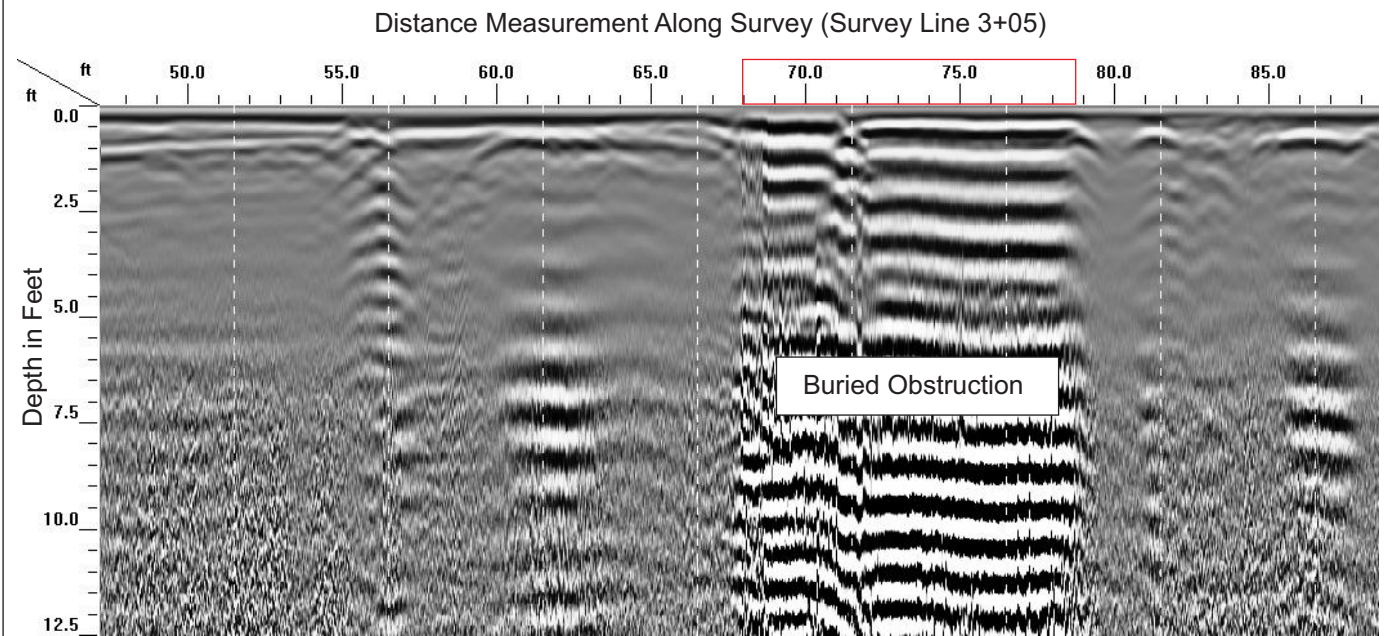
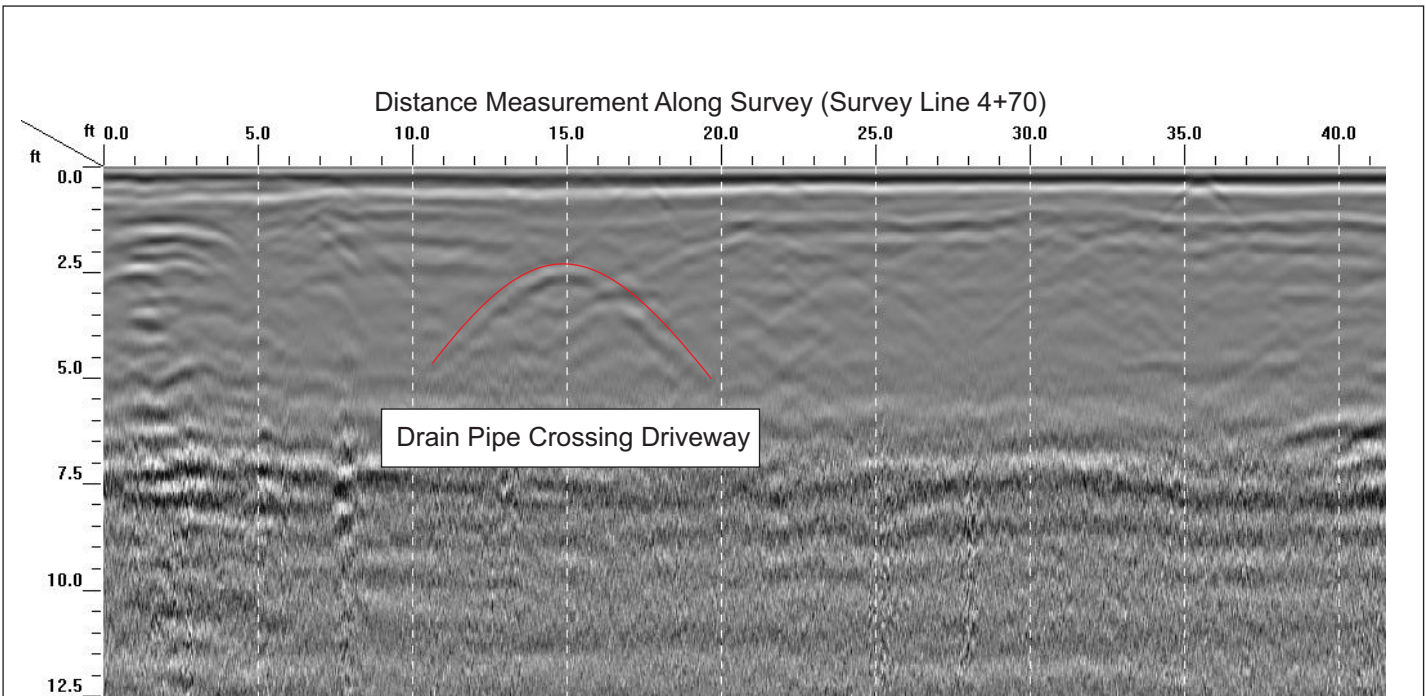
GEOPHYSICAL TESTING STUDY AREA

UNION STATION PARKING GARAGE  
NEW HAVEN, CONNECTICUT

FIGURE  
**2**

DATE: 12/2015

DRAFT Final



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<p>NDT Corporation 153 Clinton Road Sterling, Ma. 01588</p>	<p>Representative Annotated GPR Records</p>	<p>FIGURE <b>3</b></p>
	<p>UNION STATION PARKING GARAGE NEW HAVEN, CONNECTICUT</p>	<p>DATE: 12/2015</p>

# **APPENDIX 1**

## **GPR METHOD OF INVESTIGATION**

## APPENDIX: GROUND PENETRATING RADAR

Ground Penetrating Radar (GPR) is an electrical geophysical method for evaluating subsurface conditions by transmitting high frequency electromagnetic waves into the ground and detecting the energy reflected back to the surface. Electromagnetic signals are transmitted from the antenna (transmitter and receiver) at ground surface and reflected back to the antenna from interfaces with differing electrical (dielectric constant and conductivity) properties. The greater the contrast in the electrical properties between two materials, the more energy that is reflected to the surface and the more defined results are.

### GPR SYSTEM:

GPR systems consist of: Control unit (pulse transmitter, digital recorder, data storage, monitor); and an antenna(s) and survey wheel.



The GPR control unit is a computer which controls data acquisition parameters, such as sampling rate, range, gain control, filtering, etc. The Control Unit also visually displays the data, digitally archives the data, and allows for play back of the data.

Coaxial cable connects the control unit to the antenna. The antenna(s) are sealed and shielded in fiberglass housing.. Selection of the antenna is dictated by the requirements of the survey. For high resolution, near-surface data, a high frequency antenna is used; for deeper penetration investigation, a lower frequency antenna is used. Typically the 100 to 400 MHz antennas are used for geologic surveys; 400 to 900MHz are used for utility, near surface voiding settlement, foundation, etc surveys while the 900 to 1500 MHz are used for concrete reinforcing assessment.

### APPLICATIONS

Ground Penetrating Radar (GPR) can be used to locate underground pipes, buried drums, foundations, voids in rock and concrete, soil settlement, determine stratigraphy, depth to water table, buried artifacts, filled excavations, and locate voids/settlement behind walls and under floor slabs, etc. GPR is also a good tool for evaluating concrete structures such as

bridges, walls, beams, ceilings, etc where the GPR can locate rebar and conduits, quantify rebar spacing, cover variability over reinforcing, and concrete thickness.

GPR reflections typically occur at subsurface discontinuities such as:

- Buried metal objects (utilities, tanks, reinforcing)
- Open and water filled voids
- Water table
- Soil stratification
- Seepage paths
- Bedrock fractures

DEPTH OF PENETRATION AND LIMITATIONS

The depth of penetration of GPR is site specific, limited by the attenuation of the electromagnetic energy. Signal attenuation is controlled by four different mechanisms:

- Scattering: energy losses due to scattering occur when signals are dispersed in random directions, away from the receiving antenna, by closely spaced rebar or large irregular shaped objects, such as boulders or tree stumps.
- High conductivity layers: the greater the conductivity values of materials at a site, the more signal attenuation or less penetration. (Mineral content, high moisture content, water table, metal plates, etc.)

Signal penetration is also dependent on the frequency of the antenna. High frequency antennas have shallow penetration and high resolution. Low frequency antennas have greater depths of penetration, but the resolution of small and near surface targets is reduced. Listed below are antenna frequency, approximate depths of penetration and typical application. (Depths of penetration are in ideal conditions if a highly conductive layer, such as a brackish water table, steel plate, etc., is present all antennas will be limited to the depth of this layer.)

1500 and 1600 MHz	+/-2 feet	Asphalt/Concrete thickness Wire mesh/rebar/conduit location Voiding within and behind structures
900 MHz	3-5 feet	Concrete thickness Rebar and utility location Voiding within and behind structures
400 MHz	10-15 feet	Concrete/Masonry thickness Utility location Soil settlement/sinkhole development Geologic and Environmental mapping Archaeological Surveys
200 MHz	25-30	Soil settlement/sinkhole development

Geologic and Environmental mapping  
Archaeological Surveys

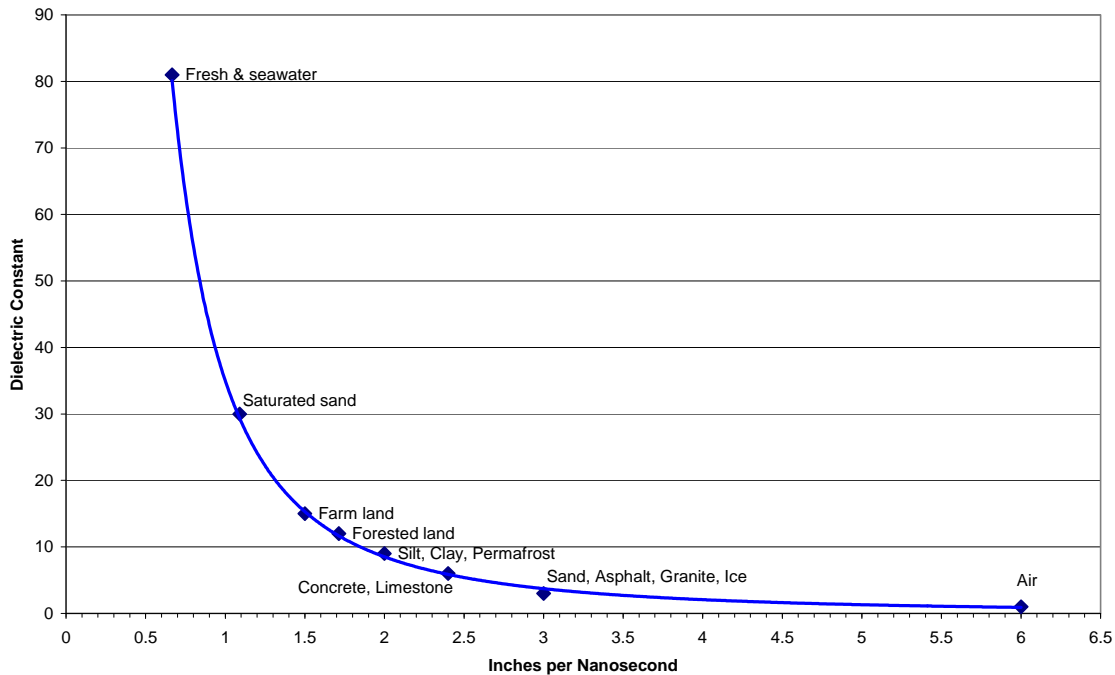
100 MHz

+/-50

Soil settlement/sinkhole development  
Geologic and Environmental mapping  
Archaeological Surveys

Depth of investigation can be estimated using material dielectric constants and the diagram shown below. Typically 2 inches per nanosecond can be used as an average signal velocity for most materials and sites. When available an onsite depth calibration can be conducted to determine the electrical properties (speed of the signal) of the materials at the site. Depth calibrations typically consist of collecting GPR data over a metal target with a known depth. Known utilities, and buried metal plates are good targets for calibrations. GPR surveys can be very effective when coupled with other geophysical surveys and/or ground truth methods to verify, correlate and extrapolate GPR results. GPR surveys are a fast and cost effective method to collect data over large or obstructed sites, and isolate anomalies and areas where borings or other methods can be focused for the best interest of a project.

**Material Velocity - Dielectric Constant**

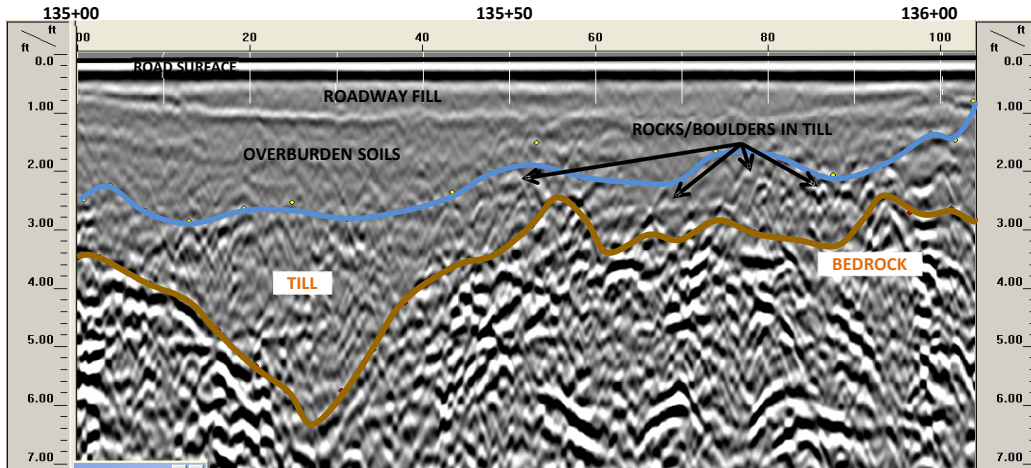


ACQUISITION AND INTERPRETATION:

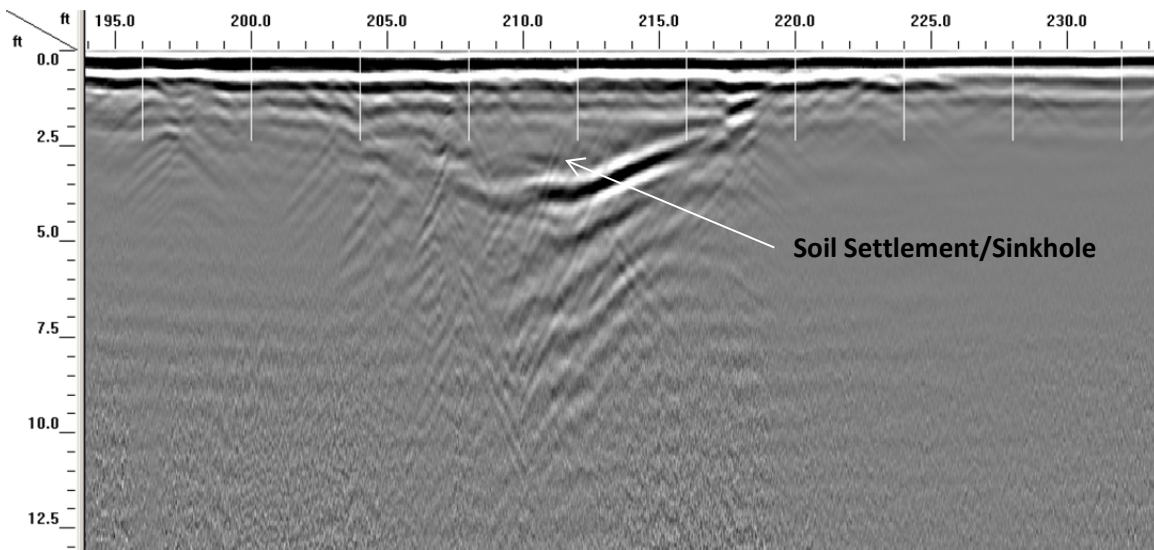
Radar data are typically acquired at a slow walking speed along a grid pattern of survey lines or a series of parallel lines. Data is displayed on LCD screen for field verification and quality control of results and digitally saved. Calibrated measuring wheels are used to automatically added footage/station markers to the digital data. The saved data can be printed or post processed.

Interpretation of GPR data is subjective. GPR results should be verified with borings or test pits. GPR lines indicate a cross-section in time/depth along a survey line.

Natural soils or fill placed in lifts during construction retain moisture between material interfaces and typically have horizontal or near horizontal bedding planes. These conditions cause a change in conductivity which shows as continuous reflective layers on GPR data. The strength of a reflected signal and/or the continuity of the reflector across the record may be indicative of a stratigraphic contact, water table, top of rock, back of wall/slab.

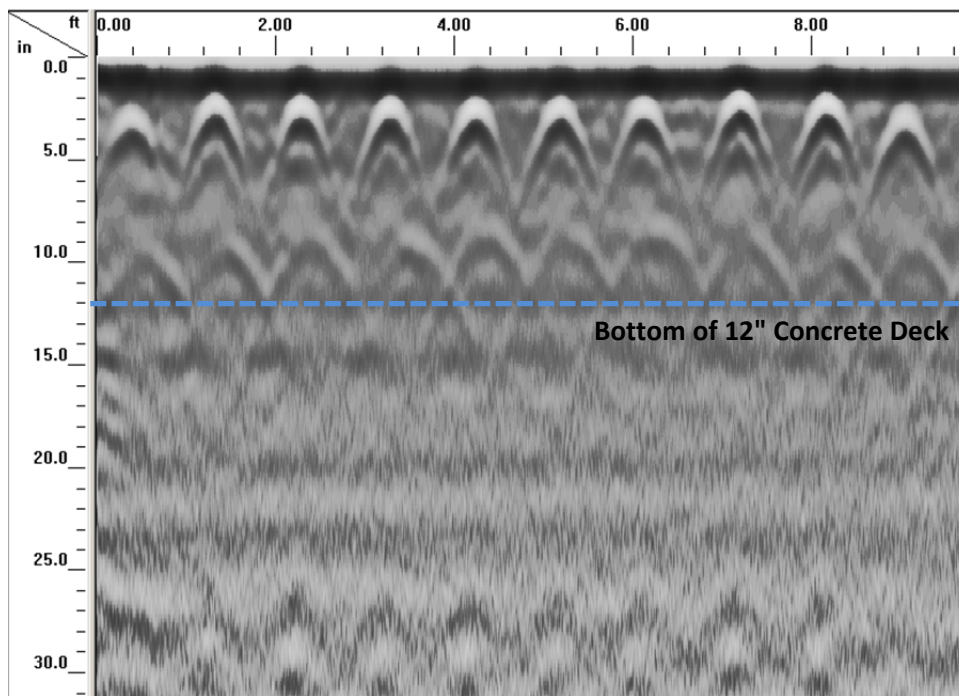
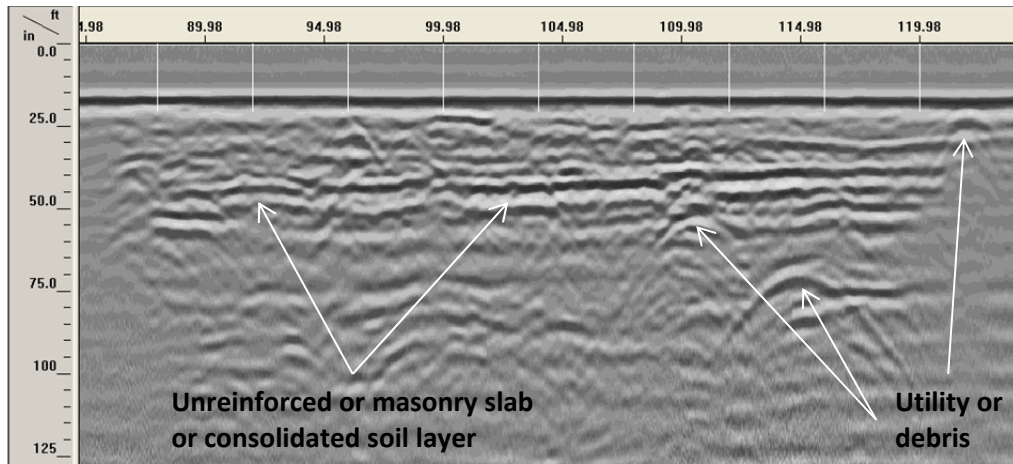


Locations where GPR data indicate these horizontal bedding planes/layers are sloping, draped or disturbed can be indication of soil settlement, trenching and/or voiding. Areas where GPR data is less reflective, indicating fine soil materials (clays and silts) have been washed or eroded away or areas that are more reflective, indicating loose soil conditions where moisture has accumulated are also indicative of and associated with settlement, sinkholes, and voiding.



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Often point targets, such as reinforcing, buried utilities, boulders, create a distinctive parabolic feature on GPR records. Point targets trending perpendicular to the direction of the line of coverage are detected, therefore to detect longitudinal reinforcing a transverse line of data would be collected and to detect transverse reinforcing, a longitudinal line of data would be collected. Plotting point targets of similar signal strength, depth, and shape located along the grid of GPR lines give the trend and location of individual utilities and/or reinforcing.



**Top Reinforcing**  
**12" spacing**  
**2+/- inches cover**

**Bottom Reinforcing**  
**12" spacing**  
**8-9 inches cover**

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**APPENDIX F**  
**SPECIAL PROVISIONS**

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## **ITEM #0207150A – LIGHTWEIGHT FILL**

**Description:** Work shall consist of furnishing and placement of lightweight fill in the formation of embankments or as backfill in front of and behind structures. This work shall be performed as hereinafter specified, to the dimensions indicated on the plans, or as directed by the Engineer. This item shall also consist of furnishing and placing crushed stone or gravel in burlap bags at the inlet ends of weep holes in structures to the dimensions indicated on the plans or as ordered by the Engineer.

**Materials:** Lightweight fill shall be a rotary kiln expanded shale aggregate meeting the requirements of ASTM C 330. No by-product slags, cinders or by-products of coal combustion shall be permitted. The aggregate shall consist of tough, durable, non-corrosive particles with the following gradation:

<b>Square Mesh Sieves</b>	<b>Percent Passing by Weight</b>
1-inch	100
¾ inch	90 - 100
3/8 inch	10 - 50
No. 4	0 – 15

The dry loose unit weight shall be less than 50 pounds per cubic feet ( pcf). The lightweight aggregate supplier shall submit verification of an in-place compacted total unit weight (by methods defined in AASHTO T99) of less than 65 pcf. For purposes of this specification, the total unit weight is defined as the maximum dry density multiplied by one plus the moisture content (as a decimal). For example, if the maximum dry density is 45 pcf and the moisture content is 9%, the total unit weight is 49 pcf.

The maximum soundness loss when tested with 5 cycles of magnesium sulfate shall be 10 percent (ASTM C 88). The maximum Los Angeles Abrasion loss when tested in accordance with ASTM C 131 (B grading) shall be 40 percent.

The lightweight aggregate producer shall submit verification that the angle of internal friction is equal to or greater than 40 degrees when measured in a triaxial compression test on a laboratory sample with a minimum diameter of 250mm.

The materials for bagged stone shall conform to the following requirements: the crushed stone or gravel shall conform to the grading requirements of Article M.01 for No. 3 or No. 4 coarse aggregate or a mixture of both; the bag shall be of burlap and shall be large enough to contain one cubic foot of loosely packed granular material.

**Construction Methods:** When applicable and except where noted below, lightweight fill placement shall conform to the requirements of Sections 2.02.03 and 2.16.03 of the Standard Specifications, Form 817.

The lightweight fill shall be placed in layers of a thickness of 1.5 ft to a maximum of 2.0 ft. Each layer shall be compacted by the use of self-propelled vibratory compaction equipment with static mass (weight) less than 6,600 lbs. The minimum number of passes shall be two (2) and the maximum four (4). The actual lift thickness and exact number of passes shall be determined by the Engineer depending on the type of compaction equipment. The contractor shall take all necessary precautions during construction activities in operations on or adjacent to the lightweight fill to ensure that the material is not over compacted. Construction equipment, other than for compaction, shall not be operated on the exposed lightweight fill.

Where weep holes are installed within the limits of the lightweight fill, bagged stone shall be placed around the inlet end of each weep hole, to prevent movement of the lightweight fill material into the weep hole. Approximately one cubic foot of crushed stone or gravel shall be enclosed in each of the burlap bags. All bags shall then be securely tied at the neck with cord or wire so that the enclosed material is contained loosely. The filled bags shall be stacked at the weep holes to the dimensions shown on the plans or as directed by the Engineer. The bags shall be unbroken at the time lightweight fill material is placed around them and bags which are broken or burst prior to or during the placing of the lightweight fill material shall be replaced at the expense of the contractor.

**Method of Measurement:** Lightweight fill shall be measured in place after compaction, including allowances for settlement. There shall be no direct payment for bagged stone, but the cost thereof shall be considered as included in the cost of the work for "Lightweight Fill".

**Basis of Payment:** This work will be paid for at the contract unit price per cubic yard for "Lightweight Fill", complete in place, which price shall include all materials, transportation, tools, equipment and labor incidental thereto.

Pay Item	Pay Unit
Lightweight Fill	c.y.

**Tighe&Bond**

**APPENDIX C**

Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-1  
 Page 1 of 4  
 File No. 23-5002-015A  
 Checked by: B. Opp

Drilling Co.: General Borings, Inc.  
 Foreman: J. Wyant  
 T&B Rep.: C. Watts  
 Date Start: 11/10/21 End: 11/10/21  
 Location: See Exploration Location Plan  
 GS. Elev. 10 Datum: NAVD88

Casing Type HSA/FJ Sampler Split Spoon  
 I.D./O.D. 3-1/4" I.D. 1-3/8"/2"  
 Hammer Wt. 140#  
 Hammer Fall 30"  
 Rig Make/Model Diedrich D50 w/ autohammer

Groundwater Readings				
Date	Time	Depth	Casing	Sta. Time
See Note 1 Below				

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec. (in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
5							0.5' ASPHALT 1' AGGR. BASE	1	No Well Installed
		SS-1 / 15	1-3	8-9	0.0	6" ASPHALT over 6" gray, fine to coarse SAND, some Gravel, little Silt (AGGREGATE BASE) over light brown, fine to coarse SAND, trace Silt.	FILL		
				8-9	0.0				
		SS-2 / 12	3-5	6-5	66.8	10" brown, fine to coarse SAND, trace Silt over 2" brown, fine to coarse SAND, little fine Gravel, trace Silt, petro odor, blk staining.			
				5-5	85.9				
		SS-3 / 14	5-7	3-2	85.4	Very loose, dark brown, fine to coarse SAND, trace Silt, black staining, petroleum odor, wet.			
				2-3	22.1				
		SS-4 / 22	7-9	4-6	132.1	Medium dense, dark brown, fine to coarse SAND, trace Silt, black staining, petroleum odor, wet.			
			6-6	107.2					
10							15'	2 3	
		SS-5 / 13	10-12	4-6	31.7	Medium dense, brown, fine to medium SAND, trace Silt, trace coarse Sand, wet, petroleum odor.			
				5-8	32.7				
15							15'		
		SS-6 / 12	15-17	4-3	1.3	Loose, brown, fine to coarse SAND, little fine Gravel, trace Silt, wet, petroleum odor.			
				4-5	1.2				
20							SAND		
		SS-7 / 14	20-22	3-8	0.5	Top 4": Brown, fine to coarse SAND, some Silt, petroleum odor, wet. Bottom 10": Brown, fine to coarse SAND, trace Silt, trace fine Gravel, petroleum odor, wet.			
				8-8	0.6				
25									
		SS-8 / 12	25-27	4-6	0.3	Medium dense, brown, fine to coarse SAND, trace Silt, petroleum odor, wet.			
				6-6	0.4				
30									

Notes:  
 1. Groundwater encountered at 5 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.

Proportions Used	
TRACE (TR.)	0 - <10%
LITTLE (LI.)	10 - <20%
SOME (SO.)	20 - <35%
AND	35 - <50%

Density/Consistency		
VERY LOOSE	0-4	VERY SOFT <2
LOOSE	4-10	SOFT 2-4
MEDIUM DENSE	10-30	MEDIUM 4-8
DENSE	30-50	STIFF 8-15
VERY DENSE	>50	VERY STIFF 15-30
		HARD >30

Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-1  
 Page 2 of 4  
 File No. 23-5002-015A  
 Checked by: B. Opp

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec.(in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction																																																																																																																														
35		SS-9 / 13	30-32	5-6	0.4	Medium dense, brown, fine to medium SAND, trace Silt, wet, petroleum odor.	SAND	<b>No Well Installed</b>																																																																																																																															
				7-7	0.5				40		SS-10 / 17	35-37	8-9	0.3	Medium dense, brown, fine to medium SAND, some Silt, wet, petroleum odor.	SAND				9-16	0.5													45		SS-11 / 18	40-42	14-18	0.1	Top 12": Brown, fine to medium SAND, some Silt, wet, petroleum odor. Bottom 6": Brown SILT, some fine Sand, wet, petroleum odor.	41'				17-19	0.0	SILT	50		SS-12 / 12	45-47	5-7	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.	45'				5-7	0.0											55		SS-13 / 12	50-52	7-8	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.	SAND				10-16	0.0											60		SS-14 / 13	55-57	7-12	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.	SAND				14-20	0.0											65		SS-15 / 15	60-62	7-12	0.0	Medium dense, brown SILT, some fine Sand, wet, petroleum odor.	60'				13-15	0.0	SILT	65				
40		SS-10 / 17	35-37	8-9	0.3	Medium dense, brown, fine to medium SAND, some Silt, wet, petroleum odor.	SAND																																																																																																																																
				9-16	0.5																																																																																																																																		
45		SS-11 / 18	40-42	14-18	0.1	Top 12": Brown, fine to medium SAND, some Silt, wet, petroleum odor. Bottom 6": Brown SILT, some fine Sand, wet, petroleum odor.	41'																																																																																																																																
				17-19	0.0		SILT																																																																																																																																
50		SS-12 / 12	45-47	5-7	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.	45'																																																																																																																																
				5-7	0.0																																																																																																																																		
55		SS-13 / 12	50-52	7-8	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.	SAND																																																																																																																																
				10-16	0.0																																																																																																																																		
60		SS-14 / 13	55-57	7-12	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.	SAND																																																																																																																																
				14-20	0.0																																																																																																																																		
65		SS-15 / 15	60-62	7-12	0.0	Medium dense, brown SILT, some fine Sand, wet, petroleum odor.	60'																																																																																																																																
				13-15	0.0		SILT																																																																																																																																
65						65'																																																																																																																																	

Notes: 1. Groundwater encountered at 5 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.

Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-1  
 Page 3 of 4  
 File No. 23-5002-015A  
 Checked by: B. Opp

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec. (in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
70		SS-16 / 15	65-67	8-10	0.0	Medium dense, brown, fine SAND, some Silt, little Clay, wet, petroleum odor.	SAND		No Well Installed
				13-15	0.0				
75		SS-17 / 12	70-72	9-11	0.0	Medium dense, brown, fine SAND, some Silt, little Clay, wet, petroleum odor.	SAND		No Well Installed
				13-19	0.0				
80		SS-18 / 13	75-77	11-14	0.0	Top 10": Brown, fine SAND, some Silt, wet, petroleum odor. Bottom 3": Red SILT, and fine Sand, wet, petroleum odor.	SILT		No Well Installed
				15-15	0.0				
85		SS-19 / 14	80-82	13-18	0.0	Top 5": Brown SILT, some fine Sand, wet, petroleum odor. Bottom 9": Brown, fine SAND, some Silt, wet, petroleum odor.	SAND		No Well Installed
				18-19	0.0				
90		SS-20 / 19	85-87	10-15	0.0	Medium dense, brown SILT, some fine Sand, wet, petroleum odor.	SILT		No Well Installed
				13-18	0.0				
95		SS-21 / 14	90-92	9-16	0.0	Hard, brown, Clayey SILT, some fine Sand, wet, petroleum odor.	CLAYEY SILT		No Well Installed
				17-26	0.0				
100		SS-22 / 20	95-97	14-20	0.0	Top 7": Brown, fine to coarse SAND, trace Silt, trace fine Gravel, wet, petroleum odor. Middle 11": Brown, fine to coarse SAND, some Silt, wet, petroleum odor. Bottom 2": Brown, fine SAND, some Clayey Silt, wet, petroleum odor.	SAND		No Well Installed
				20-20	0.0				

Notes: 1. Groundwater encountered at 5 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.

Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-1

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File No. 23-5002-015A

Checked by: B. Opp

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec.(in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
		SS-23 / 10	100-102	9-19	0.0	Top 5": Brown, fine SAND, some Silt, wet, petroleum odor. Bottom 5": Red SILT, some fine Sand, wet, petroleum odor.	SAND		
				18-19	0.0				
105						Boring Terminated at 102 ft			<b>No Well Installed</b>
110						Boring Terminated at 102 ft			<b>No Well Installed</b>
115						Boring Terminated at 102 ft			<b>No Well Installed</b>
120						Boring Terminated at 102 ft			<b>No Well Installed</b>
125						Boring Terminated at 102 ft			<b>No Well Installed</b>
130						Boring Terminated at 102 ft			<b>No Well Installed</b>
135						Boring Terminated at 102 ft			<b>No Well Installed</b>

Notes: 1. Groundwater encountered at 5 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.



Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-2

Page 1 of 3

File No. 23-5002-015A

Checked by: B. Opp

Drilling Co.: General Boring, Inc.  
 Foreman: J. Wyant  
 T&B Rep.: C. Watts  
 Date Start: 11/11/21 End: 11/11/21  
 Location: See Exploration Location Plan  
 GS. Elev. 11 Datum: NAVD88

Casing Sampler  
 Type HSA/FJ Split Spoon  
 I.D./O.D. 3-1/4" I.D. 1-3/8"/2"  
 Hammer Wt. 140lb  
 Hammer Fall 30"  
 Rig Make/Model Diedrich D50 w/ autohammer

Groundwater Readings				
Date	Time	Depth	Casing	Sta. Time
See Note 1 Below				

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec.(in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
5						6" ASPHALT over 6" gray, fine to coarse SAND, some Gravel, little Silt (AGGREGATE BASE) over dark brown, fine to coarse SAND, little fine to coarse Gravel, trace Silt, trace Foam.	0.5' ASPHALT 1' AGGR. BASE	1	No Well Installed
		SS-1 / 16	1-3	10-7	0.0		FILL		
				4-3	0.0				
		SS-2 / 13	3-5	2-2	0.0	Very loose, brown, fine to coarse SAND, trace Silt, trace fine Gravel.			
10						Top 9": Brown, fine to coarse SAND, trace Silt. Bottom 4": Dark brown, fine to coarse SAND, trace Silt, wet, black staining, petroleum odor.	g'	2 3	
		SS-3 / 13	5-7	2-2	0.0				
				1-1	5.7				
		SS-4 / 0	7-9	3-4	-	No recovery			
15							SAND		
				4-3					
		SS-5 / 12	9-11	4-5	5.7	Medium dense, brown, fine to coarse SAND, trace Silt, wet, petroleum odor.			
				5-5	32.7				
20						Medium dense, brown, fine to coarse SAND, trace Silt, wet, petroleum odor.			
				6-7	14.6				
				5-6	11.1				
		SS-6 / 12	11-13	6-7	14.6	Medium dense, brown, fine to coarse SAND, trace Silt, wet, petroleum odor.			
25						Loose, brown, fine to coarse SAND, little fine Gravel, trace Silt, wet petroleum odor.			
				2-4	0.1				
				3-4	0.1				
		SS-7 / 13	15-17	2-4	0.1	Loose, brown, fine to coarse SAND, little fine Gravel, trace Silt, wet petroleum odor.			
30						Top 5": Brown, fine to coarse SAND, trace fine Gravel, trace Silt. Bottom 7": Brown, fine to medium SAND, trace Silt.			
				5-4	0.0				
		SS-8 / 12	20-22	4-5	0.0	Loose, brown, fine to medium SAND, trace Silt.			
30									
				3-5	0.0				
		SS-9 / 12	25-27	4-3	0.0	Loose, brown, fine to medium SAND, trace Silt.			

Notes:  
 1. Groundwater encountered at 6 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.

Proportions Used	
TRACE (TR.)	0 - <10%
LITTLE (LI.)	10 - <20%
SOME (SO.)	20 - <35%
AND	35 - <50%

Density/Consistency		
VERY LOOSE	0-4	VERY SOFT <2
LOOSE	4-10	SOFT 2-4
MEDIUM DENSE	10-30	MEDIUM 4-8
DENSE	30-50	STIFF 8-15
VERY DENSE	>50	VERY STIFF 15-30
		HARD >30

Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-2  
 Page 2 of 3  
 File No. 23-5002-015A  
 Checked by: B. Opp

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec. (in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
35		SS-10 / 15	30-32	5-8	0.0	Top 5": Brown SILT, some fine Sand, wet petroleum odor. Bottom 10": Brown, fine SAND, some Silt, wet, petroleum odor.	SILT		<b>No Well Installed</b>
				12-18	0.0		31'		
40		SS-11 / 15	35-37	5-9	0.0	Medium dense, brown, fine SAND, some Silt, wet, petroleum odor.	SAND		
				10-13	0.0				
45		SS-12 / 15	40-42	9-16	0.0	Top 12": Brown, fine to medium SAND, some Silt, wet, petroleum odor. Bottom 3": Brown SILT, some fine Sand, wet, petroleum odor.	41.5'		
				10-14	0.0		SILT		
50		SS-13 / 19	45-47	13-22	0.0	Dense, brown, fine SAND, little Silt, wet, petroleum odor.	45'		
				20-20	0.0				
55		SS-14 / 13	50-52	10-17	0.0	Dense, brown, fine SAND, little Silt, wet, petroleum odor.	SAND		
				18-22	0.0				
60		SS-15 / 14	55-57	10-14	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.	SAND		
				15-18	0.0				
65		SS-16 / 12	60-62	9-16	0.0	Dense, brown, fine SAND, little Silt, wet, petroleum odor.	SAND		
				18-15	0.0				

Notes: 1. Groundwater encountered at 6 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.

Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-2

Page 3 of 3

File No. 23-5002-015A

Checked by: B. Opp

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec.(in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
70		SS-17 / 15	65-67	13-15	0.0	Dense, brown, fine SAND, little Silt, trace medium Sand, wet, petroleum odor.	SAND		<b>No Well Installed</b>
				15-15	0.0				
75		SS-18 / 15	70-72	9-11	0.0	Very stiff, brown CLAYEY SILT, some fine Sand, wet, petroleum odor.	CLAYEY SILT		
				16-20	0.0				
80		SS-19 / 18	75-77	13-14	0.0	Top 10": Brown, fine SAND, little Silt, wet, petroleum odor. Bottom 8": Brown SILT, and fine Sand, wet, petroleum odor.	SAND		
				15-17	0.0				
85						Boring Terminated at 77 ft			
90									
95									
100									

Notes: 1. Groundwater encountered at 6 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.

Project: Union Station Planning Study

Location: New Haven, CT

Client: Desman Design Management

Drilling Co.: General Borings, Inc.

Foreman: J. Wyant

T&B Rep.: C. Watts

Date Start: 11/12/21 End: 11/12/21

Location: See Exploration Location Plan

GS. Elev. 11 Datum: NAVD88

	Casing	Sampler
Type	HSA	Split Spoon
I.D./O.D.	3-1/4"	1-3/8"/2"
Hammer Wt.		140lb
Hammer Fall		30"
Rig Make/Model	Diedrich D50 w/ autohammer	

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
See Note 1 Below				

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec.(in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
5						Augered to 7ft	FILL	1	No Well Installed
		SS-1 / 19	7-9	2-1 1-1		Very loose, dark brown, fine SAND, trace Silt, black staining, petroleum odor, wet.			
10						Boring Terminated at 9 ft			
15									
20									
25									
30									

Notes:  
1. Groundwater encountered at 7 ft below ground surface during drilling operations.

**Proportions Used**

TRACE (TR.)	0 - <10%
LITTLE (LI.)	10 - <20%
SOME (SO.)	20 - <35%
AND	35 - <50%

**Density/Consistency**

VERY LOOSE	0-4	VERY SOFT	<2
LOOSE	4-10	SOFT	2-4
MEDIUM DENSE	10-30	MEDIUM	4-8
DENSE	30-50	STIFF	8-15
VERY DENSE	>50	VERY STIFF	15-30
		HARD	>30

Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-3

Page 1 of 1

File No. 23-5002-015A

Checked by: B. Opp

Drilling Co.: General Borings, Inc.  
 Foreman: J. Wyant  
 T&B Rep.: C. Watts  
 Date Start: 11/12/21 End: 11/12/21  
 Location: See Exploration Location Plan  
 GS. Elev. 11 Datum: NAVD88

Casing Sampler  
 Type HSA Split Spoon  
 I.D./O.D. 3-1/4" I.D. 1-3/8"/2"  
 Hammer Wt. 140lb  
 Hammer Fall 30"  
 Rig Make/Model Diedrich D50 w/ autohammer

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
See Note 1 Below				

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec.(in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
5		SS-1 / 19	1-3	15-11	0.0	6" ASPHALT over 6" gray, fine to coarse SAND, some Gravel, little Silt (AGG BASE) over brown, fine to coarse SAND, some Asphalt, little Gravel, trace Silt, trace Ash.  Medium dense, brown, fine to coarse SAND, trace Silt, dark staining, wet, petroleum odor at tip.  Medium dense, brown, fine to coarse SAND, trace Silt, moist, petroleum odor.  Top 8": Brown, fine to coarse SAND, trace Silt, wet, petroleum odor. Bottom 11": Brown, fine to medium SAND, little Silt, petroleum odor, wet.  Top 9": Brown, fine to coarse SAND, trace Silt, wet, petroleum odor. Bottom 8": Brown, fine to medium SAND, little Silt, wet, petroleum odor.  Medium dense, brown, fine to coarse SAND, trace Silt, wet petroleum odor.  Loose, brown, fine to coarse SAND, trace Silt, wet, petroleum odor.	0.5' ASPHALT 1' AGGR. BASE          11'	1	<b>No Well Installed</b>
			11-8	0.0					
		SS-2 / 17	3-5	7-7	0.0				
			6-6	3.1					
		SS-3 / 14	5-7	6-6	111.16				
			6-5	160.2					
		SS-4 / 19	7-9	5-3	156.3				
			4-5	134.9					
		SS-5 / 17	10-12	3-4	48.2				
			7-17	9.6					
15		SS-6 / 24	12-14	5-6	3.3				
			9-10	2.1					
		SS-7 / 13	15-17	3-3	0.0				
			6-4	0.0					
20		SS-8 / 4	20-22	3-5	0.0				
			5-10	0.0					
	Boring Terminated at 22 ft								
25									
30									

Notes:  
 1. Groundwater encountered at 7 ft below ground surface during drilling operations.

Proportions Used	
TRACE (TR.)	0 - <10%
LITTLE (LI.)	10 - <20%
SOME (SO.)	20 - <35%
AND	35 - <50%

Density/Consistency		
VERY LOOSE	0-4	VERY SOFT <2
LOOSE	4-10	SOFT 2-4
MEDIUM DENSE	10-30	MEDIUM 4-8
DENSE	30-50	STIFF 8-15
VERY DENSE	>50	VERY STIFF 15-30
		HARD >30

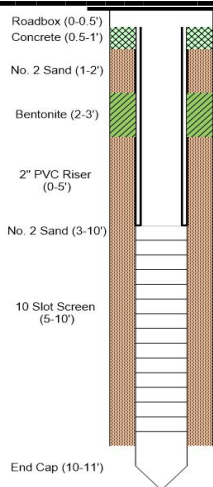
Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-4/ MW-3  
 Page 1 of 1  
 File No. 23-5002-015A  
 Checked by: B. Opp

Drilling Co. General Borings, Inc.  
 Foreman: J. Wyant  
 T&B Rep.: C. Watts  
 Date Start: 11/12/21 End: 11/12/21  
 Location: See Exploration Location Plan  
 GS. Elev. 11.81 Datum: NAVD88

Casing HSA Sampler Split Spoon  
 Type HSA Split Spoon  
 I.D./O.D. 3-1/4" I.D. 1-3/8"/2"  
 Hammer Wt. 140lb  
 Hammer Fall 30"  
 Rig Make/Model Diedrich D50 w/ autohammer

Groundwater Readings				
Date	Time	Depth	Casing	Sta. Time
See Note 1 Below				

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec.(in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
5		SS-1 / 11	1-3	7-10	0.0	6" ASPHALT over black, ASPHALT MILLINGS, some fine to coarse SAND, trace Silt.	0.5' ASPHALT	1	
				18-19	0.0				
		SS-2 / 14	3-5	8-5	0.0	Medium dense, black, ASH, some fine to medium SAND, trace Asphalt, trace Silt.			
				6-5	0.0				
10		SS-3 / 0	5-7	3-1	-	SS-3: No recovery.	FILL		
				2-1					
		SS-4 / 11	7-9	2-WOH	0.0	Top 7": Brown, fine to coarse SAND, little Silt. Bottom 4": Gray, fine to medium SAND, some Silt, trace Glass, petroleum odor, black, staining, wet.			
				1-1	6.7				
15		SS-5 / 11	10-12	2-1	13.7	Top 7": Gray, ASH, some fine to coarse Sand, trace Silt, wet, petroleum odor. Bottom 4": Dark Brown, fine to medium SAND, little Silt, wet, petroleum odor, sheen.	11'		
				2-1	10.4				
		SS-6 / 19	12-14	2-6	0.0	Medium Dense, brown, fine to coarse SAND, little fine Gravel, trace Silt, wet.	SAND		
				8-12	0.0				
20		SS-7 / 22	15-17	4-2	0.0	Top 14": Brown, fine to coarse SAND, little fine Gravel, trace Silt, wet. Bottom 8": Gray to black, ORGANIC SILT, some fine Sand, little fibrous Peat	16.5'		
				2-2	0.0				
		SS-8 / 24	20-22	WOH/24"	0.0	Very soft, gray, ORGANIC SILT, little fibrous Peat, trace fine Sand, wet.	ORGANIC SILT / PEAT		
					0.0				
25		ST-1 / 24	22-24	P-U		Dark gray, ORGANIC SILT, little fibrous Peat, wet.		2	
				S-H					
						Boring Terminated at 24 ft			
30									

Notes:  
 1. Groundwater encountered at 7.5 ft below ground surface during drilling operations.  
 2. Shelby tube advanced from the 22 ft to 24 ft depth interval and recovered.

Proportions Used	
TRACE (TR.)	0 - <10%
LITTLE (LI.)	10 - <20%
SOME (SO.)	20 - <35%
AND	35 - <50%

Density/Consistency		
VERY LOOSE	0-4	VERY SOFT <2
LOOSE	4-10	SOFT 2-4
MEDIUM DENSE	10-30	MEDIUM 4-8
DENSE	30-50	STIFF 8-15
VERY DENSE	>50	VERY STIFF 15-30
		HARD >30

Project: Union Station Planning Study

Location: New Haven, CT

Client: Desman Design Management

Drilling Co.: General Borings, Inc.

Foreman: J. Wyant

T&B Rep.: C. Watts

Date Start: 11/15/21 End: 11/15/21

Location: See Exploration Location Plan

GS. Elev. 11.38 Datum: NAVD88

	Casing	Sampler
Type	HSA	Split Spoon
I.D./O.D.	3-1/4" I.D.	1-3/8"/2"
Hammer Wt.		140lb
Hammer Fall		30"
Rig Make/Model	Diedrich D50 w/ autohammer	

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
See Note 1 Below				

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec.(in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
5						Augered to 10ft, see B-5A for Soil Details	0.5' ASPHALT  FILL		
10					Boring Terminated at 10 ft		1		
15									
20									
25									
30									

Notes:  
1. Groundwater encountered at 6.5 ft below ground surface during drilling operations.

Proportions Used

TRACE (TR.)	0 - <10%
LITTLE (LI.)	10 - <20%
SOME (SO.)	20 - <35%
AND	35 - <50%

Density/Consistency

VERY LOOSE	0-4	VERY SOFT	<2
LOOSE	4-10	SOFT	2-4
MEDIUM DENSE	10-30	MEDIUM	4-8
DENSE	30-50	STIFF	8-15
VERY DENSE	>50	VERY STIFF	15-30
		HARD	>30

Project: Union Station Planning Study

Location: New Haven, CT

Client: Desman Design Management

Drilling Co.: General Borings, Inc.

Foreman: J. Wyant

T&B Rep.: C. Watts

Date Start: 11/15/21 End: 11/16/21

Location: See Exploration Location Plan

GS. Elev. 10 Datum: NAVD88

	Casing	Sampler
Type	HSA/FJ	Split Spoon
I.D./O.D.	3-1/4" I.D.	1-3/8"/2"
Hammer Wt.		140lb
Hammer Fall		30"
Rig Make/Model	Diedrich D50 w/ autohammer	

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
See Note 1 Below				

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec.(in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
5		SS-1 / 16	1-3	6-4	0.0	6" ASPHALT over brown, fine to coarse SAND, little fine Gravel, trace Silt, trace Brick.	0.5' ASPHALT	1	No Well Installed
				2-4	0.0				
		SS-2 / 9	3-5	3-3	0.0				
				2-2	0.0				
10		SS-3 / 24	5-7	2-5	2.7	Loose, Brown, fine to coarse SAND, trace Silt. Top 9": Brown, fine to coarse SAND, trace fine Gravel, trace Silt. Bottom 15": Dark brown, fine to coarse SAND, trace Silt, petroleum odor, black staining, moist.	FILL	2	
				6-5	36.4				
		SS-4 / 21	7-9	10-7	37.6				
				8-6	76.6				
15						Bottom 15": Brown, fine to medium SAND, trace Silt, wet, petroleum odor, black staining.	15'	3	
		SS-5 / 11	10-12	10-9	19.9				
				7-8	0.0				
		SS-6 / 0	12-14	10-9	-				
20						No recovery.			
				11-9					
		SS-7 / 15	15-17	5-7	0.0				
				7-8	0.0				
25						Top 11": Brown, fine to coarse SAND, and fine Gravel, trace Silt, wet, petroleum odor. Bottom 4": Brown, fine SAND, little Silt, wet, petroleum odor.	SAND		
		SS-8 / 12	20-22	5-7	0.0				
				7-8	0.0				
30						Medium dense, brown, fine to coarse SAND, trace fine Gravel, trace Silt, petroleum odor, wet.			
		SS-9 / 15	25-27	5-8	0.0				
				10-10	0.0				

**Notes:**  
 1. Groundwater encountered at 6 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.

**Proportions Used**

TRACE (TR.)	0 - <10%
LITTLE (LI.)	10 - <20%
SOME (SO.)	20 - <35%
AND	35 - <50%

**Density/Consistency**

VERY LOOSE	0-4	VERY SOFT	<2
LOOSE	4-10	SOFT	2-4
MEDIUM DENSE	10-30	MEDIUM	4-8
DENSE	30-50	STIFF	8-15
VERY DENSE	>50	VERY STIFF	15-30
		HARD	>30



Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec. (in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
35		SS-10 / 14	30-32	4-6	0.0	Medium dense, brown, fine to coarse SAND, trace fine Gravel, trace Silt, wet, petroleum odor.			<b>No Well Installed</b>
				8-9	0.0				
40		SS-11 / 10	35-37	3-8	0.0	Medium dense, brown, fine to coarse SAND, little Silt, wet, petroleum odor.			
				7-9	0.0				
45		SS-12 / 11	40-42	5-10	0.0	Medium dense, brown, fine to medium SAND, little Silt, wet, petroleum odor.	SAND		
				9-11	0.0				
50		SS-13 / 14	45-47	8-10	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.			
				10-12	0.0				
55		SS-14 / 14	50-52	9-13	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.			
				12-15	0.0				
60		SS-15 / 11	55-57	6-10	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.			
				10-10	0.0				
65		SS-16 / 14	60-62	9-14	0.0	Top 10": Brown, fine SAND, little Silt, wet, petroleum odor. Bottom 4": Brown, CLAYEY SILT, some fine Sand, wet, petroleum odor.	61.5'		
				16-24	0.0				
						CLAYEY SILT			
							65'		

Notes: 1. Groundwater encountered at 6 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.

Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-5A

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File No. 23-5002-015A

Checked by: \_\_\_\_\_

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec. (in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction
70		SS-17 / 14	65-67	12-18	0.0	Dense, fine to medium SAND, little Silt, wet, petroleum odor.			<b>No Well Installed</b>
				19-25	0.0				
75		SS-18 / 12	70-72	11-13	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.			
				13-15	0.0				
80		SS-19 / 15	80-82	8-13	0.0	Medium dense, brown, fine SAND, little Silt, wet, petroleum odor.	SAND		
				13-15	0.0				
85									
90		SS-20 / 13	90-92	11-17	0.0	Top 8": Medium dense, brown, fine SAND, little Silt, wet, petroleum odor. Bottom 5": brown, CLAYEY SILT, some fine Sand, wet, petroleum odor.	91'		
				17-24	0.0				
95							CLAYEY SILT		
100						100'			

Notes: 1. Groundwater encountered at 5 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.

Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-5A

Page 4 of 5

File No. 23-5002-015A

Checked by: \_\_\_\_\_

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec.(in)	Sample Depth (ft.)	Blows Per 6"	PID Reading (ppm)	Sample Description	General Stratigraphy	Notes	Well Construction	
105		SS-21 / 15	100-102	12-17	0.0	Dense, fine to medium SAND, little Silt, wet, petroleum odor.	SILT		<b>No Well Installed</b>	
				19-28	0.0		101'			
										CLAYEY SILT
110							105'			
115		SS-22 / 17	110-112	16-20	0.0	Dense, brown, fine SAND, little Silt, wet, petroleum odor.				
				18-27	0.0					
120										
		SS-23 / 12	120-122	18-29	0.0	Very Dense, brown, fine SAND, little Silt, wet, petroleum odor.	SAND			
				29-42	0.0					
125										
130										
135										

Notes: 1. Groundwater encountered at 5 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.

Project: Union Station Planning Study  
 Location: New Haven, CT  
 Client: Desman Design Management

Boring No. B-5A

Page 5 of 5

File No. 23-5002-015A

Checked by: \_\_\_\_\_

Depth (ft.)	Casing Blows Per Ft.	Sample No. Rec.(in)	Sample Depth (ft.)	Blows Per 6"	PID Readin g (ppm)	Sample Description	General Stratigraphy	N o t e s	Well Construction
140						Note: Boring advanced using roller bit to 150'	SAND		<b>No Well Installed</b>
145									
150						Boring Terminated at 150 ft			
155									
160									
165									
170									

Notes: 1. Groundwater encountered at 5 ft below ground surface during drilling operations.  
 2. Hollow stem auger method deployed until 10 ft, drive-and-wash methods implemented after 10 ft using 4" I.D. Flush Joint Casing.  
 3. Petroleum odor observed after 10 ft likely caused by drive-and-wash methods.

**Tighe&Bond**

**APPENDIX D**



195 Frances Avenue  
 Cranston RI, 02910  
 Phone: (401)-467-6454  
 Fax: (401)-467-2398  
[thielsch.com](http://thielsch.com)  
*Let's Build a Solid Foundation*

Client Information:  
 Tighe & Bond  
 Providence, RI  
 PM: Brian Opp  
 Assigned By: Brian Opp  
 Collected By: Casey Watts

Project Information:  
**Union Station**  
**New Haven, CT**  
 T&B Project Number: NS002-015  
 Summary Page: 1 of 2  
 Report Date: 01.19.22

**LABORATORY TESTING DATA SHEET, Report No.: 7421-L-180**

Source/Boring No.	Material/Sample No.	Depth (Ft)	Laboratory No.	Identification Tests								Proctor / CBR / Permeability Tests							Laboratory Log and Soil Description	
				As Received Moisture Content %	LL %	PL %	Gravel %	Sand %	Fines %	Org. %	G <sub>s</sub>	Dry unit wt. pcf	Test Moisture Content %	γ <sub>d</sub> MAX (pcf)	γ <sub>d</sub> MAX (pcf) W <sub>opt</sub> (%) (Corr.)	Target Test Setup as % of Proctor	CBR @ 0.1"	CBR @ 0.2"		Permeability cm/sec
				D2216	D4318		D6913			D2974	D854			D1557						
B-4		22-24	21-S-4508																See Tube Report	
B-5A	SS-23	120-122	21-S-4509	24.4			0.0	80.7	19.3										Red silty sand	
B-2	SS-19	75-77	21-S-4510	24.6			0.0	46.3	53.7										Red sandy silt	
B-1	SS-23	100-102	21-S-4511	25.9			0.0	26.2	73.8										Red silt with sand	
B-5A	SS-2	3-5	21-S-4512	7.0			0.0	90.8	9.2										Brown well-graded sand with silt	
B-5A	SS-14	50-52	21-S-4513	21.5			0.0	90.0	10.0										Red poorly graded sand with silt	
B-2	SS-2	3-5	21-S-4514	6.5			0.0	92.1	7.9										Red poorly graded sand with silt	

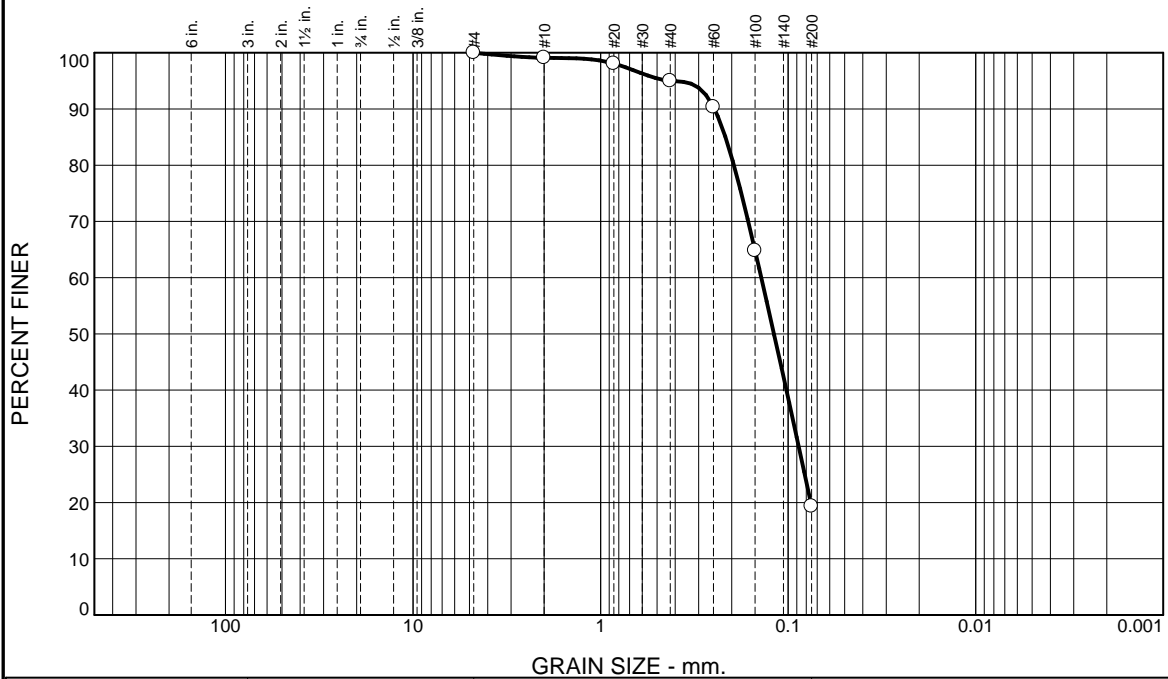
Date Received: 11.24.21

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# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.9	4.1	75.7	19.3	

Test Results (D6913 & ASTM D 1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#4	100.0		
#10	99.1		
#20	98.1		
#40	95.0		
#60	90.4		
#100	64.8		
#200	19.3		

\* (no specification provided)

**Material Description**

Red silty sand

**Atterberg Limits (ASTM D 4318)**

PL= NP                      LL= NV                      PI= NP

**Classification**

USCS (D 2487)= SM                      AASHTO (M 145)= A-2-4(0)

**Coefficients**

D<sub>90</sub>= 0.2470                      D<sub>85</sub>= 0.2159                      D<sub>60</sub>= 0.1390  
D<sub>50</sub>= 0.1190                      D<sub>30</sub>= 0.0879                      D<sub>15</sub>=  
D<sub>10</sub>=                                      C<sub>u</sub>=                                      C<sub>c</sub>=

Remarks

Date Received: 11.24.21                      Date Tested: 12.01.21

Tested By: SL / SF / DN

Checked By: Rebecca Roth

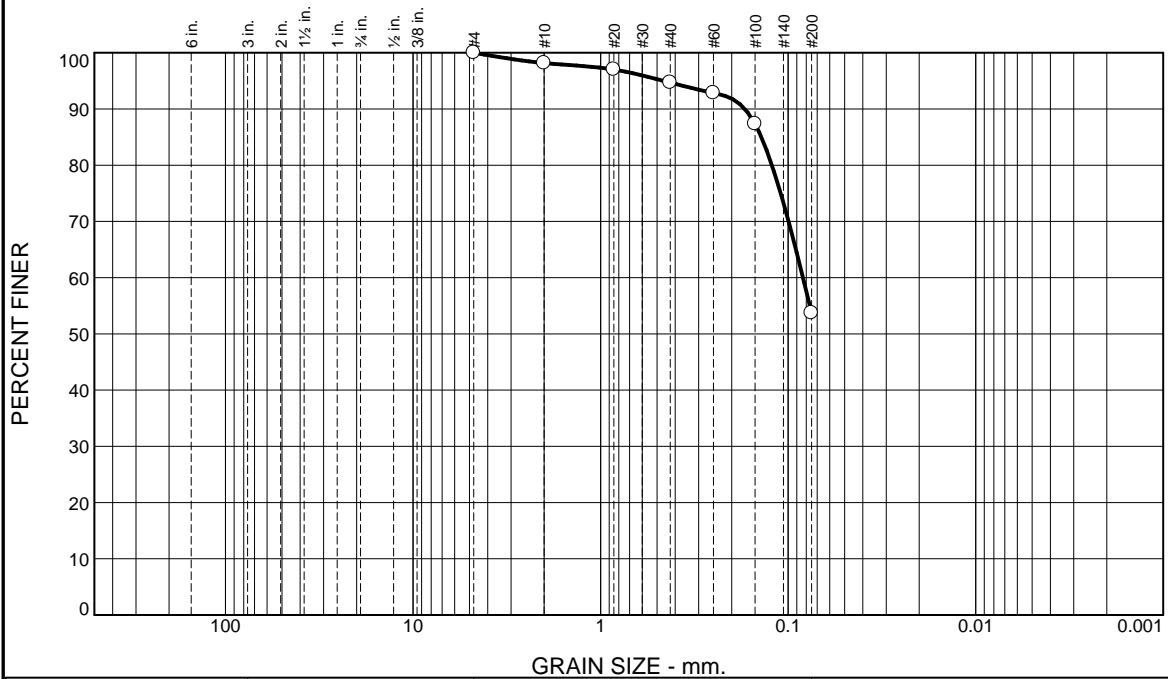
Title: Laboratory Coordinator

Source of Sample: Borings                      Depth: 120-122'  
Sample Number: B-5A / SS-23

Date Sampled:

<b>Thielsch Engineering Inc.</b>	<p>Client: Tighe &amp; Bond</p> <p>Project: Union Station New Haven, CT</p> <p>Project No: N5002-015</p>	<p><b>Cranston, RI</b></p> <p>Figure 21-S-4509</p>
----------------------------------	--	--

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.8	3.5	41.0	53.7	

Test Results (D6913 & ASTM D 1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#4	100.0		
#10	98.2		
#20	97.0		
#40	94.7		
#60	92.8		
#100	87.3		
#200	53.7		

\* (no specification provided)

**Material Description**

Red sandy silt

**Atterberg Limits (ASTM D 4318)**

PL= NP                      LL= NV                      PI= NP

**Classification**

USCS (D 2487)= ML                      AASHTO (M 145)= A-4(0)

**Coefficients**

D<sub>90</sub>= 0.1701                      D<sub>85</sub>= 0.1389                      D<sub>60</sub>= 0.0834  
D<sub>50</sub>=                                      D<sub>30</sub>=                                      D<sub>15</sub>=  
D<sub>10</sub>=                                      C<sub>u</sub>=                                      C<sub>c</sub>=

**Remarks**

Sample visually classified as non-plastic.

Date Received: 11.24.21                      Date Tested: 12.01.21

Tested By: SL / SF / DN

Checked By: Rebecca Roth

Title: Laboratory Coordinator

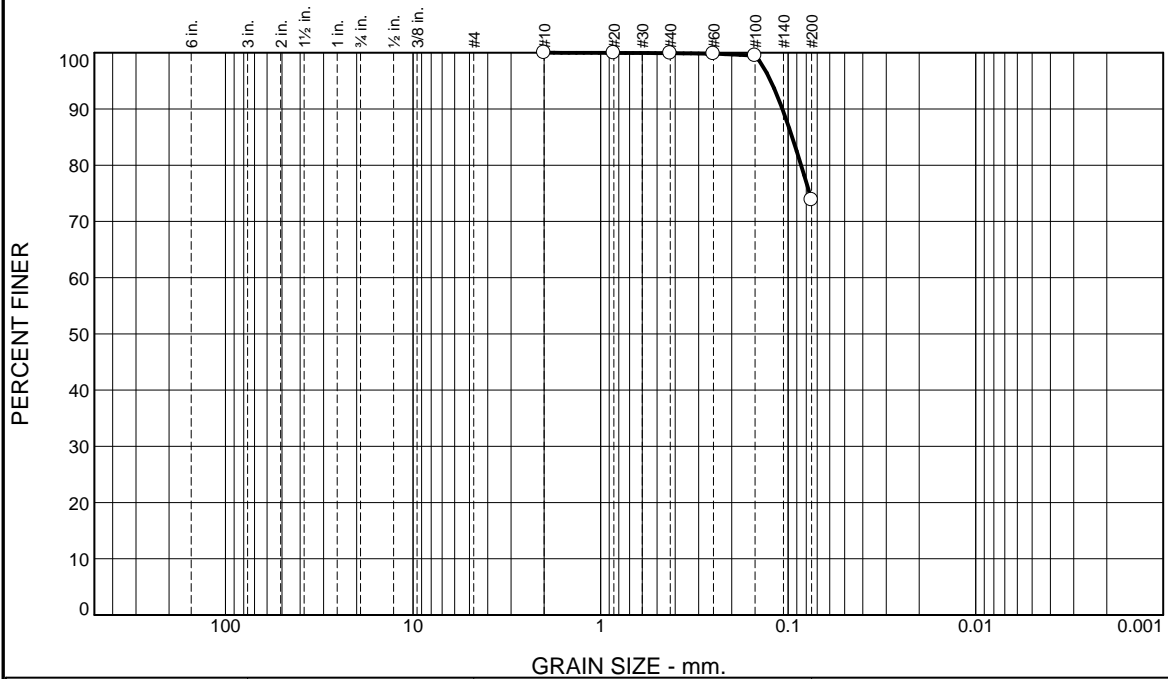
Source of Sample: Borings                      Depth: 75-77'  
Sample Number: B-2 / SS-19

Date Sampled:

<b>Thielsch Engineering Inc.</b>	Client: Tighe & Bond	
<b>Cranston, RI</b>	Project: Union Station New Haven, CT	
	Project No: N5002-015	Figure 21-S-4510



# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	26.1	73.8	

Test Results (D6913 & ASTM D 1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#10	100.0		
#20	100.0		
#40	99.9		
#60	99.8		
#100	99.5		
#200	73.8		

\* (no specification provided)

**Material Description**

Red silt with sand

**Atterberg Limits (ASTM D 4318)**

PL= NP                      LL= NV                      PI= NP

**Classification**

USCS (D 2487)= ML                      AASHTO (M 145)= A-4(0)

**Coefficients**

D<sub>90</sub>= 0.1073                      D<sub>85</sub>= 0.0952                      D<sub>60</sub>=  
D<sub>50</sub>=                                      D<sub>30</sub>=                                      D<sub>15</sub>=  
D<sub>10</sub>=                                      C<sub>u</sub>=                                      C<sub>c</sub>=

**Remarks**

Sample visually classified as non-plastic.

Date Received: 11.24.21                      Date Tested: 12.01.21

Tested By: SL / SF / DN

Checked By: Rebecca Roth

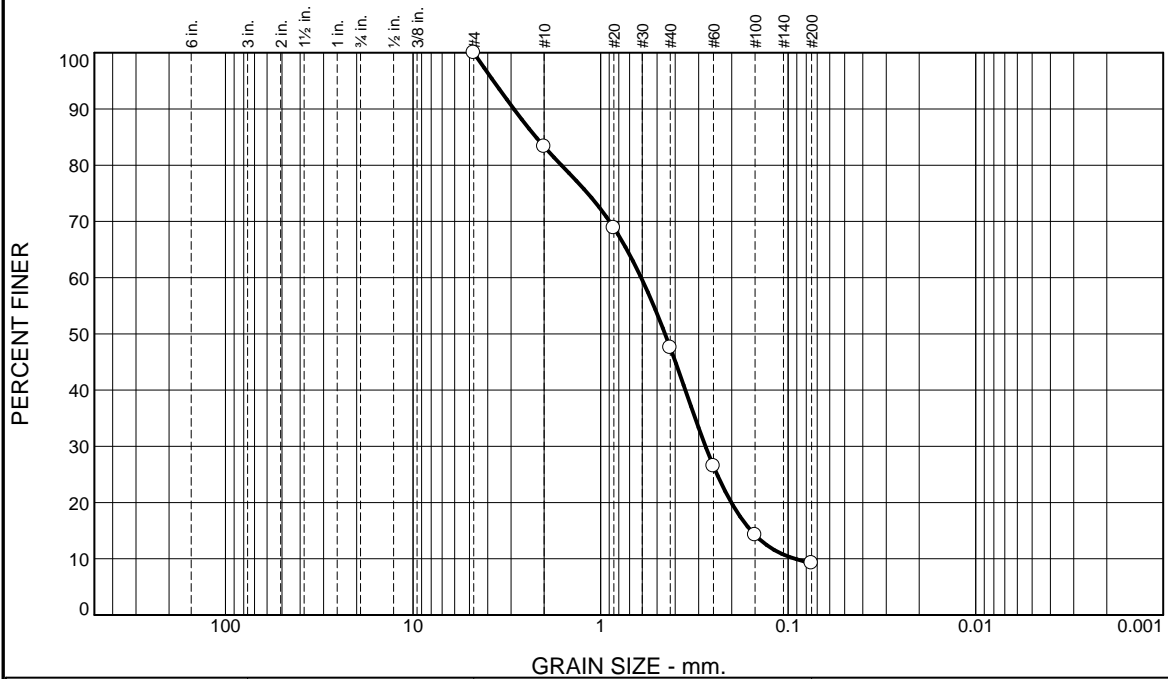
Title: Laboratory Coordinator

Source of Sample: Borings                      Depth: 100-102'  
Sample Number: B-1 / SS-23

Date Sampled: \_\_\_\_\_

<b>Thielsch Engineering Inc.</b>  <b>Cranston, RI</b>	<b>Client:</b> Tighe & Bond <b>Project:</b> Union Station New Haven, CT <b>Project No:</b> N5002-015
<b>Figure</b> 21-S-4511	

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	16.7	35.8	38.3	9.2	

Test Results (D6913 & ASTM D 1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#4	100.0		
#10	83.3		
#20	68.9		
#40	47.5		
#60	26.5		
#100	14.2		
#200	9.2		

**Material Description**

Brown well-graded sand with silt

**Atterberg Limits (ASTM D 4318)**

PL= NP      LL= NV      PI= NP

**Classification**

USCS (D 2487)= SW-SM    AASHTO (M 145)= A-1-b

**Coefficients**

D<sub>90</sub>= 2.9013      D<sub>85</sub>= 2.2106      D<sub>60</sub>= 0.6077  
D<sub>50</sub>= 0.4531      D<sub>30</sub>= 0.2757      D<sub>15</sub>= 0.1576  
D<sub>10</sub>= 0.0920      C<sub>u</sub>= 6.60      C<sub>c</sub>= 1.36

Remarks

---

Date Received: 11.24.21      Date Tested: 12.01.21

Tested By: SL / SF / DN

Checked By: Rebecca Roth

Title: Laboratory Coordinator

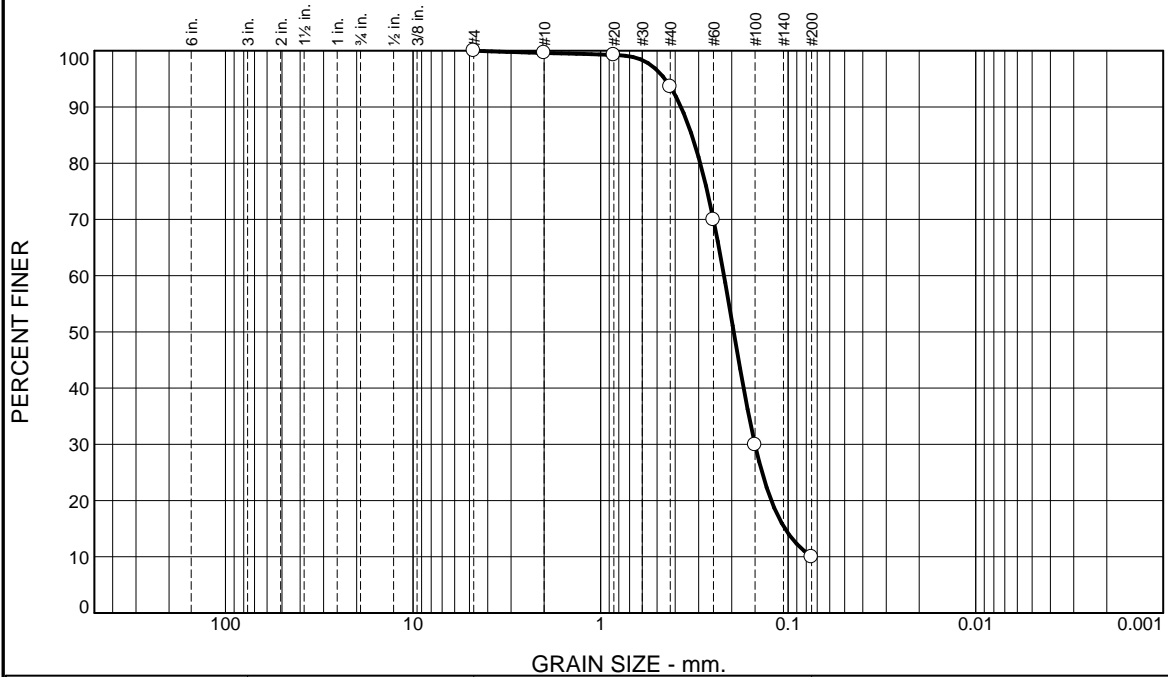
\* (no specification provided)

Source of Sample: Borings      Depth: 3-5'  
Sample Number: B-5A / SS-2

Date Sampled:

<b>Thielsch Engineering Inc.</b>	Client: Tighe & Bond
<b>Cranston, RI</b>	Project: Union Station New Haven, CT
	Project No: N5002-015
	Figure 21-S-4512

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	6.0	83.6	10.0	

Test Results (D6913 & ASTM D 1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#4	100.0		
#10	99.6		
#20	99.3		
#40	93.6		
#60	69.9		
#100	29.9		
#200	10.0		

\* (no specification provided)

**Material Description**

Red poorly graded sand with silt

**Atterberg Limits (ASTM D 4318)**

PL= NP                      LL= NV                      PI= NP

**Classification**

USCS (D 2487)= SP-SM    AASHTO (M 145)= A-3

**Coefficients**

D <sub>90</sub> = 0.3726	D <sub>85</sub> = 0.3262	D <sub>60</sub> = 0.2198
D <sub>50</sub> = 0.1950	D <sub>30</sub> = 0.1503	D <sub>15</sub> = 0.1040
D <sub>10</sub> = 0.0752	C <sub>u</sub> = 2.92	C <sub>c</sub> = 1.37

Remarks

Date Received: 11.24.21      Date Tested: 12.01.21

Tested By: SL / SF / DN

Checked By: Rebecca Roth

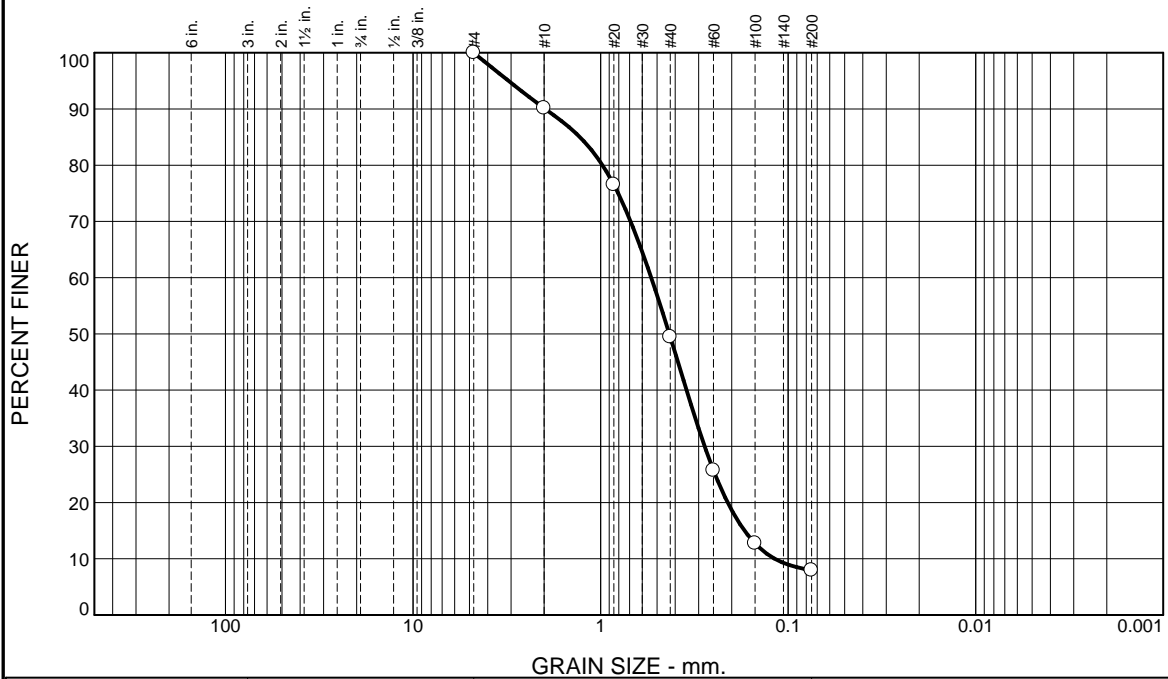
Title: Laboratory Coordinator

Source of Sample: Borings      Depth: 50-52'  
 Sample Number: B-5A / SS-14

Date Sampled:

<b>Thielsch Engineering Inc.</b>	Client: Tighe & Bond
<b>Cranston, RI</b>	Project: Union Station New Haven, CT
	Project No: N5002-015
	Figure 21-S-4513

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	9.8	40.7	41.6	7.9	

Test Results (D6913 & ASTM D 1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#4	100.0		
#10	90.2		
#20	76.5		
#40	49.5		
#60	25.7		
#100	12.7		
#200	7.9		

**Material Description**

Red poorly graded sand with silt

**Atterberg Limits (ASTM D 4318)**

PL= NP                      LL= NV                      PI= NP

**Classification**

USCS (D 2487)= SP-SM    AASHTO (M 145)= A-1-b

**Coefficients**

D <sub>90</sub> = 1.9712	D <sub>85</sub> = 1.2888	D <sub>60</sub> = 0.5370
D <sub>50</sub> = 0.4299	D <sub>30</sub> = 0.2787	D <sub>15</sub> = 0.1708
D <sub>10</sub> = 0.1178	C <sub>u</sub> = 4.56	C <sub>c</sub> = 1.23

Remarks

Date Received: 11.24.21      Date Tested: 12.01.21

Tested By: SL / SF / DN

Checked By: Rebecca Roth

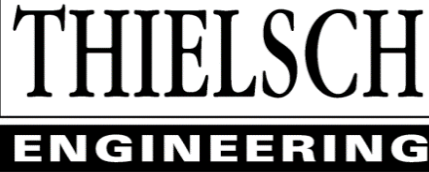
Title: Laboratory Coordinator

\* (no specification provided)

Source of Sample: Borings      Depth: 3-5'  
 Sample Number: B-2 / SS-2

Date Sampled:

<b>Thielsch Engineering Inc.</b>  <b>Cranston, RI</b>	Client: Tighe & Bond Project: Union Station New Haven, CT Project No: N5002-015
Figure 21-S-4514	



195 Frances Avenue  
 Cranston RI, 02910  
 Phone: (401)-467-6454  
 Fax: (401)-467-2398  
[thielsch.com](http://thielsch.com)  
*Let's Build a Solid Foundation*

Client Information:  
 Tighe & Bond  
 Providence, RI  
 PM: Brian Opp  
 Assigned By: Brian Opp  
 Collected By: Casey Watts

Project Information:  
**Union Station**  
**New Haven, CT**  
 T&B Project Number: NS002-015  
 Summary Page: 2 of 2  
 Report Date: 01.19.22

### LABORATORY TESTING DATA SHEET, Report No.: 7421-L-180

Boring ID	Sample No.	Depth (ft)	Laboratory No.	Identification Tests										Shear / Consolidation Tests							Laboratory Log and Soil Description	
				As Received Moisture Content %	LL %	PL %	Gravel %	Sand %	Fines %	Org. %	G <sub>s</sub>	Dry unit wt. pcf	Torvane or Type Test	$\bar{\sigma}_c$ psf	Failure Criteria	$\sigma_1 - \sigma_3$ or $\tau$ psf	Strain %	EST. Internal Friction Angle	CR / RR			
B-4		22-24	21-S-4508	Average Total Unit Weight (22-24') = 94.2 pcf																		Dark Gray Organic CLAY
		22.2-22.3	W-4508a	64.3										Tv = 3.0 tsf							Dark Gray Organic CLAY	
		22.3-22.8	S-4508											(Saved)							SAVED	
		22.8-23.1	C-4508	62.5								62.0	Consol							$\frac{0.166}{0.023}$	Dark Gray Organic CLAY	
		23.1-23.3	L-4508	65.3	62	37								LL/PL								
		23.3-23.8	S-4508											(Saved)							SAVED	
		23.8-23.9	W-4508b	48.8										Tv = 0.02 tsf							Dark Gray Organic CLAY	
Sample contained shelly debris evenly distributed throughout the sample, no significant pockets of debris were found.																						

Date Received: 11.24.21

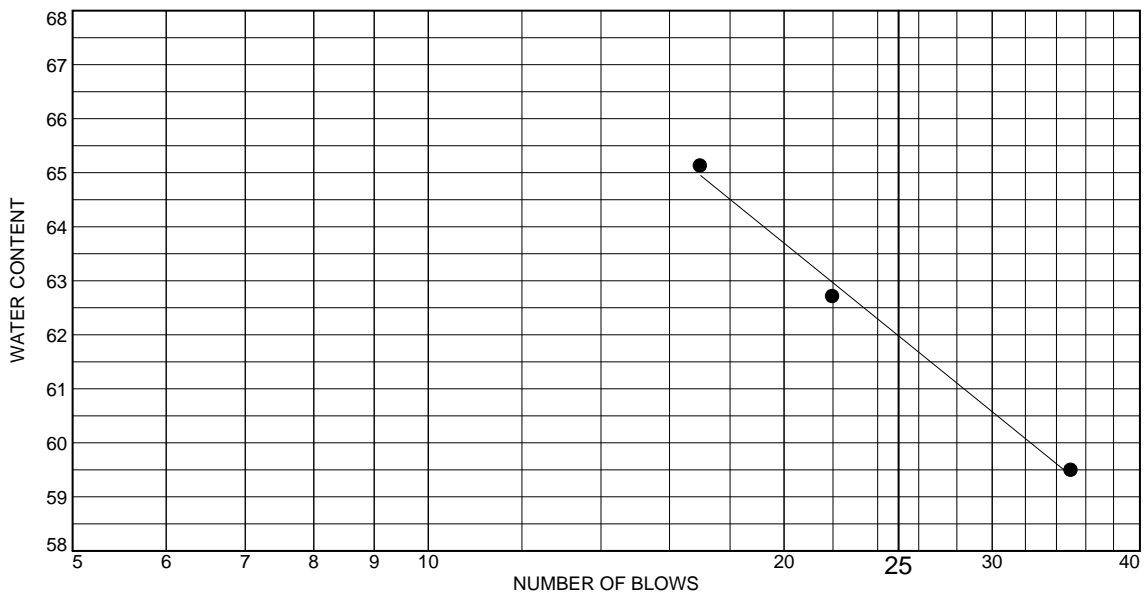
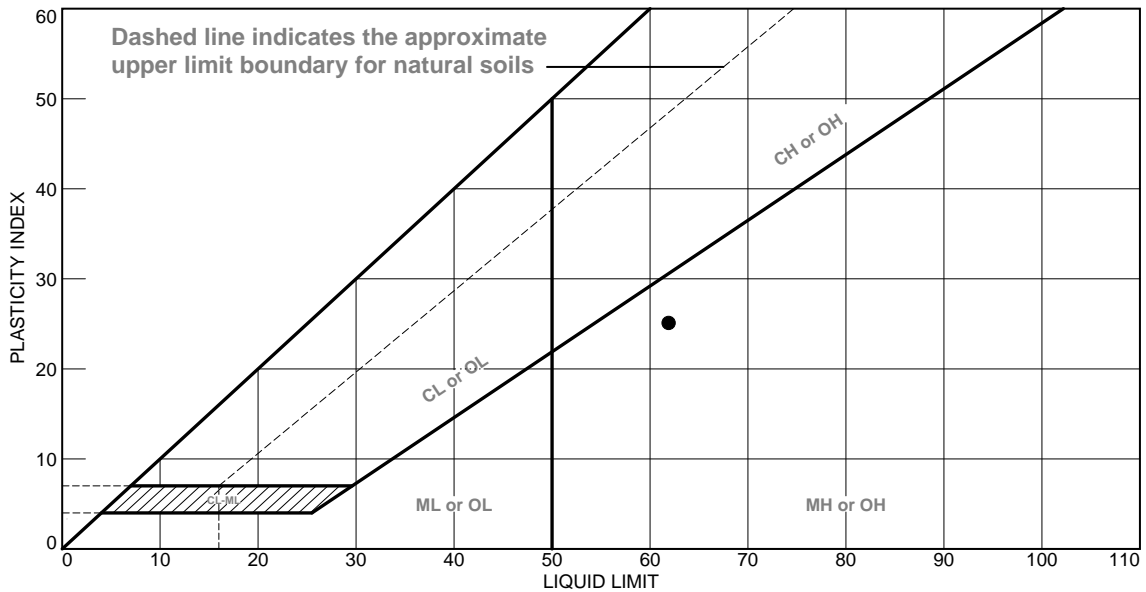
Reviewed By:

Date Reviewed: 01.19.22

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# LIQUID AND PLASTIC LIMITS TEST REPORT



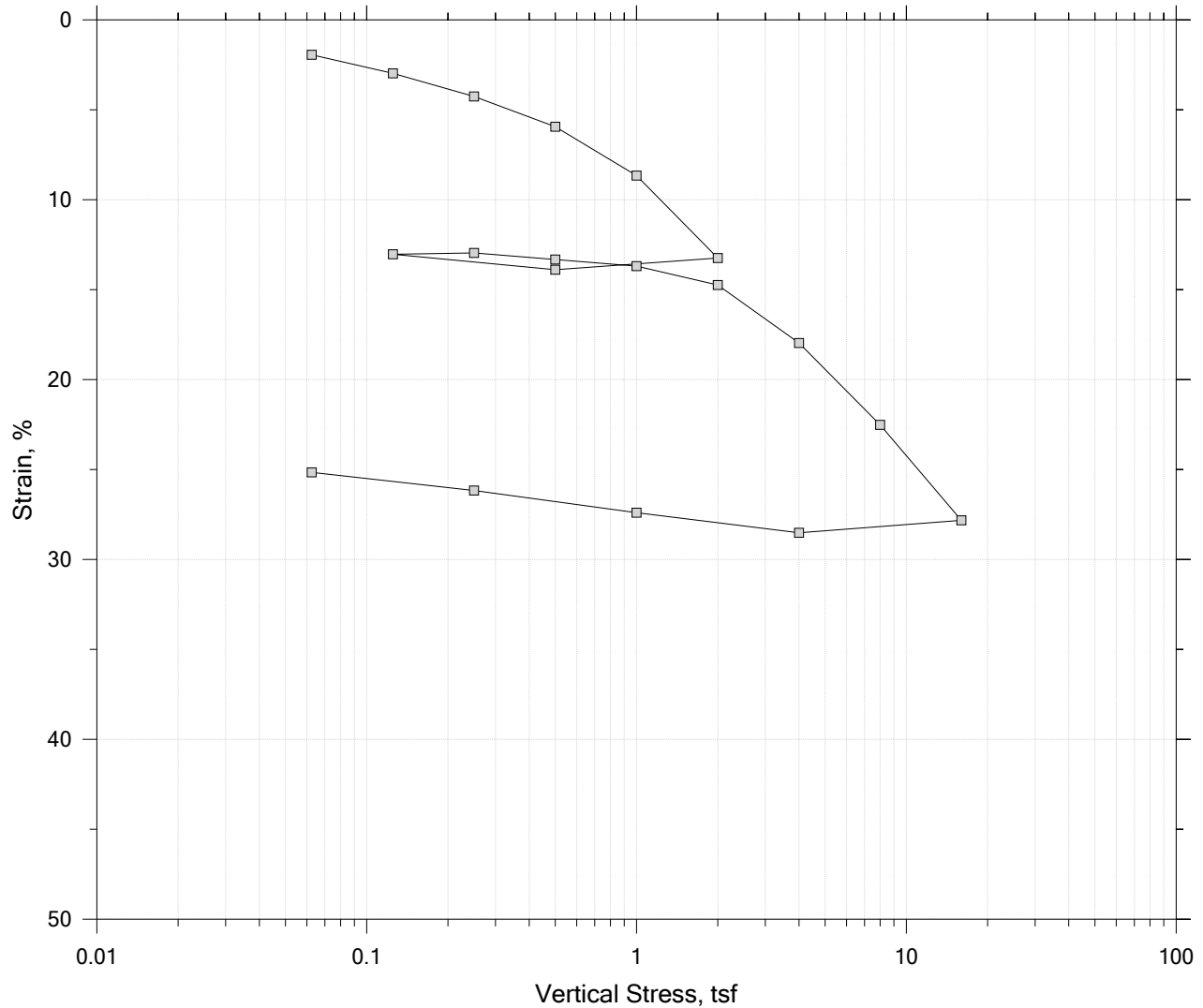
MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● Very Dark Gray Organic CLAY	62	37	25			

<p><b>Project No.</b> N5002-015    <b>Client:</b> Tighe &amp; Bond</p> <p><b>Project:</b> Union Station New Haven, CT</p> <p><b>Source of Sample:</b> Tube    <b>Depth:</b> 22-24'</p> <p><b>Sample Number:</b> B-4</p> <hr/> <p style="text-align: center;"><b>Thielsch Engineering Inc.</b></p> <p style="text-align: center;"><b>Cranston, RI</b></p>	<p><b>Remarks:</b></p>    <p style="text-align: right;"><b>Figure</b> 21-S-4508</p>
--	---

**Tested By:** SL                      **Checked By:** RR

# One-Dimensional Consolidation by ASTM D2435 - Method B

## Summary Report

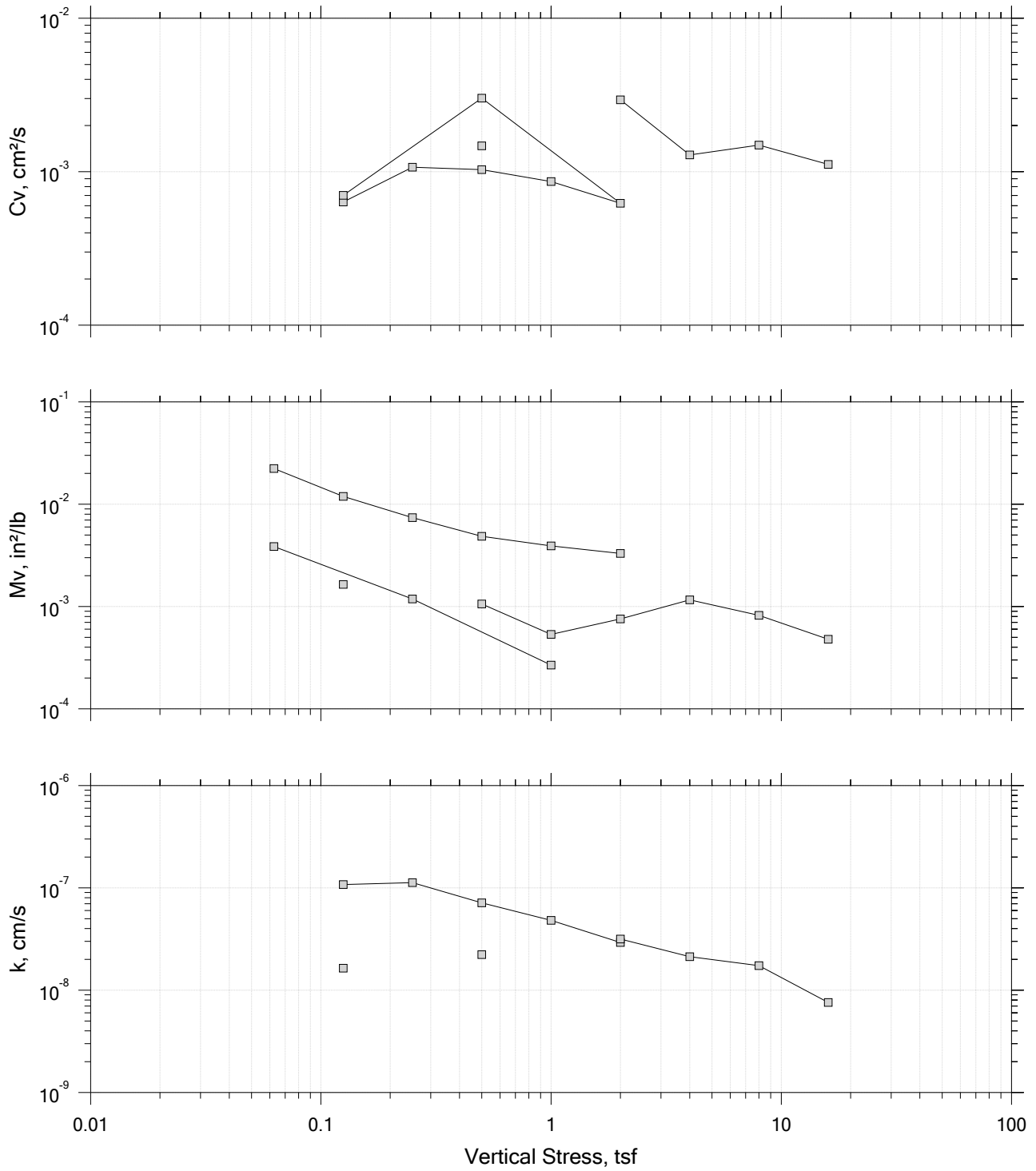


				Before Test	After Test	
Current Vertical Effective Stress: 0 tsf				Water Content, %	62.52	38.00
Preconsolidation Stress: 1 tsf				Dry Unit Weight, pcf	62.003	82.67
Compression Ratio: 0.166				Saturation, %	100.48	102.56
Diameter: 2.5 in		Height: 0.832 in		Void Ratio	1.62	0.96
LL: 62	PL: 37	PI: 25	GS: 2.60			

Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		
Displacement at End of Primary		

# One-Dimensional Consolidation by ASTM D2435 - Method B

## Log of Time Coefficients

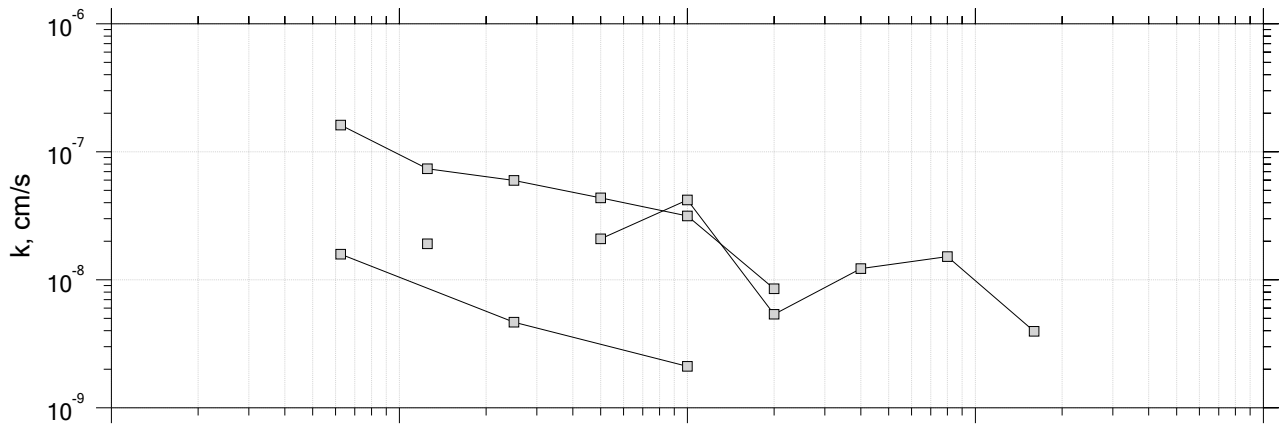
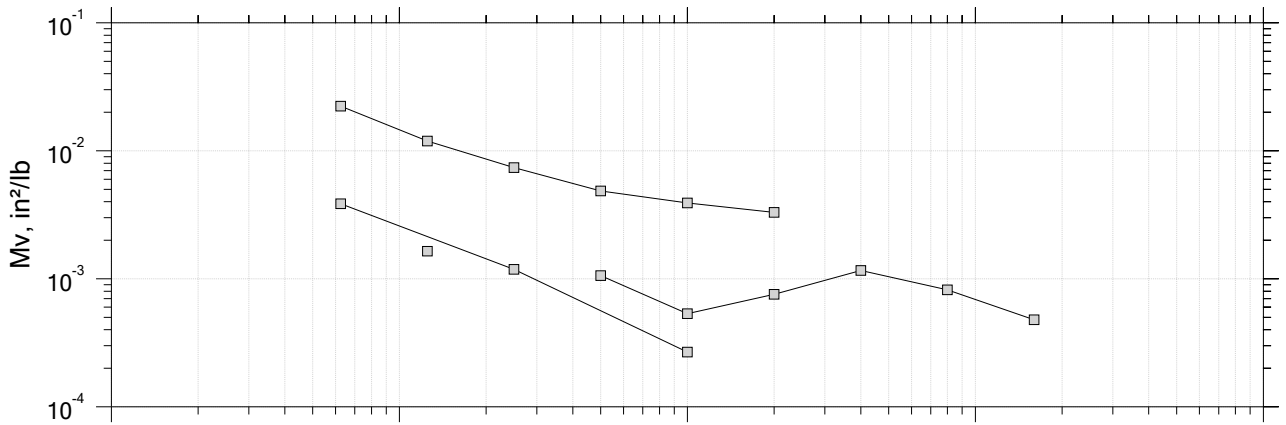
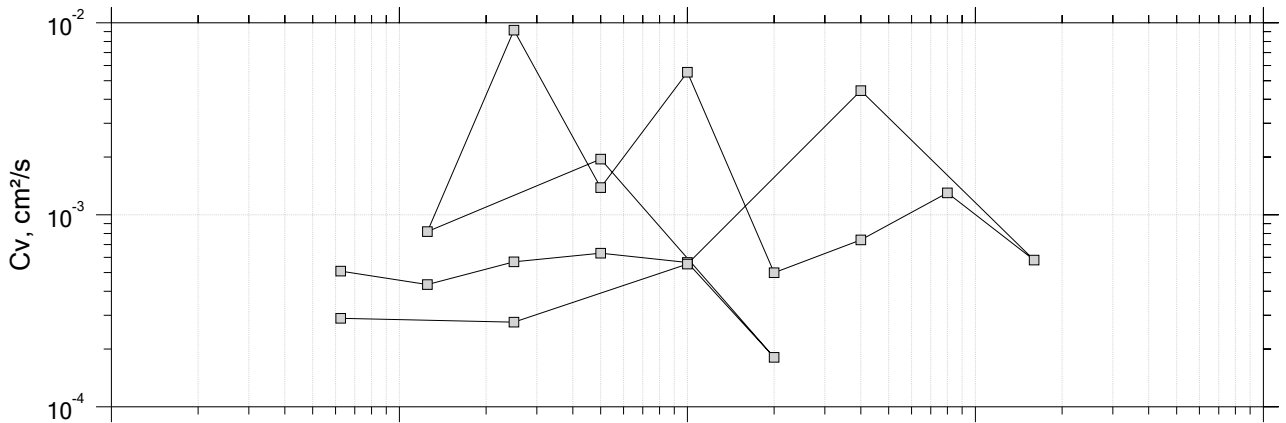


Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		



# One-Dimensional Consolidation by ASTM D2435 - Method B

## Square Root of Time Coefficients

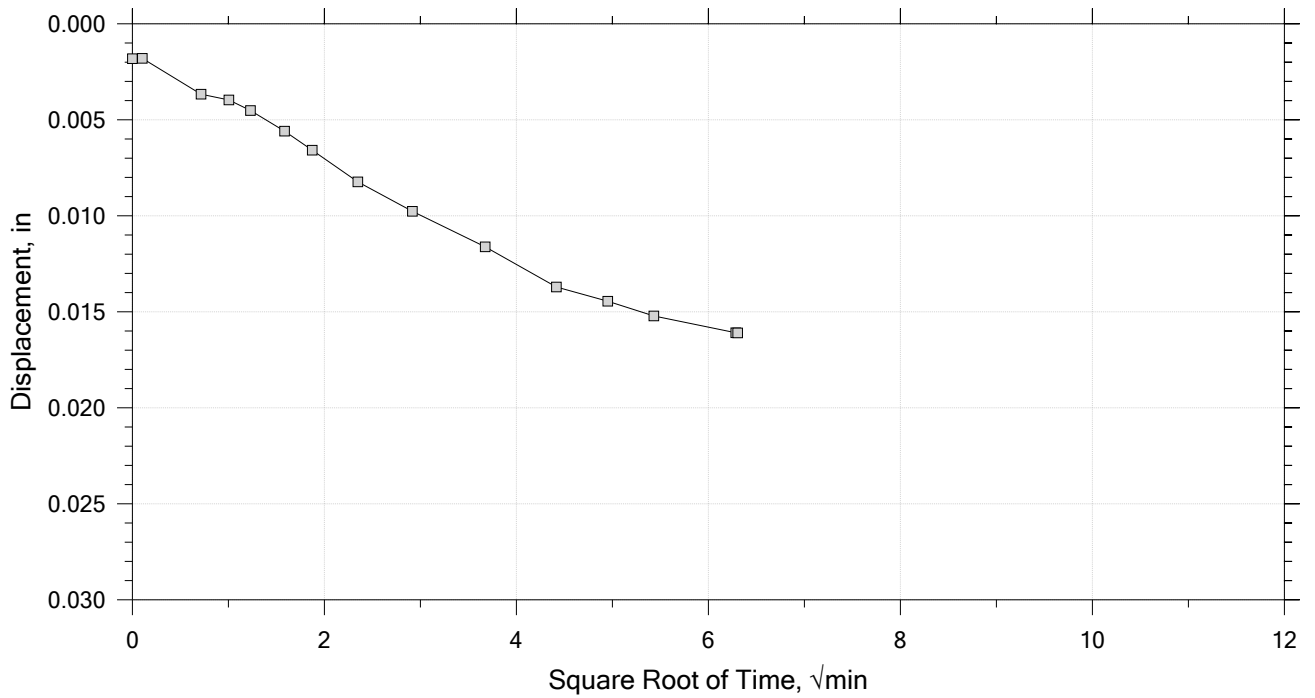
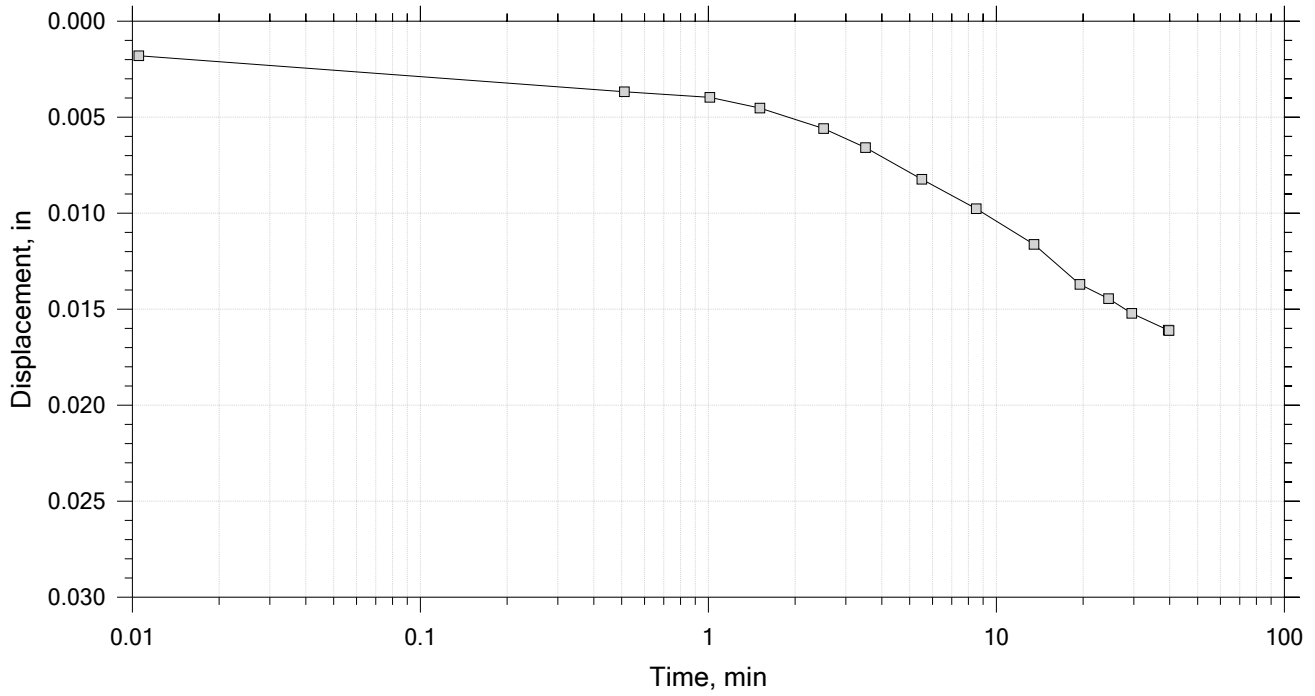


Vertical Stress, tsf

Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

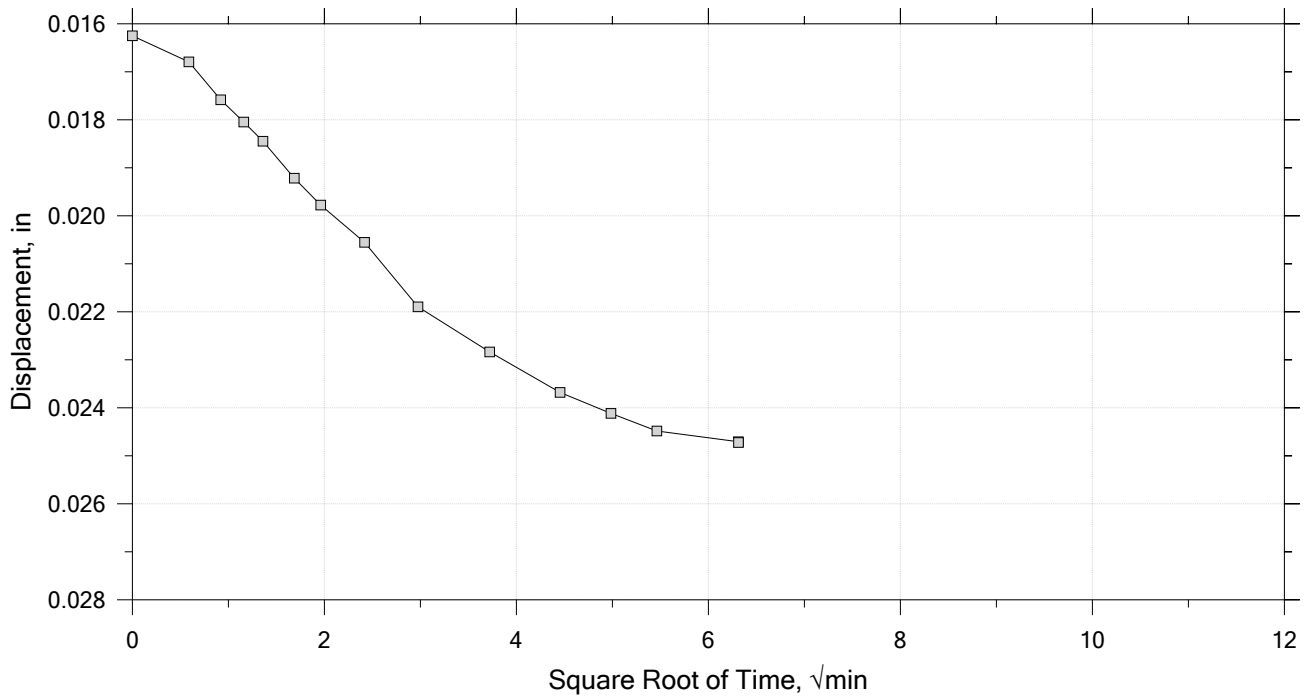
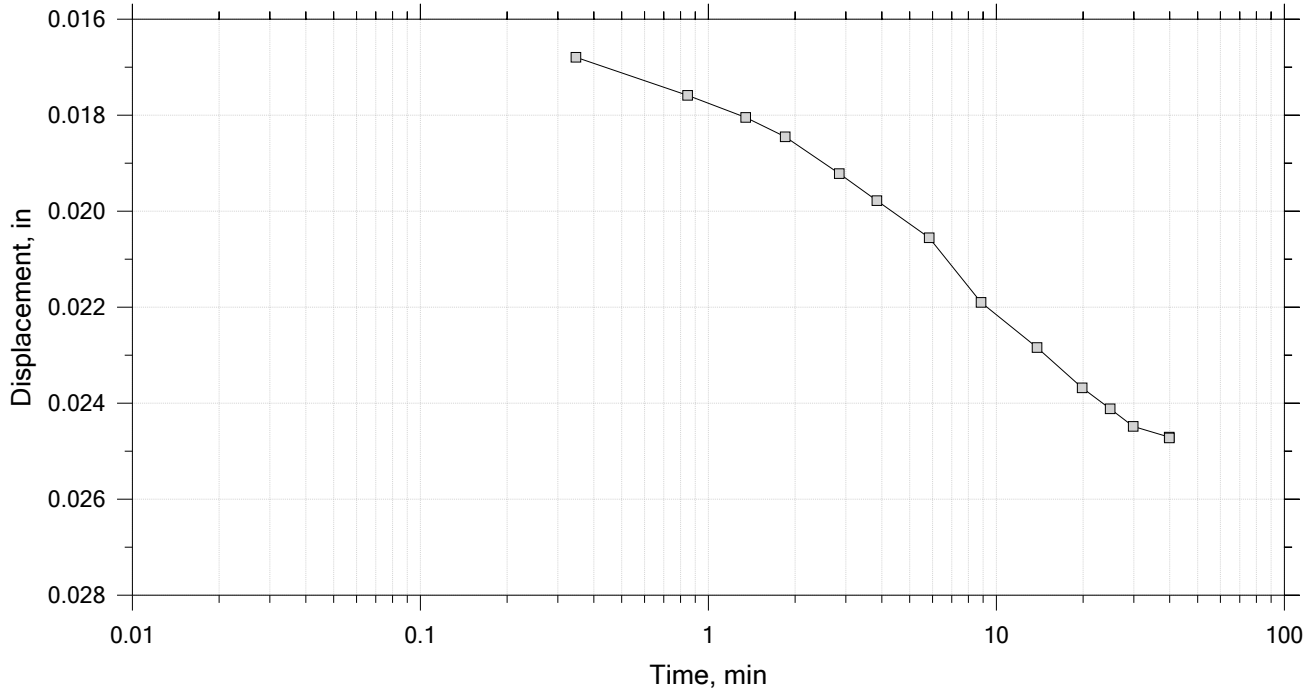
Time Curve 1 of 19  
 Constant Load Step  
 Stress: 0.0625 tsf



	Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
	Boring No.: B-04	Tested By: RR	Checked By: MC
	Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
	Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
	Description: Dark Gray Organic CLAY		
	Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

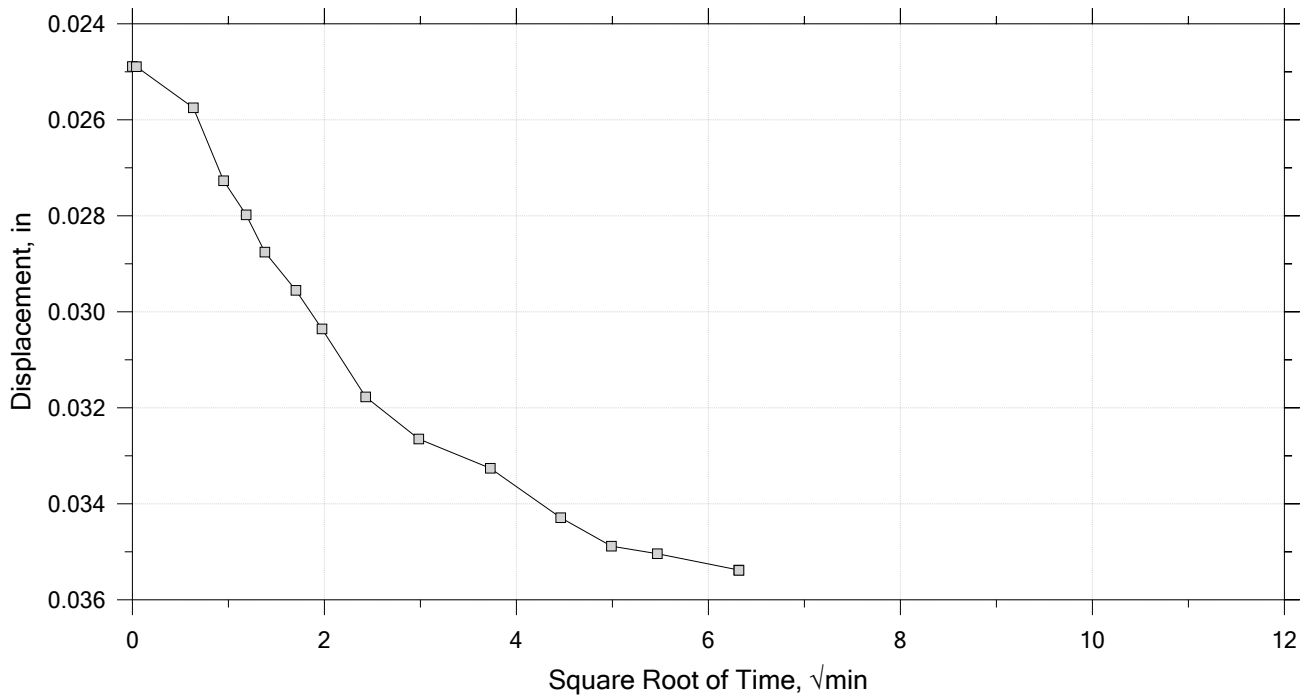
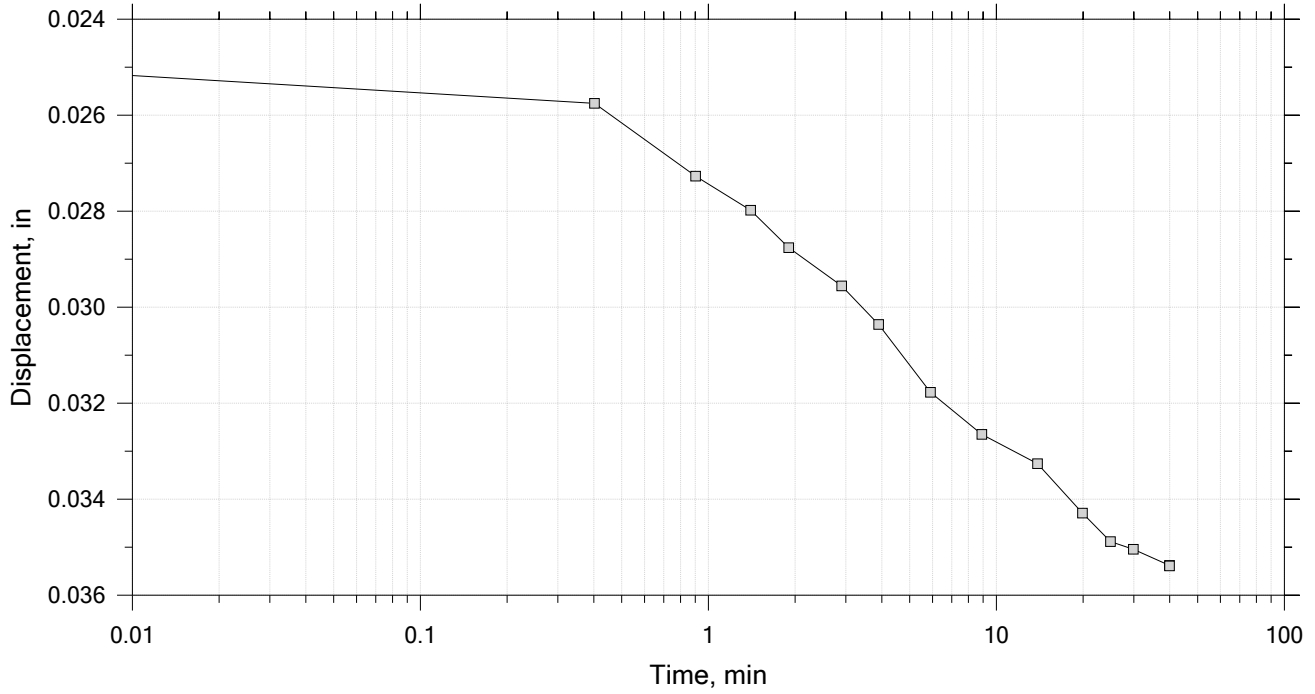
Time Curve 2 of 19  
Constant Load Step  
Stress: 0.125 tsf



Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

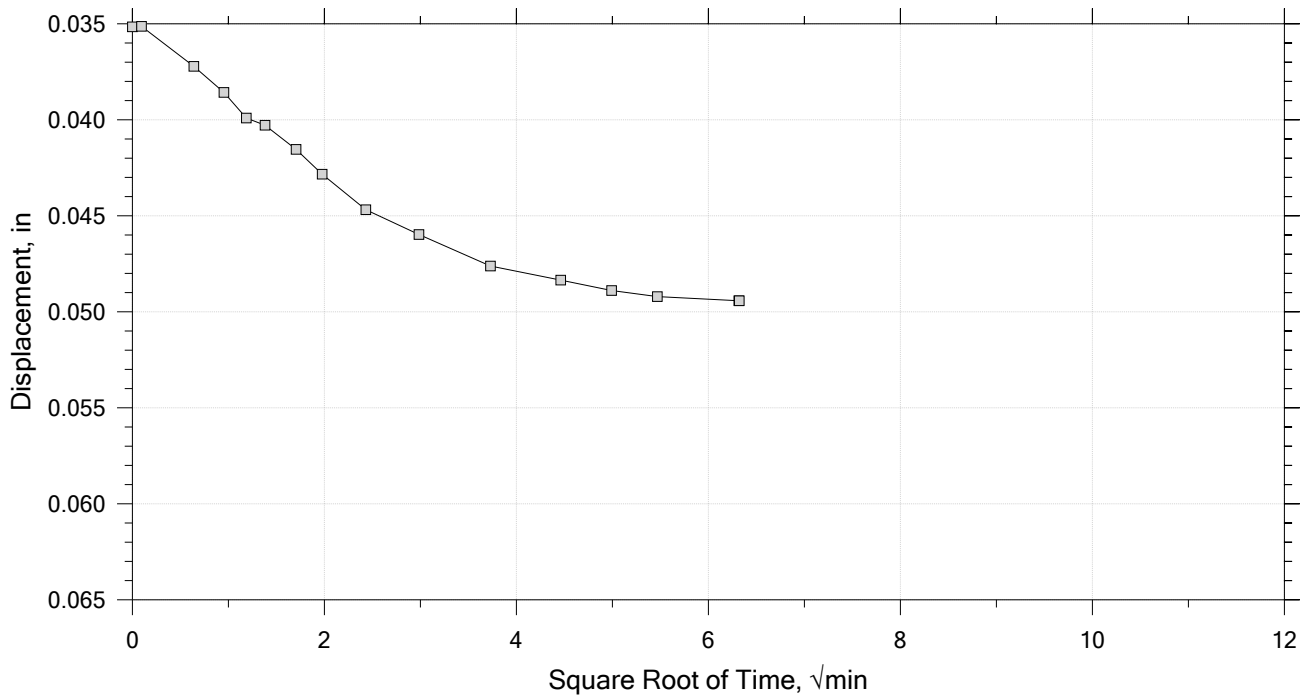
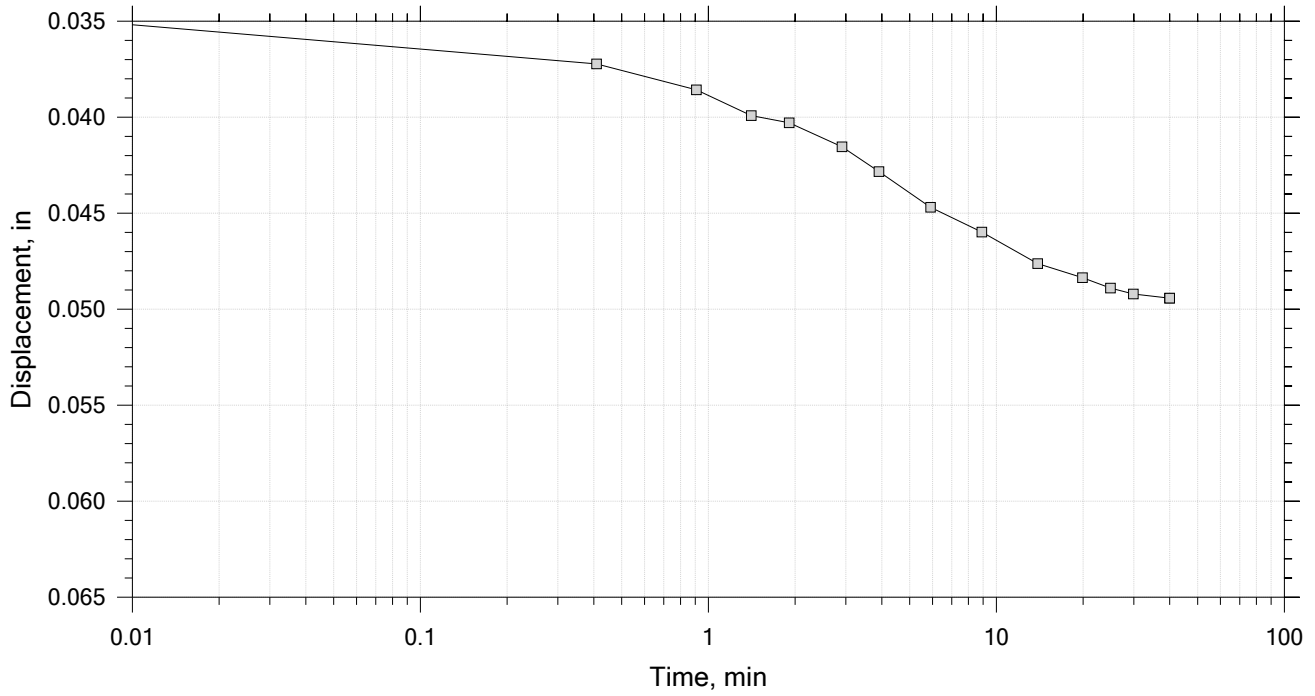
Time Curve 3 of 19  
Constant Load Step  
Stress: 0.25 tsf



Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 4 of 19  
 Constant Load Step  
 Stress: 0.5 tsf



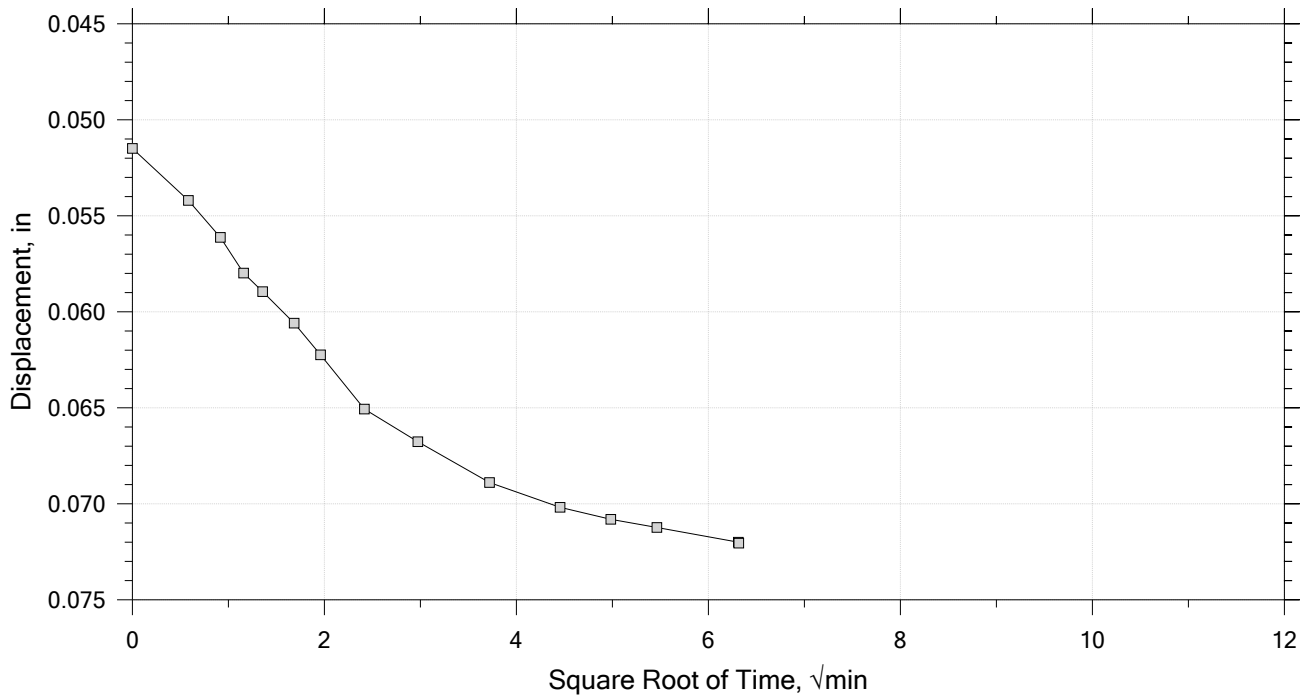
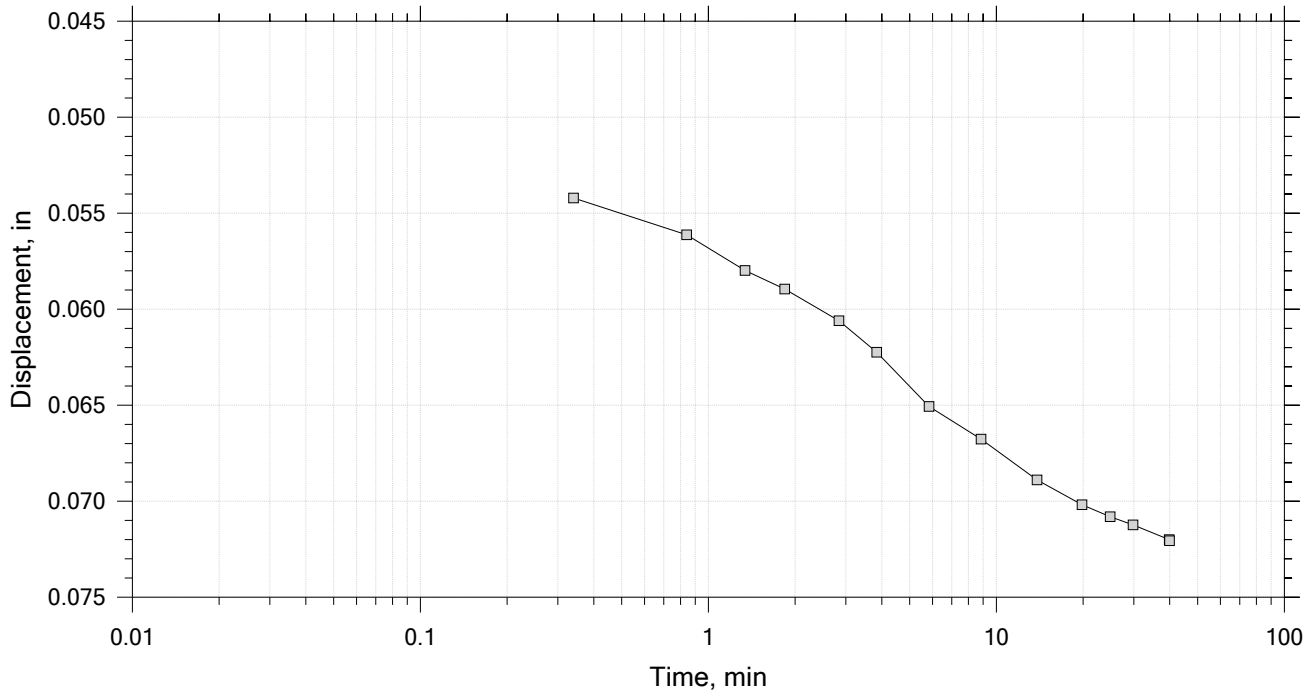
Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 5 of 19

Constant Load Step

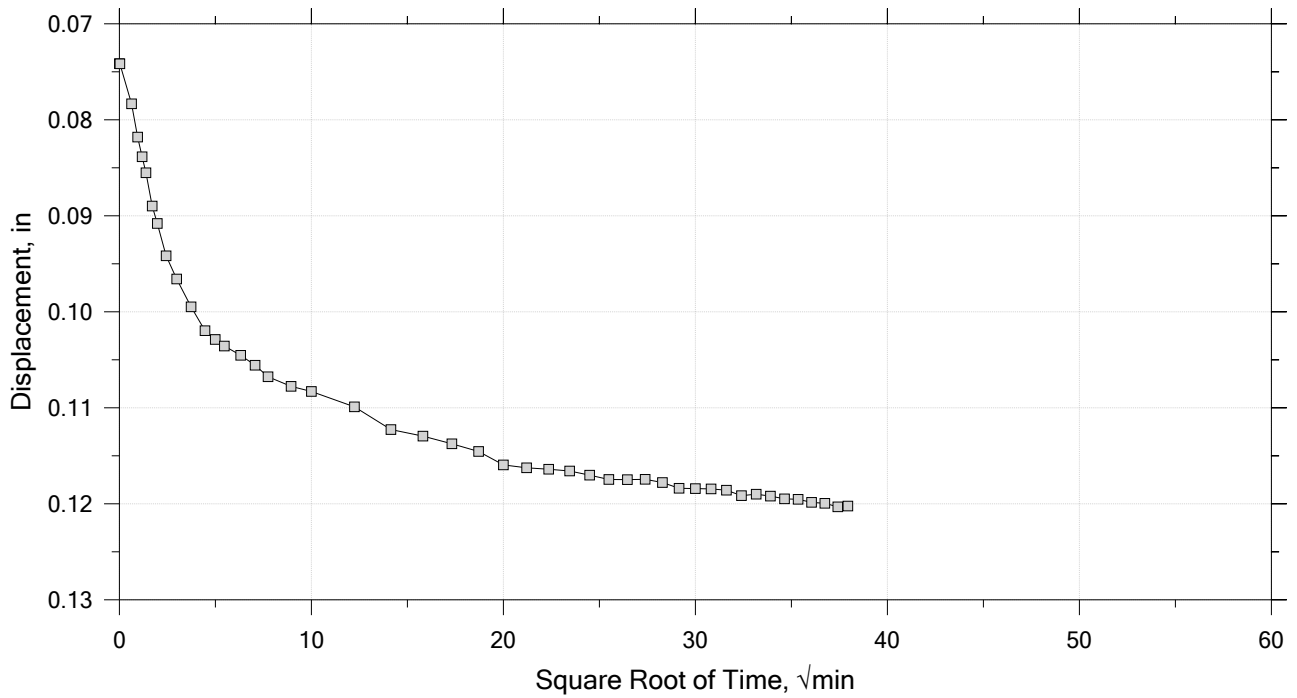
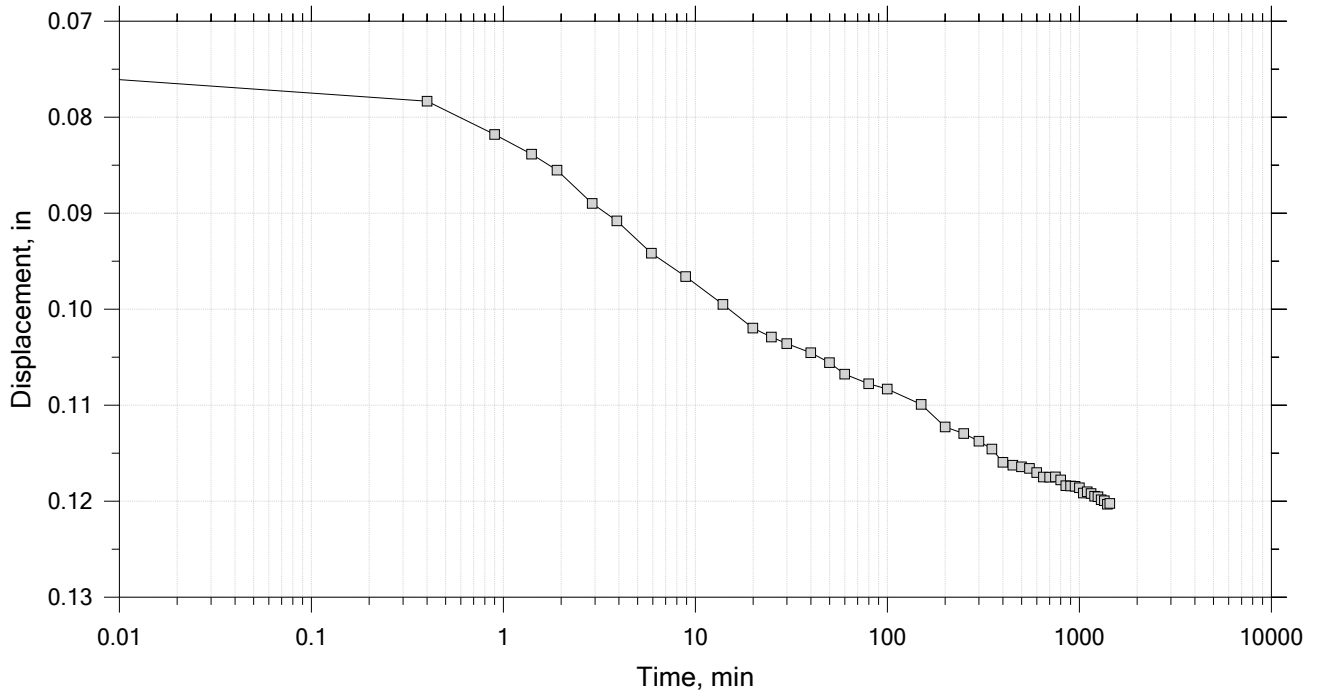
Stress: 1 tsf



Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

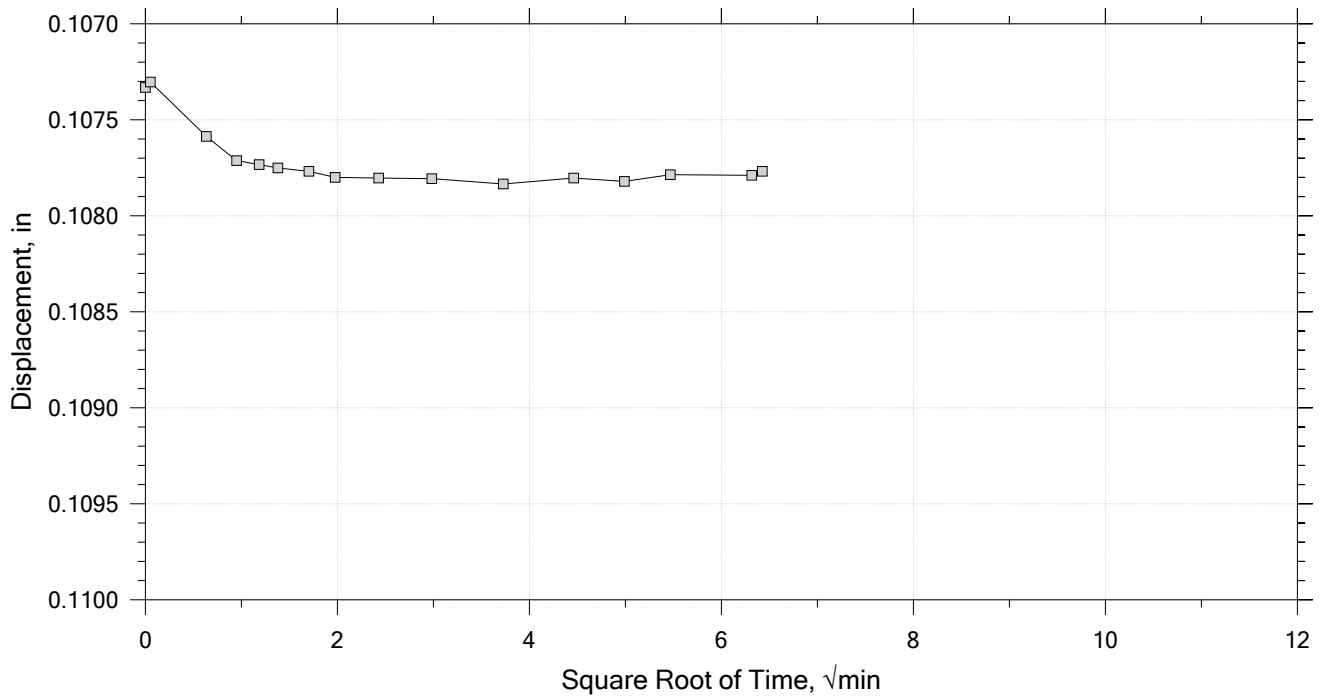
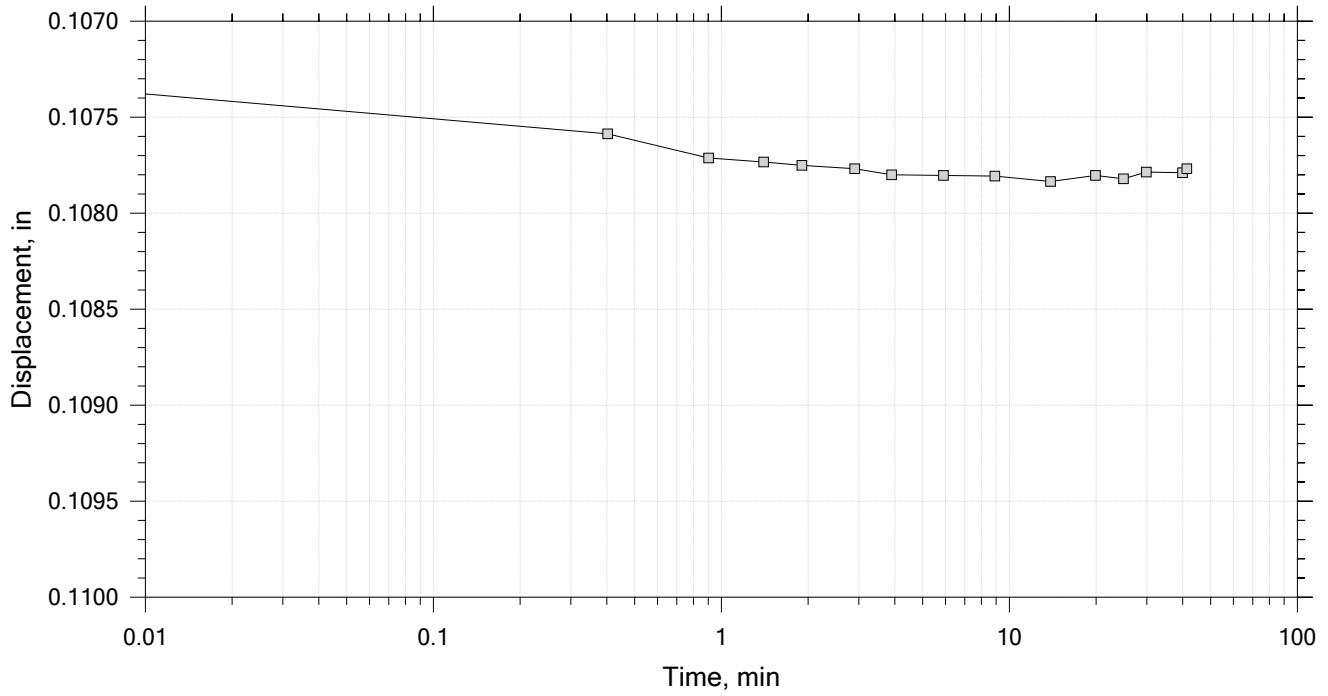
Time Curve 6 of 19  
Constant Load Step  
Stress: 2 tsf



	Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
	Boring No.: B-04	Tested By: RR	Checked By: MC
	Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
	Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
	Description: Dark Gray Organic CLAY		
	Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 9 of 19  
Constant Load Step  
Stress: 0.25 tsf



	Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
	Boring No.: B-04	Tested By: RR	Checked By: MC
	Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
	Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
	Description: Dark Gray Organic CLAY		
	Remarks:		

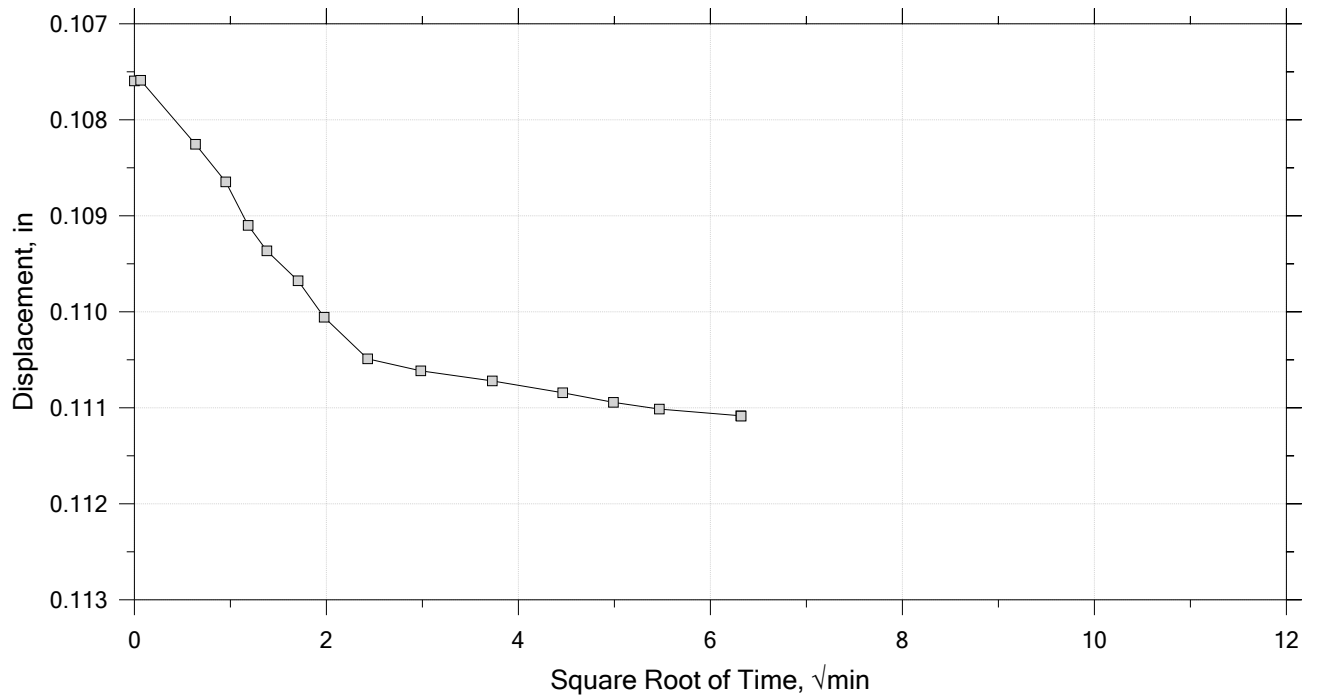
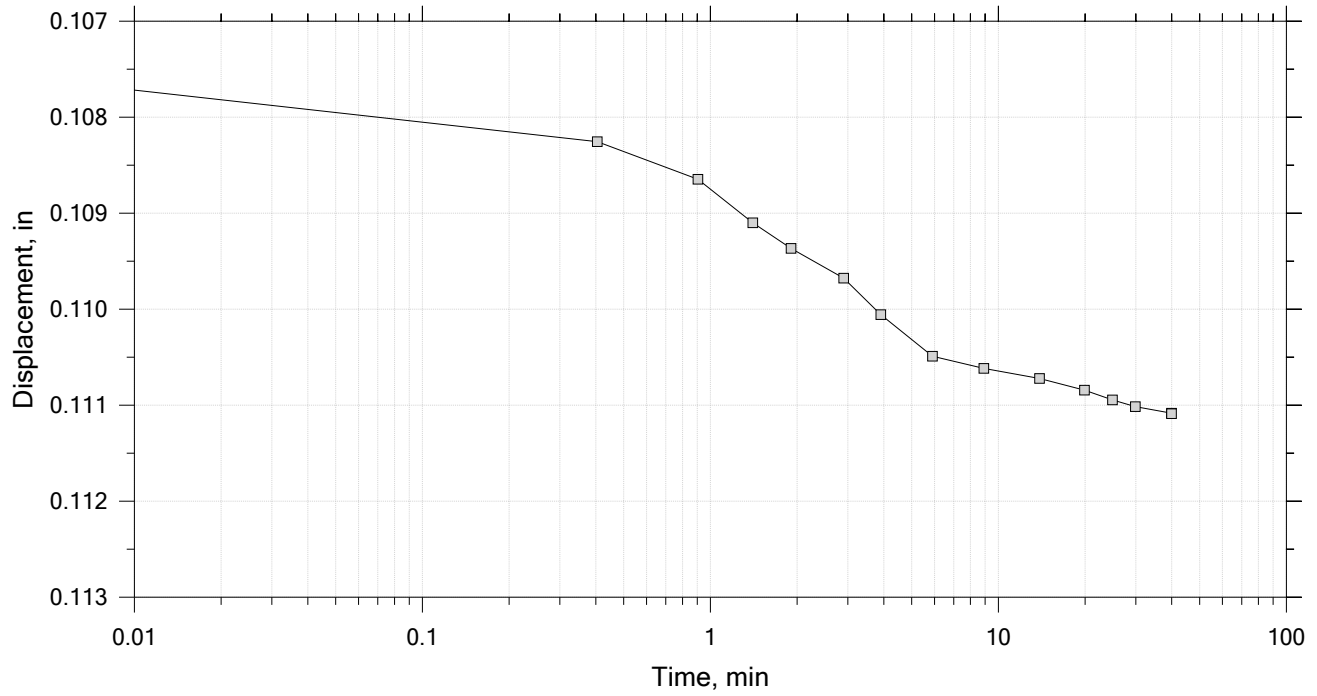


# One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 10 of 19

Constant Load Step

Stress: 0.5 tsf



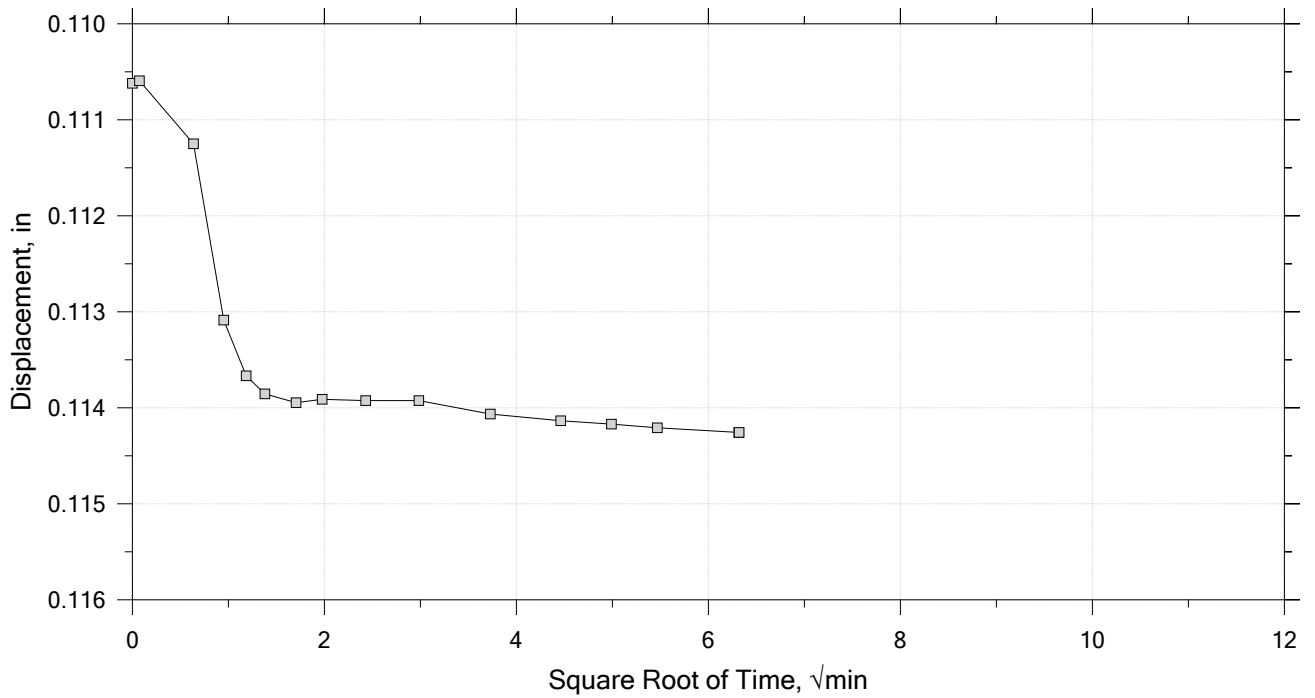
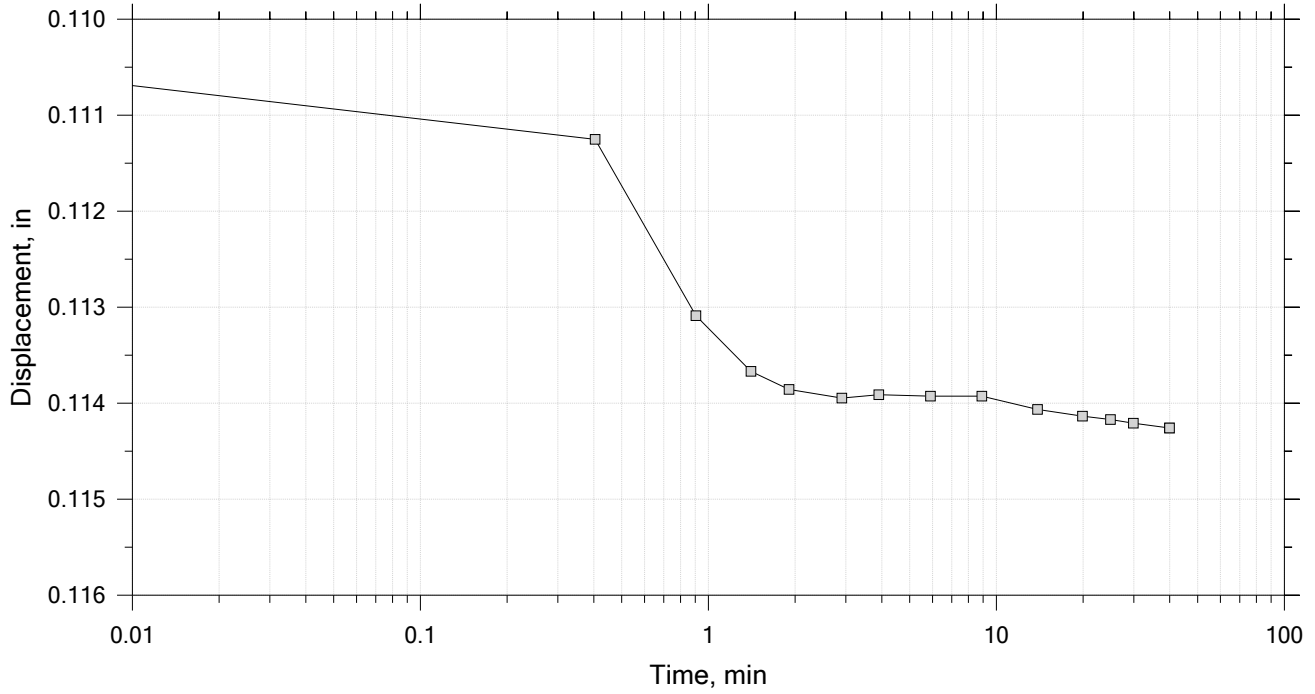
Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 11 of 19

Constant Load Step

Stress: 1 tsf



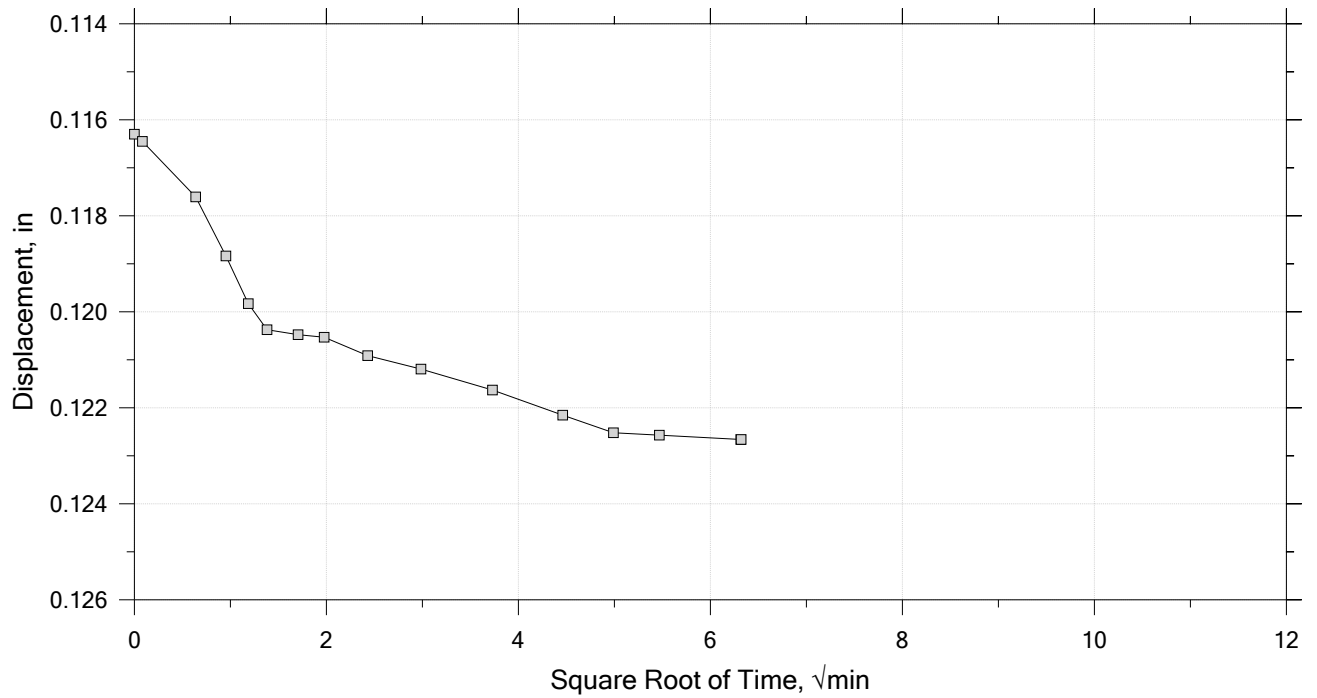
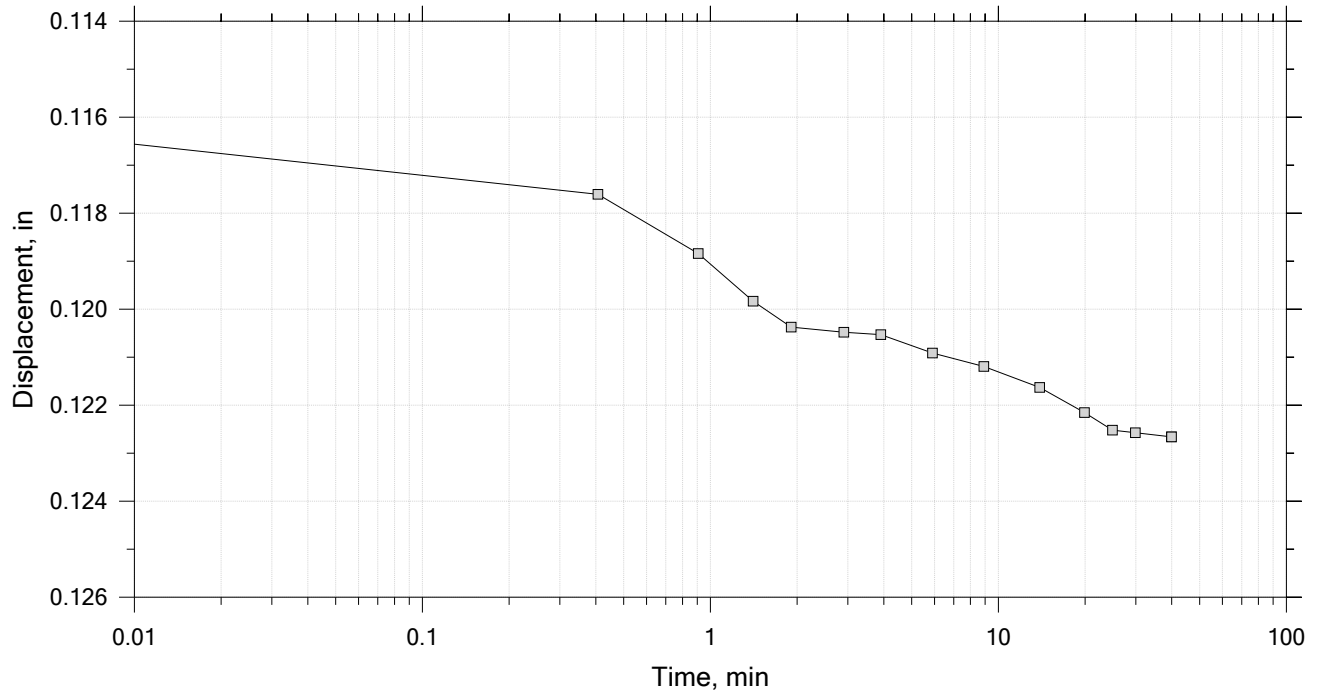
Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 12 of 19

Constant Load Step

Stress: 2 tsf



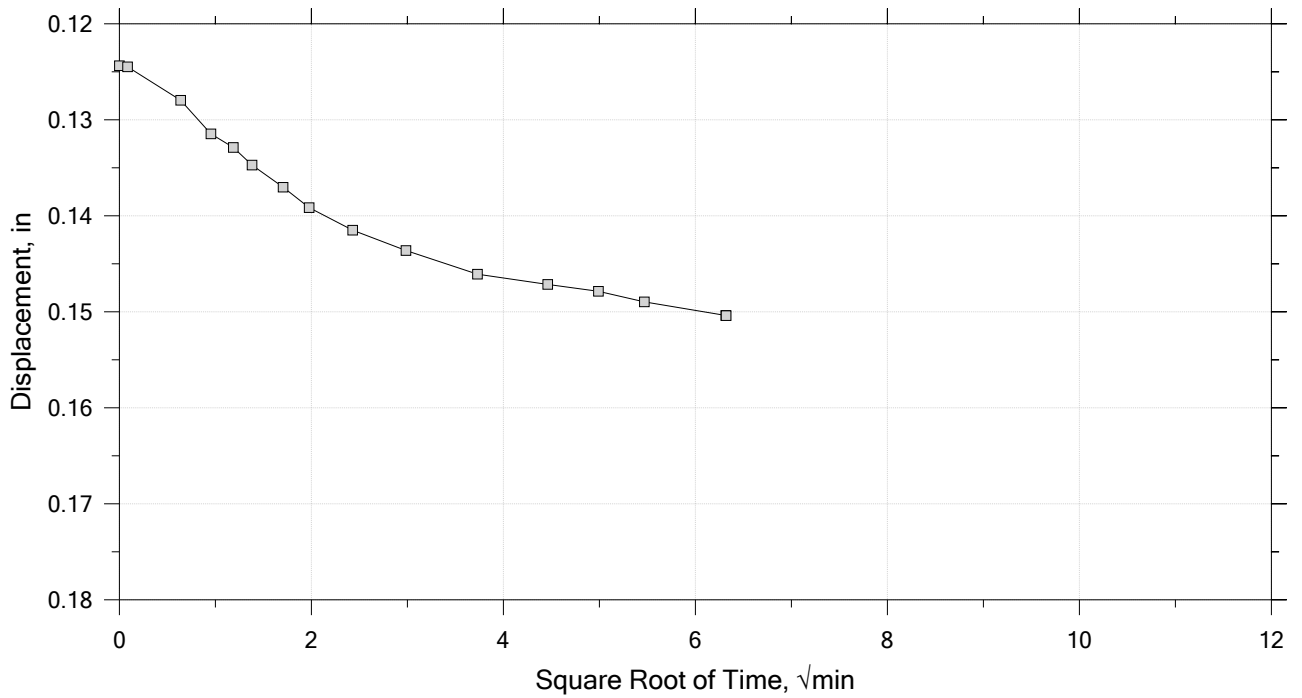
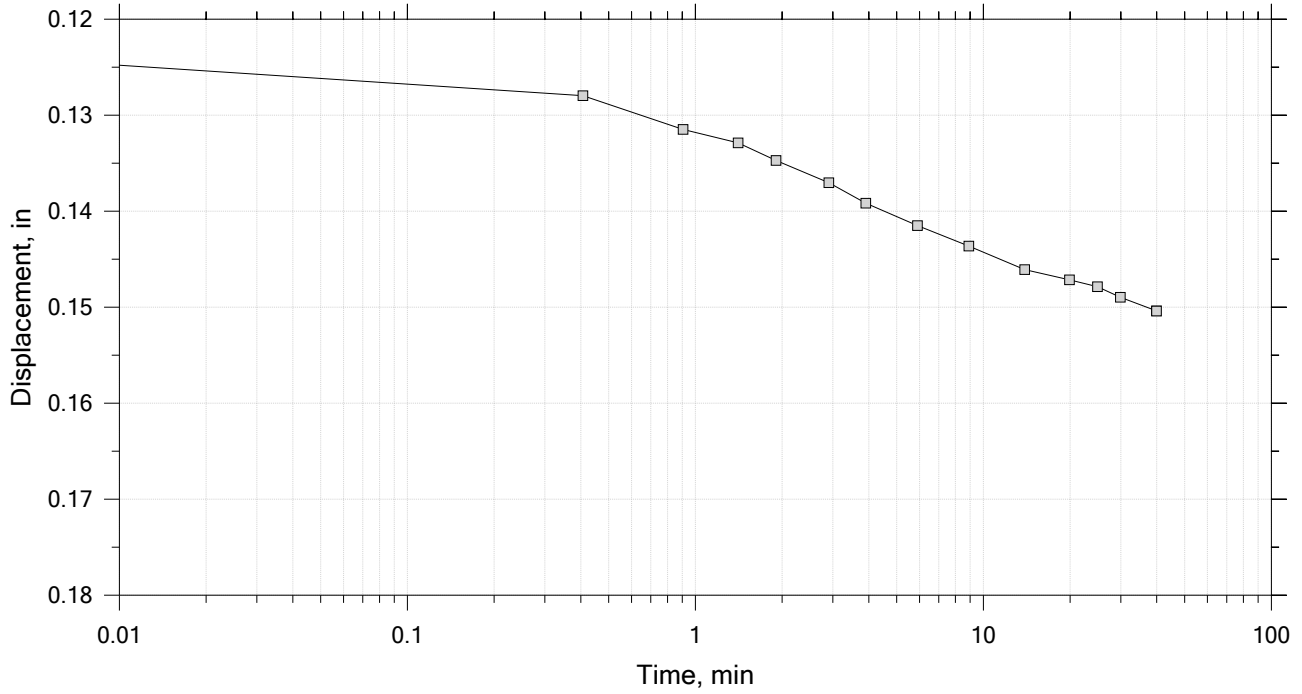
Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 13 of 19

Constant Load Step

Stress: 4 tsf



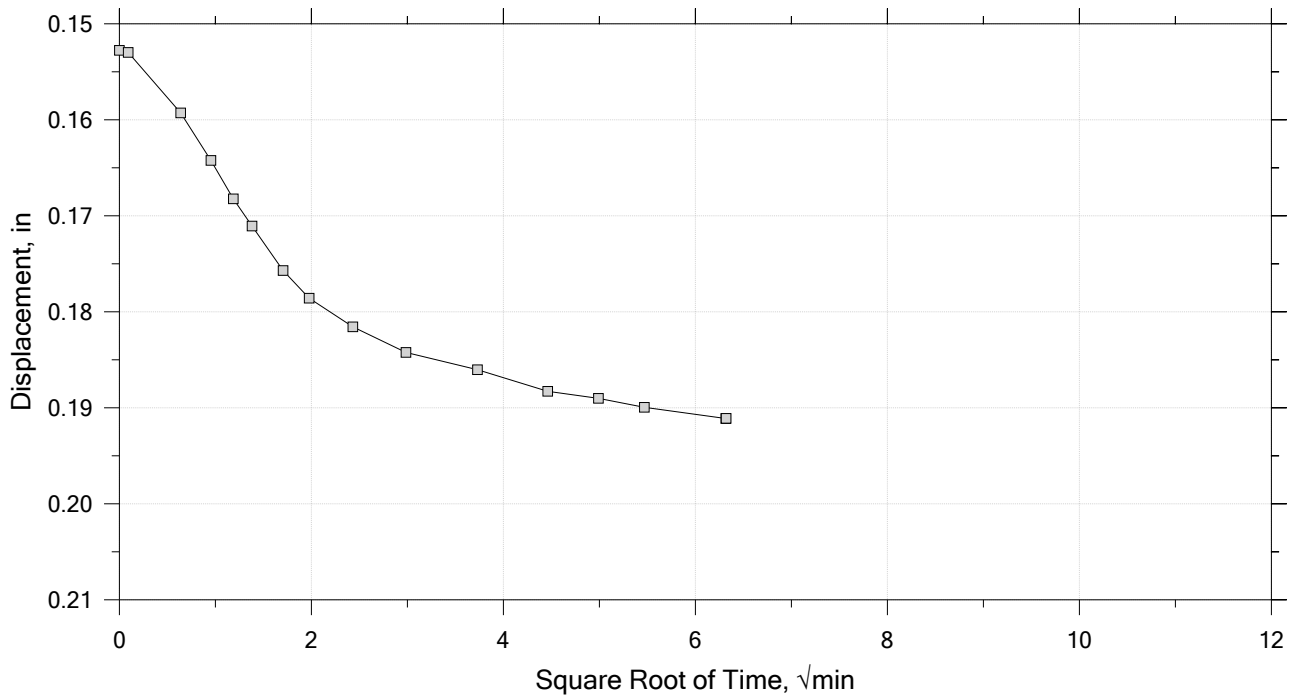
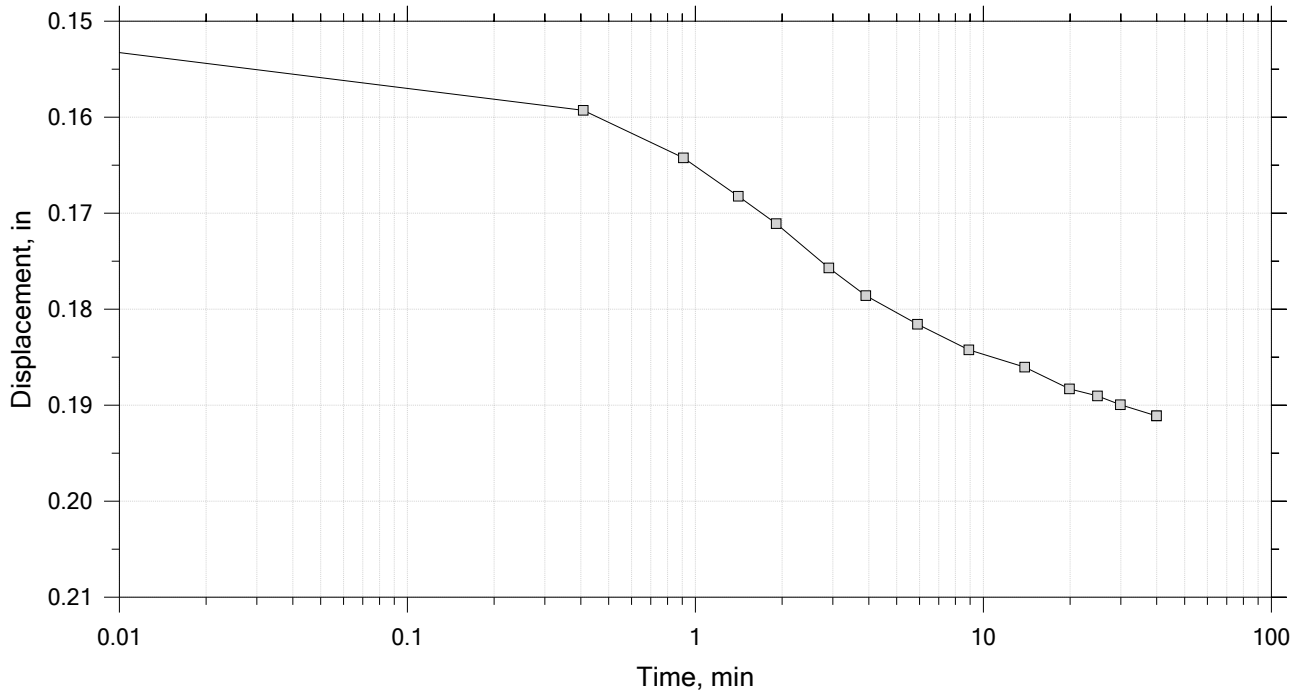
Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 14 of 19

Constant Load Step

Stress: 8 tsf



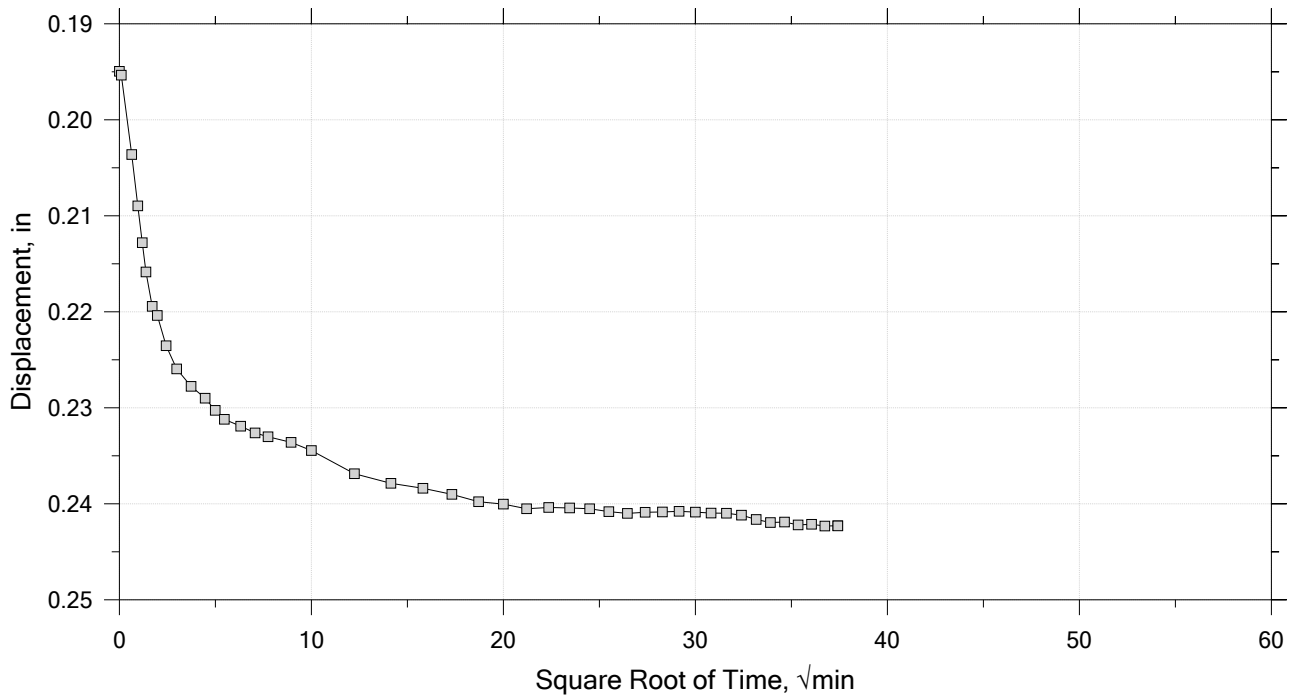
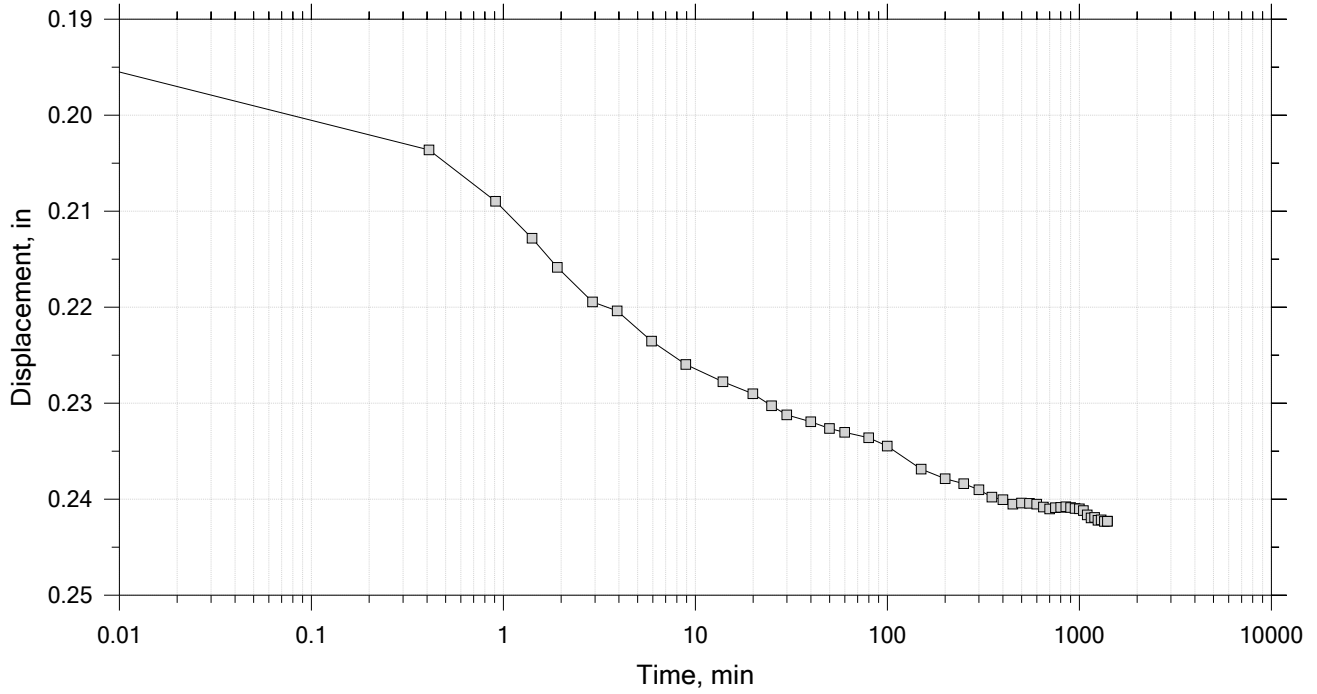
Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 15 of 19

Constant Load Step

Stress: 16 tsf



Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
Boring No.: B-04	Tested By: RR	Checked By: MC
Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
Description: Dark Gray Organic CLAY		
Remarks:		

# One-Dimensional Consolidation by ASTM D2435 - Method B

Specimen Diameter: 2.50 in	Estimated Specific Gravity: 2.60	Liquid Limit: 62
Initial Height: 0.83 in	Initial Void Ratio: 1.62	Plastic Limit: 37
Final Height: 0.62 in	Final Void Ratio: 0.963	Plasticity Index: 25

	Before Test Trimmings	Before Test Specimen	After Test Specimen	After Test Trimmings
Container ID	X-42	RING	T4	T4
Mass Container, gm	43.97	30.48	30.48	30.48
Mass Container + Wet Soil, gm	167.21	138.51	122.21	122.21
Mass Container + Dry Soil, gm	120.72	96.95	96.95	96.95
Mass Dry Soil, gm	76.75	66.47	66.47	66.47
Water Content, %	60.57	62.52	38.00	38.00
Void Ratio	---	1.62	0.96	---
Degree of Saturation, %	---	100.48	102.56	---
Dry Unit Weight, pcf	---	62.003	82.67	---

	Project: Union Station	Location: New Haven, CT	Project No.: 74-21-0002.104
	Boring No.: B-04	Tested By: RR	Checked By: MC
	Sample No.:	Test Date: 01.04.22	Depth: 22.8-22.9'
	Test No.: 21-S-4508	Sample Type: Intact Tube	Elevation:
	Description: Dark Gray Organic CLAY		
	Remarks:		







**Tighe&Bond**

**APPENDIX E**

**TABLE E1**

Monitoring Well Construction & Groundwater Gauging Summary  
 Union Station  
 New Haven, Connecticut  
 Last Updated 12/2/2021 (CRW)

WELL ID	Construction						Gauging Date: 11/23/2021		
	Ground Surface	Top of PVC Casing	Total Well Depth (ft)	Screened Interval (ft)	Casing Material	Well Installation Date	Depth to Groundwater (ft)	Depth to Product (ft)	Groudwater Elevation (ft)
MW-1	11.56	10.76	Unknown	Unknown	2-inch PVC	Unknown	6.09	6.03	4.67
MW-2	11.38	11.13	Unknown	5-10	2-inch PVC	11/15/2021	6.95	6.43	4.18
MW-3	11.81	11.48	11.3	5-10	2-inch PVC	11/12/2021	7.72	-	3.76

Depth to groundwater and product measurements are from top of PVC

Elevations are based on NAVD88

PVC = Polyvinyl chloride well casing

**TABLE E2**  
 Summary of Soil Analytical Results  
 Union Station  
 New Haven, Connecticut  
 Last Updated: 11/24/2021 (JLL)

Sample Name	CTDEEP RSR			B-1	B-2	B-2A	B-3	B-3	B-4	B-4	B-5A	B-5A
	RES	I/C	GB	5 - 7 ft	5 - 7 ft	7 - 9 ft	3 - 5 ft	7 - 9 ft	3 - 5 ft	7 - 9 ft	5 - 7 ft	7 - 9 ft
Criteria	DEC	DEC	PMC	11/10/2021	11/11/2021	11/12/2021	11/12/2021	11/12/2021	11/12/2021	11/12/2021	11/15/2021	11/15/2021
Sample Depth				CJ75932	CJ77694	CJ77699	CJ77700	CJ77702	CJ77704	CJ77705	CJ78139	CJ78140
Sample Date				GCJ77699	GCJ77699	GCJ77699	GCJ77699	GCJ77699	GCJ77699	GCJ77699	GCJ78139	GCJ78139
Lab Sample ID												
Lab Report ID												
<b>CTETPH 8015D (mg/Kg)</b>	500	2,500	2,500	<b>63,000</b>	-	<b>5,200</b>	-	<b>15,000</b>	100	-	-	<b>5,800</b>
<b>Metals 6010D (mg/Kg)</b>												
Antimony	27	8,200	NA	<3.8	-	<3.6	-	<7.5	265	-	-	<3.6
Arsenic	10	10	NA	<0.75	-	<0.73	-	<1.5	7.10	-	-	<0.73
Barium	4,700	140,000	NA	26.4	-	12.8	-	34.8	67.5	-	-	21.1
Beryllium	2	2	NA	<0.30	-	<0.29	-	<0.60	0.32	-	-	<0.29
Cadmium	34	1,000	NA	<0.38	-	<0.36	-	<0.75	<0.33	-	-	<0.36
Chromium (Total)	NE	NE	NA	6.04	-	6.27	-	9.64	7.01	-	-	6.78
Copper	2,500	76,000	NA	9.0	-	4.7	-	10.7	102	-	-	8.5
Lead	400	1,000	NA	3.83	-	2.98	-	7.06	1,730	-	-	5.49
Mercury (7471B)	20	610	NA	<0.03	-	<0.03	-	<0.05	<0.03	-	-	<0.03
Nickel	1,400	7,500	NA	4.65	-	3.34	-	7.32	7.70	-	-	4.96
Selenium	340	10,000	NA	<1.5	-	<1.5	-	<3.0	<1.3	-	-	<1.5
Silver	340	10,000	NA	<0.38	-	<0.36	-	<0.75	<0.33	-	-	<0.36
Thallium	5.4	160	NA	<3.4	-	<3.3	-	<5.0	<3.0	-	-	<3.3
Vanadium	470	14,000	NA	20.2	-	17.4	-	26.0	13.2	-	-	23.7
Zinc	20,000	610,000	NA	13.2	-	12.0	-	21.4	13.0	-	-	15.5
<b>SPLP Metals 6010D (mg/L)</b>												
Antimony	NA	NA	0.06	-	-	-	-	-	<0.010	-	-	-
Lead	NA	NA	0.15	-	-	-	-	-	0.01	-	-	-
<b>Pesticides 8081B (mg/Kg)</b>	Varies	Varies	Varies	BRL	BRL	-	BRL	-	BRL	-	BRL	-
<b>PCBs 8082A (mg/Kg)</b>												
PCBs (Total )	1	10	NA	<0.390	-	<0.400	-	<0.730	<0.340	-	-	<0.370
<b>PAHs 8270D (mg/Kg)</b>												
Acenaphthene	1,000	2,500	84	11.000	-	<0.270	-	3.600	<0.360	-	-	1.600
Anthracene	1,000	2,500	400	4.900	-	<0.270	-	1.800	<0.360	-	-	0.620
Fluoranthene	1,000	2,500	56	3.500	-	<0.270	-	1.000	<0.360	-	-	0.270
Fluorene	1,000	2,500	56	20.000	-	0.670	-	7.200	<0.360	-	-	2.300
Methylnaphthalene, 2-	270	1,000	5.6	220	-	4.100	-	8.1	0.660	-	-	22
Naphthalene	1,000	2,500	56	<2.700	-	<0.270	-	<0.510	0.480	-	-	<0.260
Phenanthrene	1,000	2,500	40	34.000	-	0.720	-	12.000	0.560	-	-	5.100
Pyrene	1,000	2,500	40	4.400	-	<0.270	-	1.700	<0.360	-	-	0.320
<b>VOCs 8260C (mg/Kg)</b>												
Butylbenzene, n-	500	1,000	70	1.400	-	<0.360	-	2.700	-	1.300	-	0.760
Butylbenzene, sec-	500	1,000	70	1.100	-	<0.360	-	3.700	-	2.400	-	0.660
Butylbenzene, tert-	500	1,000	70	0.280	-	<0.360	-	0.480	-	0.260	-	0.140
Isopropylbenzene (cumene)	500	1,000	5	0.490	-	<0.360	-	1.200	-	0.590	-	0.230
Isopropyltoluene, 2- (o-Cymene)	500	1,000	5	0.740	-	0.420	-	1.400	-	0.840	-	0.400
Isopropyltoluene, 4- (p-Cymene)	500	1,000	5	<0.310	-	<0.360	-	<0.810	-	<0.310	-	0.440
Naphthalene	1,000	2,500	56	0.660	-	0.310	-	1.500	-	0.850	-	0.450
Propylbenzene, n-	500	1,000	10	1.100	-	<0.360	-	2.900	-	0.890	-	0.540
Trimethylbenzene, 1,2,4-	500	1,000	28	0.160	-	<0.360	-	<0.810	-	<0.310	-	5.000

CTDEEP RSRs- Connecticut Department of Energy and Environmental Protection Remediation Standard Regulations (February 16, 2021)

and CTDEEP Additional Polluting Substances (September 20, 2018)

CT ETPH- Connecticut Department of Public Health Extractable Total Petroleum Hydrocarbons

NE- Not established

NA- Not Applicable

< xx indicates compound was not reported above laboratory limits.

"-": Sample not analyzed

Only parameters reported above reporting limits are summarized above

PAHs- Polycyclic Aromatic Hydrocarbons

PCBs- Polychlorinated Biphenyls

SPLP- Synthetic Precipitation Leaching Procedure

VOCs- Volatile Organic Compounds

RES DEC- Residential Direct Exposure Criteria

I/C DEC- Industrial/Commercial Direct Exposure Criteria

GB PMC- Pollutant Mobility Criteria in a GB groundwater area

Boxed values indicate exceedances of RES DEC

Bold values indicate exceedances of I/C DEC

Gray shaded values indicate exceedance of GB PMC

VOCs were not reported above laboratory reporting limits in the Trip Blanks

**TABLE E3**

Summary of Groundwater Analytical Results

Union Station

New Haven, Connecticut

Last Updated: 3/16/2022 (MEP)

Sample Name	CTDEEP RSR Criteria			MW-1	MW-2	MW-3
	RES VC	I/C VC	SWPC	11/23/2021	11/23/2021	12/2/2021
Sample Date				CJ84787	CJ84788	CJ88897
Lab Sample ID				GCJ84787	GCJ84787	GCJ88897
Lab Report ID						
<b>CTETPH 8015D (ug/L)</b>	250	250	250	-	-	<b>15,000</b>
<b>PCBs 8082A (ug/L)</b>						
Aroclor-1260	NA	NA	NE	<0.50	99	-
PCBs (Total )	NA	NA	0.5	<0.50	99	-
<b>VOCs 8260C (ug/L)</b>						
All VOCs	Varies	Varies	Varies	-	-	BRL
<b>PAHs 8270D (SIM) (ug/L)</b>						
Acenaphthene	30,500	50,000	150	-	-	1.6
Fluorene	NE	NE	140,000	-	-	1.2
Methylnaphthalene, 2-	1,000	13,100	62	-	-	4.0
Naphthalene	NE	NE	210	-	-	0.87
Phenanthrene	NE	NE	14	-	-	1.4

CTDEEP RSRs- Connecticut Department of Energy and Environmental Protection Remediation

Standard Regulations (June 27, 2013) and CTDEEP Additional Polluting Substances (September 20, 2018)

SWPC - Surface Water Protection Criteria

RES VC- Residential Volatilization Criteria

I/C VC- Industrial/Commercial Volatilization Criteria

"-"- Sample not analyzed

< xx indicates compound was not reported above laboratory limits.

Only parameters reported above reporting limits are summarized above

Boxed values indicate exceedance of RES VC

Bold values indicate exceedance of I/C VC

Gray shaded values indicate exceedance of SWPC

BRL- Below Reporting Limits

NE- Not Established

NA- Not Applicable

PCBs- Polychlorinated Biphenyls

CT ETPH- Connecticut Department of Public Health Extractable Total Petroleum Hydrocarbons

VOCs- Volatile Organic Compounds

PAHs- Polycyclic Aromatic Hydrocarbons

VOCs were not reported above laboratory reporting limits in the Trip Blank



Wednesday, November 17, 2021

Attn: James Olsen  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Project ID: METRO STATION NHPA  
SDG ID: GCJ75932  
Sample ID#s: CJ75933, CJ75936 - CJ75937

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. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids 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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style with a large initial "P".

Phyllis Shiller  
Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #M-CT007  
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  
UT Lab Registration #CT00007  
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

## Sample Id Cross Reference

November 17, 2021

SDG I.D.: GCJ75932

Project ID: METRO STATION NHPA

---

Client Id	Lab Id	Matrix
B-1 (5-7)	CJ75933	SOIL
TB111021L	CJ75936	SOIL
TB111021H	CJ75937	SOIL



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 17, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: CP  
 Analyzed by: see "By" below

Date            Time  
 11/10/21        9:15  
 11/11/21        14:07

Laboratory Data

SDG ID: GCJ75932  
 Phoenix ID: CJ75933

Project ID: METRO STATION NHPA  
 Client ID: B-1 (5-7)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.38	0.38	mg/Kg	1	11/12/21	CPP	SW6010D
Arsenic	< 0.75	0.75	mg/Kg	1	11/12/21	CPP	SW6010D
Barium	26.4	0.38	mg/Kg	1	11/12/21	CPP	SW6010D
Beryllium	< 0.30	0.30	mg/Kg	1	11/12/21	CPP	SW6010D
Cadmium	< 0.38	0.38	mg/Kg	1	11/12/21	CPP	SW6010D
Chromium	6.04	0.38	mg/Kg	1	11/12/21	CPP	SW6010D
Copper	9.0	0.8	mg/kg	1	11/12/21	CPP	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	11/15/21	AP	SW7471B
Nickel	4.65	0.38	mg/Kg	1	11/12/21	CPP	SW6010D
Lead	3.83	0.38	mg/Kg	1	11/12/21	CPP	SW6010D
Antimony	< 3.8	3.8	mg/Kg	1	11/12/21	CPP	SW6010D
Selenium	< 1.5	1.5	mg/Kg	1	11/12/21	CPP	SW6010D
Thallium	< 3.4	3.4	mg/Kg	1	11/12/21	CPP	SW6010D
Vanadium	20.2	0.38	mg/Kg	1	11/12/21	CPP	SW6010D
Zinc	13.2	0.8	mg/Kg	1	11/12/21	CPP	SW6010D
Percent Solid	85		%		11/11/21	Q	SW846-%Solid
Soil Extraction for PCB	Completed				11/11/21	O/E	SW3545A
Soil Extraction for Pesticide	Completed				11/11/21	O/E	SW3545A
Field Extraction	Completed				11/10/21		SW5035A
Mercury Digestion	Completed				11/15/21	AB/AB	SW7471B
Extraction of ETPH	Completed				11/11/21	R/Y	SW3546
Soil Extraction for SVOA PAH	Completed				11/11/21	R/L	SW3546
Total Metals Digest	Completed				11/11/21	M/AG	SW3050B

**TPH by GC (Extractable Products)**

Ext. Petroleum H.C. (C9-C36)	63000	2900	mg/Kg	50	11/15/21	JRB	CTETPH 8015D
Identification	**		mg/Kg	50	11/15/21	JRB	CTETPH 8015D



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>QA/QC Surrogates</u></b>							
% COD (surr)	Diluted Out		%	50	11/15/21	JRB	50 - 150 %
% Terphenyl (surr)	Diluted Out		%	50	11/15/21	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	390	ug/Kg	10	11/12/21	SC	SW8082A
PCB-1221	ND	390	ug/Kg	10	11/12/21	SC	SW8082A
PCB-1232	ND	390	ug/Kg	10	11/12/21	SC	SW8082A
PCB-1242	ND	390	ug/Kg	10	11/12/21	SC	SW8082A
PCB-1248	ND	390	ug/Kg	10	11/12/21	SC	SW8082A
PCB-1254	ND	390	ug/Kg	10	11/12/21	SC	SW8082A
PCB-1260	ND	390	ug/Kg	10	11/12/21	SC	SW8082A
PCB-1262	ND	390	ug/Kg	10	11/12/21	SC	SW8082A
PCB-1268	ND	390	ug/Kg	10	11/12/21	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	87		%	10	11/12/21	SC	30 - 150 %
% DCBP (Confirmation)	105		%	10	11/12/21	SC	30 - 150 %
% TCMX	61		%	10	11/12/21	SC	30 - 150 %
% TCMX (Confirmation)	77		%	10	11/12/21	SC	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
4,4' -DDE	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
4,4' -DDT	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
a-BHC	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
Alachlor	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
Aldrin	ND	3.9	ug/Kg	2	11/12/21	AW	SW8081B
b-BHC	ND	10	ug/Kg	2	11/12/21	AW	SW8081B
Chlordane	ND	39	ug/Kg	2	11/12/21	AW	SW8081B
d-BHC	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
Dieldrin	ND	3.9	ug/Kg	2	11/12/21	AW	SW8081B
Endosulfan I	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
Endosulfan II	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
Endosulfan sulfate	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
Endrin	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
Endrin aldehyde	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
Endrin ketone	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
g-BHC	ND	2.0	ug/Kg	2	11/12/21	AW	SW8081B
Heptachlor	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
Heptachlor epoxide	ND	7.8	ug/Kg	2	11/12/21	AW	SW8081B
Methoxychlor	ND	39	ug/Kg	2	11/12/21	AW	SW8081B
Toxaphene	ND	160	ug/Kg	2	11/12/21	AW	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	77		%	2	11/12/21	AW	30 - 150 %
% DCBP (Confirmation)	83		%	2	11/12/21	AW	30 - 150 %
% TCMX	67		%	2	11/12/21	AW	30 - 150 %
% TCMX (Confirmation)	70		%	2	11/12/21	AW	30 - 150 %
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	200	ug/Kg	50	11/12/21	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	120	ug/Kg	50	11/12/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,1-Dichloroethane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,1-Dichloroethene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,1-Dichloropropene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,2,4-Trimethylbenzene	160	160	ug/Kg	50	11/12/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	120	ug/Kg	50	11/12/21	JLI	SW8260C
1,2-Dibromoethane	ND	120	ug/Kg	50	11/12/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,2-Dichloroethane	ND	200	ug/Kg	50	11/12/21	JLI	SW8260C
1,2-Dichloropropane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,3-Dichloropropane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
2,2-Dichloropropane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
2-Chlorotoluene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
2-Hexanone	ND	1600	ug/Kg	50	11/12/21	JLI	SW8260C
2-Isopropyltoluene	740	310	ug/Kg	50	11/12/21	JLI	SW8260C
4-Chlorotoluene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	1600	ug/Kg	50	11/12/21	JLI	SW8260C
Acetone	ND	16000	ug/Kg	50	11/12/21	JLI	SW8260C
Acrylonitrile	ND	100	ug/Kg	50	11/12/21	JLI	SW8260C
Benzene	ND	200	ug/Kg	50	11/12/21	JLI	SW8260C
Bromobenzene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Bromochloromethane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Bromodichloromethane	ND	210	ug/Kg	50	11/12/21	JLI	SW8260C
Bromoform	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Bromomethane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Carbon Disulfide	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Carbon tetrachloride	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Chlorobenzene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Chloroethane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Chloroform	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Chloromethane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	120	ug/Kg	50	11/12/21	JLI	SW8260C
Dibromochloromethane	ND	120	ug/Kg	50	11/12/21	JLI	SW8260C
Dibromomethane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Dichlorodifluoromethane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Ethylbenzene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Hexachlorobutadiene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Isopropylbenzene	490	310	ug/Kg	50	11/12/21	JLI	SW8260C
m&p-Xylene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	1900	ug/Kg	50	11/12/21	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Methyl t-butyl ether (MTBE)	ND	620	ug/Kg	50	11/12/21	JLI	SW8260C
Methylene chloride	ND	620	ug/Kg	50	11/12/21	JLI	SW8260C
Naphthalene	660	310	ug/Kg	50	11/12/21	JLI	SW8260C
n-Butylbenzene	1400	310	ug/Kg	50	11/12/21	JLI	SW8260C
n-Propylbenzene	1100	310	ug/Kg	50	11/12/21	JLI	SW8260C
o-Xylene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
p-Isopropyltoluene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
sec-Butylbenzene	1100	310	ug/Kg	50	11/12/21	JLI	SW8260C
Styrene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
tert-Butylbenzene	280	270	ug/Kg	50	11/12/21	JLI	SW8260C
Tetrachloroethene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	620	ug/Kg	50	11/12/21	JLI	SW8260C
Toluene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Total Xylenes	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	120	ug/Kg	50	11/12/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	620	ug/Kg	50	11/12/21	JLI	SW8260C
Trichloroethene	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Trichlorofluoromethane	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	620	ug/Kg	50	11/12/21	JLI	SW8260C
Vinyl chloride	ND	310	ug/Kg	50	11/12/21	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4 (50x)	99		%	50	11/12/21	JLI	70 - 130 %
% Bromofluorobenzene (50x)	117		%	50	11/12/21	JLI	70 - 130 %
% Dibromofluoromethane (50x)	95		%	50	11/12/21	JLI	70 - 130 %
% Toluene-d8 (50x)	98		%	50	11/12/21	JLI	70 - 130 %
<b><u>Polynuclear Aromatic HC</u></b>							
2-Methylnaphthalene	220000	27000	ug/Kg	100	11/15/21	WB	SW8270D
Acenaphthene	11000	2700	ug/Kg	10	11/12/21	WB	SW8270D
Acenaphthylene	ND	2700	ug/Kg	10	11/12/21	WB	SW8270D
Anthracene	4900	2700	ug/Kg	10	11/12/21	WB	SW8270D
Benz(a)anthracene	ND	1300	ug/Kg	10	11/12/21	WB	SW8270D
Benzo(a)pyrene	ND	1200	ug/Kg	10	11/12/21	WB	SW8270D
Benzo(b)fluoranthene	ND	1300	ug/Kg	10	11/12/21	WB	SW8270D
Benzo(ghi)perylene	ND	1200	ug/Kg	10	11/12/21	WB	SW8270D
Benzo(k)fluoranthene	ND	1300	ug/Kg	10	11/12/21	WB	SW8270D
Chrysene	ND	1300	ug/Kg	10	11/12/21	WB	SW8270D
Dibenz(a,h)anthracene	ND	1200	ug/Kg	10	11/12/21	WB	SW8270D
Fluoranthene	3500	2700	ug/Kg	10	11/12/21	WB	SW8270D
Fluorene	20000	2700	ug/Kg	10	11/12/21	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	1300	ug/Kg	10	11/12/21	WB	SW8270D
Naphthalene	ND	2700	ug/Kg	10	11/12/21	WB	SW8270D
Phenanthrene	34000	2700	ug/Kg	10	11/12/21	WB	SW8270D
Pyrene	4400	2700	ug/Kg	10	11/12/21	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2-Fluorobiphenyl (10x)	Diluted Out		%	10	11/12/21	WB	30 - 130 %
% Nitrobenzene-d5 (10x)	Diluted Out		%	10	11/12/21	WB	30 - 130 %
% Terphenyl-d14 (10x)	Diluted Out		%	10	11/12/21	WB	30 - 130 %
% 2-Fluorobiphenyl (100x)	Diluted Out		%	100	11/15/21	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5 (100x)	Diluted Out		%	100	11/15/21	WB	30 - 130 %
% Terphenyl-d14 (100x)	Diluted Out		%	100	11/15/21	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

**Semi-Volatile Comment:**

Due to a matrix interference and/or the presence of a large amount of non-target material in the sample, a dilution was required resulting in an elevated RL for the semivolatiles analysis.

**Volatile Comment:**

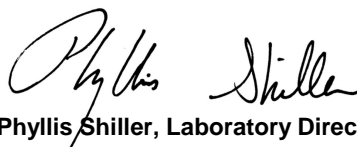
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

**TPH Comment:**

\*\*Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C26. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 17, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 17, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: CP  
 Analyzed by: see "By" below

Date                      Time  
 11/10/21  
 11/11/21                      14:07

Laboratory Data

SDG ID: GCJ75932  
 Phoenix ID: CJ75936

Project ID: METRO STATION NHPA  
 Client ID: TB111021L

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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Field Extraction	Completed				11/10/21		SW5035A
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**Volatiles**

1,1,1,2-Tetrachloroethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,1-Dichloroethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,1-Dichloroethene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,1-Dichloropropene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,2-Dibromoethane	ND	0.50	ug/Kg	1	11/12/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,2-Dichloroethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,2-Dichloropropane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,3-Dichloropropane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
2,2-Dichloropropane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
2-Chlorotoluene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
2-Hexanone	ND	25	ug/Kg	1	11/12/21	JLI	SW8260C
2-Isopropyltoluene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Chlorotoluene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	25	ug/Kg	1	11/12/21	JLI	SW8260C
Acetone	ND	250	ug/Kg	1	11/12/21	JLI	SW8260C
Acrylonitrile	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Benzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Bromobenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Bromochloromethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Bromodichloromethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Bromoform	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Bromomethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Carbon Disulfide	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Carbon tetrachloride	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Chloroethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Chloroform	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Chloromethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Dibromochloromethane	ND	3.0	ug/Kg	1	11/12/21	JLI	SW8260C
Dibromomethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Ethylbenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Hexachlorobutadiene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Isopropylbenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
m&p-Xylene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	30	ug/Kg	1	11/12/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	11/12/21	JLI	SW8260C
Methylene chloride	ND	10	ug/Kg	1	11/12/21	JLI	SW8260C
Naphthalene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
n-Butylbenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
n-Propylbenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
o-Xylene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
p-Isopropyltoluene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
sec-Butylbenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Styrene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
tert-Butylbenzene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Tetrachloroethene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	10	ug/Kg	1	11/12/21	JLI	SW8260C
Toluene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Total Xylenes	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	11/12/21	JLI	SW8260C
Trichloroethene	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Trichlorofluoromethane	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	10	ug/Kg	1	11/12/21	JLI	SW8260C
Vinyl chloride	ND	5.0	ug/Kg	1	11/12/21	JLI	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4	98		%	1	11/12/21	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Bromofluorobenzene	97		%	1	11/12/21	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	11/12/21	JLI	70 - 130 %
% Toluene-d8	99		%	1	11/12/21	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TRIP BLANK INCLUDED.

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 17, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
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**Analysis Report**  
 November 17, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: CP  
 Analyzed by: see "By" below

Date                      Time  
 11/10/21  
 11/11/21                      14:07

Laboratory Data

SDG ID: GCJ75932  
 Phoenix ID: CJ75937

Project ID: METRO STATION NHPA  
 Client ID: TB111021H

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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Field Extraction	Completed				11/10/21		SW5035A
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**Volatiles**

1,1,1,2-Tetrachloroethane	ND	200	ug/Kg	50	11/12/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	100	ug/Kg	50	11/12/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,1-Dichloroethane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,1-Dichloroethene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,1-Dichloropropene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	100	ug/Kg	50	11/12/21	JLI	SW8260C
1,2-Dibromoethane	ND	100	ug/Kg	50	11/12/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,2-Dichloroethane	ND	200	ug/Kg	50	11/12/21	JLI	SW8260C
1,2-Dichloropropane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,3-Dichloropropane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
2,2-Dichloropropane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
2-Chlorotoluene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
2-Hexanone	ND	1300	ug/Kg	50	11/12/21	JLI	SW8260C
2-Isopropyltoluene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Chlorotoluene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	1300	ug/Kg	50	11/12/21	JLI	SW8260C
Acetone	ND	5000	ug/Kg	50	11/12/21	JLI	SW8260C
Acrylonitrile	ND	100	ug/Kg	50	11/12/21	JLI	SW8260C
Benzene	ND	200	ug/Kg	50	11/12/21	JLI	SW8260C
Bromobenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Bromochloromethane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Bromodichloromethane	ND	210	ug/Kg	50	11/12/21	JLI	SW8260C
Bromoform	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Bromomethane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Carbon Disulfide	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Carbon tetrachloride	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Chlorobenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Chloroethane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Chloroform	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Chloromethane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	100	ug/Kg	50	11/12/21	JLI	SW8260C
Dibromochloromethane	ND	100	ug/Kg	50	11/12/21	JLI	SW8260C
Dibromomethane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Dichlorodifluoromethane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Ethylbenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Hexachlorobutadiene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Isopropylbenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
m&p-Xylene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	3000	ug/Kg	50	11/12/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Methylene chloride	ND	500	ug/Kg	50	11/12/21	JLI	SW8260C
Naphthalene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
n-Butylbenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
n-Propylbenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
o-Xylene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
p-Isopropyltoluene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
sec-Butylbenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Styrene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
tert-Butylbenzene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Tetrachloroethene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	500	ug/Kg	50	11/12/21	JLI	SW8260C
Toluene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Total Xylenes	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	100	ug/Kg	50	11/12/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	500	ug/Kg	50	11/12/21	JLI	SW8260C
Trichloroethene	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Trichlorofluoromethane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
Vinyl chloride	ND	250	ug/Kg	50	11/12/21	JLI	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4 (50x)	101		%	50	11/12/21	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Bromofluorobenzene (50x)	97		%	50	11/12/21	JLI	70 - 130 %
% Dibromofluoromethane (50x)	98		%	50	11/12/21	JLI	70 - 130 %
% Toluene-d8 (50x)	98		%	50	11/12/21	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TRIP BLANK INCLUDED.

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 17, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



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

November 17, 2021

## QA/QC Data

SDG I.D.: GCJ75932

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 600712 (mg/kg), QC Sample No: CJ75398 (CJ75933)

Mercury - Soil	BRL	0.02	0.03	<0.03	NC	106	117	9.9	115			70 - 130	30
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Comment:

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

QA/QC Batch 600393 (mg/kg), QC Sample No: CJ76008 (CJ75933)

### ICP Metals - Soil

Antimony	BRL	3.3	<4.0	<4.3	NC	107	115	7.2	86.0			75 - 125	35
Arsenic	BRL	0.67	4.19	3.82	NC	98.7	120	19.5	90.7			75 - 125	35
Barium	BRL	0.33	37.2	38.1	2.40	100	115	14.0	97.3			75 - 125	35
Beryllium	BRL	0.27	0.53	0.53	NC	94.1	111	16.5	89.8			75 - 125	35
Cadmium	BRL	0.33	<0.40	<0.43	NC	97.0	115	17.0	93.0			75 - 125	35
Chromium	BRL	0.33	17.5	16.7	4.70	86.3	99.7	14.4	90.9			75 - 125	35
Copper	BRL	0.67	12.4	12.9	4.00	97.4	115	16.6	93.7			75 - 125	35
Lead	BRL	0.33	16.3	17.9	9.40	99.1	121	19.9	90.2			75 - 125	35
Nickel	BRL	0.33	12.0	11.6	3.40	97.8	114	15.3	91.1			75 - 125	35
Selenium	BRL	1.3	<1.6	<1.7	NC	92.1	112	19.5	92.7			75 - 125	35
Silver	BRL	0.33	<0.40	<0.43	NC	95.2	117	20.5	92.9			75 - 125	35
Thallium	BRL	3.0	<3.6	<3.9	NC	102	123	18.7	94.3			75 - 125	35
Vanadium	BRL	0.33	32.7	29.4	10.6	94.7	113	17.6	88.8			75 - 125	35
Zinc	BRL	0.67	29.8	34.3	14.0	99.8	117	15.9	91.6			75 - 125	35

Comment:

Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.



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# QA/QC Report

November 17, 2021

## QA/QC Data

SDG I.D.: GCJ75932

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 600376 (mg/Kg), QC Sample No: CJ75393 (CJ75933)										
<b>TPH by GC (Extractable Products) - Soil</b>										
Ext. Petroleum H.C. (C9-C36)	ND	50	125	113	10.1	107	105	1.9	60 - 120	30
% COD (surr)	85	%	117	132	12.0	83	87	4.7	50 - 150	30
% Terphenyl (surr)	89	%	92	103	11.3	89	85	4.6	50 - 150	30

Comment:

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

QA/QC Batch 600357 (ug/Kg), QC Sample No: CJ75860 2X (CJ75933)

### Polychlorinated Biphenyls - Soil

PCB-1016	ND	33	103	90	13.5	75	74	1.3	40 - 140	30
PCB-1221	ND	33							40 - 140	30
PCB-1232	ND	33							40 - 140	30
PCB-1242	ND	33							40 - 140	30
PCB-1248	ND	33							40 - 140	30
PCB-1254	ND	33							40 - 140	30
PCB-1260	ND	33	97	101	4.0	74	69	7.0	40 - 140	30
PCB-1262	ND	33							40 - 140	30
PCB-1268	ND	33							40 - 140	30
% DCBP (Surrogate Rec)	89	%	99	97	2.0	72	67	7.2	30 - 150	30
% DCBP (Surrogate Rec) (Confirm	79	%	90	87	3.4	66	62	6.3	30 - 150	30
% TCMX (Surrogate Rec)	85	%	96	95	1.0	67	66	1.5	30 - 150	30
% TCMX (Surrogate Rec) (Confirm	84	%	95	94	1.1	66	64	3.1	30 - 150	30

QA/QC Batch 600358 (ug/Kg), QC Sample No: CJ75860 2X (CJ75933)

### Pesticides - Soil

4,4' -DDD	ND	1.7	75	74	1.3	55	55	0.0	40 - 140	30
4,4' -DDE	ND	1.7	72	75	4.1	62	61	1.6	40 - 140	30
4,4' -DDT	ND	1.7	68	69	1.5	65	61	6.3	40 - 140	30
a-BHC	ND	1.0	76	82	7.6	58	55	5.3	40 - 140	30
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30
Aldrin	ND	1.0	74	77	4.0	54	53	1.9	40 - 140	30
b-BHC	ND	1.0	81	85	4.8	59	59	0.0	40 - 140	30
Chlordane	ND	3.3	73	76	4.0	54	52	3.8	40 - 140	30
d-BHC	ND	3.3	69	71	2.9	51	50	2.0	40 - 140	30
Dieldrin	ND	1.0	76	79	3.9	55	55	0.0	40 - 140	30
Endosulfan I	ND	3.3	75	85	12.5	59	58	1.7	40 - 140	30
Endosulfan II	ND	3.3	78	80	2.5	59	61	3.3	40 - 140	30
Endosulfan sulfate	ND	3.3	77	78	1.3	58	56	3.5	40 - 140	30
Endrin	ND	3.3	79	77	2.6	58	57	1.7	40 - 140	30
Endrin aldehyde	ND	3.3	62	65	4.7	52	51	1.9	40 - 140	30
Endrin ketone	ND	3.3	69	71	2.9	54	51	5.7	40 - 140	30
g-BHC	ND	1.0	83	86	3.6	71	73	2.8	40 - 140	30

## QA/QC Data

SDG I.D.: GCJ75932

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Heptachlor	ND	3.3	79	82	3.7	59	58	1.7	40 - 140	30
Heptachlor epoxide	ND	3.3	72	75	4.1	52	52	0.0	40 - 140	30
Methoxychlor	ND	3.3	69	71	2.9	52	49	5.9	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	87	%	84	84	0.0	61	61	0.0	30 - 150	30
% DCBP (Confirmation)	62	%	60	59	1.7	45	43	4.5	30 - 150	30
% TCMX	94	%	89	92	3.3	68	66	3.0	30 - 150	30
% TCMX (Confirmation)	88	%	85	87	2.3	64	67	4.6	30 - 150	30

QA/QC Batch 600389 (ug/kg), QC Sample No: CJ76040 (CJ75933)

### Polynuclear Aromatic HC - Soil

2-Methylnaphthalene	ND	230	75	76	1.3	77	81	5.1	40 - 140	30
Acenaphthene	ND	230	83	81	2.4	79	82	3.7	30 - 130	30
Acenaphthylene	ND	230	78	78	0.0	78	77	1.3	40 - 140	30
Anthracene	ND	230	83	84	1.2	76	79	3.9	40 - 140	30
Benz(a)anthracene	ND	230	85	86	1.2	85	85	0.0	40 - 140	30
Benzo(a)pyrene	ND	230	87	85	2.3	86	85	1.2	40 - 140	30
Benzo(b)fluoranthene	ND	230	88	87	1.1	91	91	0.0	40 - 140	30
Benzo(ghi)perylene	ND	230	91	90	1.1	93	93	0.0	40 - 140	30
Benzo(k)fluoranthene	ND	230	87	86	1.2	82	81	1.2	40 - 140	30
Chrysene	ND	230	85	86	1.2	84	85	1.2	40 - 140	30
Dibenz(a,h)anthracene	ND	230	93	92	1.1	97	97	0.0	40 - 140	30
Fluoranthene	ND	230	85	83	2.4	78	84	7.4	40 - 140	30
Fluorene	ND	230	84	83	1.2	78	85	8.6	40 - 140	30
Indeno(1,2,3-cd)pyrene	ND	230	96	95	1.0	97	99	2.0	40 - 140	30
Naphthalene	ND	230	72	71	1.4	73	71	2.8	40 - 140	30
Phenanthrene	ND	230	82	83	1.2	68	78	13.7	40 - 140	30
Pyrene	ND	230	85	86	1.2	77	82	6.3	30 - 130	30
% 2-Fluorobiphenyl	69	%	72	71	1.4	75	73	2.7	30 - 130	30
% Nitrobenzene-d5	74	%	81	85	4.8	85	87	2.3	30 - 130	30
% Terphenyl-d14	92	%	89	89	0.0	86	90	4.5	30 - 130	30

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 600499 (ug/kg), QC Sample No: CJ75860 (CJ75936)

### Volatiles - Soil (Low Level)

1,1,1,2-Tetrachloroethane	ND	5.0	98	96	2.1				70 - 130	30
1,1,1-Trichloroethane	ND	5.0	99	96	3.1				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0	91	90	1.1				70 - 130	30
1,1,2-Trichloroethane	ND	5.0	91	91	0.0				70 - 130	30
1,1-Dichloroethane	ND	5.0	96	94	2.1				70 - 130	30
1,1-Dichloroethene	ND	5.0	99	94	5.2				70 - 130	30
1,1-Dichloropropene	ND	5.0	101	97	4.0				70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	91	87	4.5				70 - 130	30
1,2,3-Trichloropropane	ND	5.0	90	87	3.4				70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	88	86	2.3				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	93	89	4.4				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	97	94	3.1				70 - 130	30
1,2-Dibromoethane	ND	5.0	91	92	1.1				70 - 130	30
1,2-Dichlorobenzene	ND	5.0	90	87	3.4				70 - 130	30
1,2-Dichloroethane	ND	5.0	92	90	2.2				70 - 130	30
1,2-Dichloropropane	ND	5.0	93	91	2.2				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	96	92	4.3				70 - 130	30

## QA/QC Data

SDG I.D.: GCJ75932

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
1,3-Dichlorobenzene	ND	5.0	91	87	4.5				70 - 130	30
1,3-Dichloropropane	ND	5.0	93	93	0.0				70 - 130	30
1,4-Dichlorobenzene	ND	5.0	90	86	4.5				70 - 130	30
2,2-Dichloropropane	ND	5.0	101	98	3.0				70 - 130	30
2-Chlorotoluene	ND	5.0	95	91	4.3				70 - 130	30
2-Hexanone	ND	25	89	88	1.1				70 - 130	30
2-Isopropyltoluene	ND	5.0	95	91	4.3				70 - 130	30
4-Chlorotoluene	ND	5.0	94	89	5.5				70 - 130	30
4-Methyl-2-pentanone	ND	25	92	91	1.1				70 - 130	30
Acetone	ND	10	90	89	1.1				70 - 130	30
Acrylonitrile	ND	5.0	90	91	1.1				70 - 130	30
Benzene	ND	1.0	97	94	3.1				70 - 130	30
Bromobenzene	ND	5.0	93	90	3.3				70 - 130	30
Bromochloromethane	ND	5.0	94	94	0.0				70 - 130	30
Bromodichloromethane	ND	5.0	96	95	1.0				70 - 130	30
Bromoform	ND	5.0	97	99	2.0				70 - 130	30
Bromomethane	ND	5.0	104	93	11.2				70 - 130	30
Carbon Disulfide	ND	5.0	94	91	3.2				70 - 130	30
Carbon tetrachloride	ND	5.0	99	95	4.1				70 - 130	30
Chlorobenzene	ND	5.0	93	91	2.2				70 - 130	30
Chloroethane	ND	5.0	102	97	5.0				70 - 130	30
Chloroform	ND	5.0	93	94	1.1				70 - 130	30
Chloromethane	ND	5.0	96	92	4.3				70 - 130	30
cis-1,2-Dichloroethene	ND	5.0	97	96	1.0				70 - 130	30
cis-1,3-Dichloropropene	ND	5.0	96	96	0.0				70 - 130	30
Dibromochloromethane	ND	3.0	96	98	2.1				70 - 130	30
Dibromomethane	ND	5.0	93	93	0.0				70 - 130	30
Dichlorodifluoromethane	ND	5.0	96	90	6.5				70 - 130	30
Ethylbenzene	ND	1.0	98	95	3.1				70 - 130	30
Hexachlorobutadiene	ND	5.0	95	88	7.7				70 - 130	30
Isopropylbenzene	ND	1.0	99	93	6.3				70 - 130	30
m&p-Xylene	ND	2.0	97	95	2.1				70 - 130	30
Methyl ethyl ketone	ND	5.0	88	87	1.1				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	89	90	1.1				70 - 130	30
Methylene chloride	ND	5.0	83	81	2.4				70 - 130	30
Naphthalene	ND	5.0	91	90	1.1				70 - 130	30
n-Butylbenzene	ND	1.0	99	92	7.3				70 - 130	30
n-Propylbenzene	ND	1.0	98	93	5.2				70 - 130	30
o-Xylene	ND	2.0	93	91	2.2				70 - 130	30
p-Isopropyltoluene	ND	1.0	98	92	6.3				70 - 130	30
sec-Butylbenzene	ND	1.0	99	93	6.3				70 - 130	30
Styrene	ND	5.0	83	81	2.4				70 - 130	30
tert-Butylbenzene	ND	1.0	98	93	5.2				70 - 130	30
Tetrachloroethene	ND	5.0	97	92	5.3				70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	85	87	2.3				70 - 130	30
Toluene	ND	1.0	98	94	4.2				70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	96	93	3.2				70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	96	95	1.0				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	103	100	3.0				70 - 130	30
Trichloroethene	ND	5.0	101	96	5.1				70 - 130	30
Trichlorofluoromethane	ND	5.0	103	99	4.0				70 - 130	30
Trichlorotrifluoroethane	ND	5.0	92	87	5.6				70 - 130	30
Vinyl chloride	ND	5.0	100	98	2.0				70 - 130	30

## QA/QC Data

SDG I.D.: GCJ75932

Parameter	Blank		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
% 1,2-dichlorobenzene-d4	100	%	101	100	1.0				70 - 130	30
% Bromofluorobenzene	98	%	100	101	1.0				70 - 130	30
% Dibromofluoromethane	100	%	101	99	2.0				70 - 130	30
% Toluene-d8	100	%	101	101	0.0				70 - 130	30

Comment:

The Low Level MS/MSD are not reported for this batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Batch 600499H (ug/kg), QC Sample No: CJ75860 50X (CJ75937 (50X) )

### Volatiles - Soil (High Level)

1,1,1,2-Tetrachloroethane	ND	250	107	109	1.9	103	105	1.9	70 - 130	30
1,1,1-Trichloroethane	ND	250	103	105	1.9	100	104	3.9	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	250	100	105	4.9	101	101	0.0	70 - 130	30
1,1,2-Trichloroethane	ND	250	99	102	3.0	98	99	1.0	70 - 130	30
1,1-Dichloroethane	ND	250	101	102	1.0	103	104	1.0	70 - 130	30
1,1-Dichloroethene	ND	250	80	77	3.8	79	79	0.0	70 - 130	30
1,1-Dichloropropene	ND	250	107	111	3.7	107	110	2.8	70 - 130	30
1,2,3-Trichlorobenzene	ND	250	104	107	2.8	101	100	1.0	70 - 130	30
1,2,3-Trichloropropane	ND	250	98	101	3.0	105	107	1.9	70 - 130	30
1,2,4-Trichlorobenzene	ND	250	107	107	0.0	101	99	2.0	70 - 130	30
1,2,4-Trimethylbenzene	ND	250	103	106	2.9	101	103	2.0	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	250	106	113	6.4	101	104	2.9	70 - 130	30
1,2-Dibromoethane	ND	250	101	103	2.0	100	101	1.0	70 - 130	30
1,2-Dichlorobenzene	ND	250	104	105	1.0	102	102	0.0	70 - 130	30
1,2-Dichloroethane	ND	250	99	100	1.0	100	98	2.0	70 - 130	30
1,2-Dichloropropane	ND	250	100	103	3.0	101	102	1.0	70 - 130	30
1,3,5-Trimethylbenzene	ND	250	104	108	3.8	103	106	2.9	70 - 130	30
1,3-Dichlorobenzene	ND	250	104	107	2.8	101	100	1.0	70 - 130	30
1,3-Dichloropropane	ND	250	104	106	1.9	104	104	0.0	70 - 130	30
1,4-Dichlorobenzene	ND	250	106	107	0.9	102	101	1.0	70 - 130	30
2,2-Dichloropropane	ND	250	105	106	0.9	92	95	3.2	70 - 130	30
2-Chlorotoluene	ND	250	103	106	2.9	102	103	1.0	70 - 130	30
2-Hexanone	ND	1300	97	103	6.0	99	100	1.0	70 - 130	30
2-Isopropyltoluene	ND	250	104	107	2.8	103	105	1.9	70 - 130	30
4-Chlorotoluene	ND	250	104	107	2.8	101	103	2.0	70 - 130	30
4-Methyl-2-pentanone	ND	1300	97	103	6.0	100	101	1.0	70 - 130	30
Acetone	ND	500	76	82	7.6	80	79	1.3	70 - 130	30
Acrylonitrile	ND	250	96	100	4.1	98	106	7.8	70 - 130	30
Benzene	ND	250	104	107	2.8	104	107	2.8	70 - 130	30
Bromobenzene	ND	250	100	104	3.9	100	101	1.0	70 - 130	30
Bromochloromethane	ND	250	102	103	1.0	99	102	3.0	70 - 130	30
Bromodichloromethane	ND	250	102	103	1.0	98	101	3.0	70 - 130	30
Bromoform	ND	250	107	111	3.7	98	100	2.0	70 - 130	30
Bromomethane	ND	250	87	90	3.4	83	86	3.6	70 - 130	30
Carbon Disulfide	ND	250	78	76	2.6	74	74	0.0	70 - 130	30
Carbon tetrachloride	ND	250	103	105	1.9	97	101	4.0	70 - 130	30
Chlorobenzene	ND	250	105	106	0.9	104	104	0.0	70 - 130	30
Chloroethane	ND	250	34	34	0.0	33	34	3.0	70 - 130	30
Chloroform	ND	250	101	102	1.0	98	103	5.0	70 - 130	30
Chloromethane	ND	250	103	105	1.9	95	99	4.1	70 - 130	30
cis-1,2-Dichloroethene	ND	250	102	106	3.8	102	110	7.5	70 - 130	30
cis-1,3-Dichloropropene	ND	250	104	106	1.9	99	101	2.0	70 - 130	30

l,m

QA/QC Data

SDG I.D.: GCJ75932

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Dibromochloromethane	ND	150	106	109	2.8	102	102	0.0	70 - 130	30
Dibromomethane	ND	250	101	104	2.9	102	100	2.0	70 - 130	30
Dichlorodifluoromethane	ND	250	109	110	0.9	88	91	3.4	70 - 130	30
Ethylbenzene	ND	250	109	111	1.8	108	110	1.8	70 - 130	30
Hexachlorobutadiene	ND	250	108	112	3.6	103	108	4.7	70 - 130	30
Isopropylbenzene	ND	250	104	109	4.7	104	107	2.8	70 - 130	30
m&p-Xylene	ND	250	108	111	2.7	107	109	1.9	70 - 130	30
Methyl ethyl ketone	ND	250	94	97	3.1	97	97	0.0	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	250	96	96	0.0	97	95	2.1	70 - 130	30
Methylene chloride	ND	250	86	87	1.2	88	87	1.1	70 - 130	30
Naphthalene	ND	250	101	106	4.8	101	102	1.0	70 - 130	30
n-Butylbenzene	ND	250	112	115	2.6	108	110	1.8	70 - 130	30
n-Propylbenzene	ND	250	106	109	2.8	104	106	1.9	70 - 130	30
o-Xylene	ND	250	106	106	0.0	103	105	1.9	70 - 130	30
p-Isopropyltoluene	ND	250	107	111	3.7	105	107	1.9	70 - 130	30
sec-Butylbenzene	ND	250	106	111	4.6	105	109	3.7	70 - 130	30
Styrene	ND	250	94	95	1.1	93	93	0.0	70 - 130	30
tert-Butylbenzene	ND	250	104	108	3.8	103	107	3.8	70 - 130	30
Tetrachloroethene	ND	250	106	108	1.9	103	107	3.8	70 - 130	30
Tetrahydrofuran (THF)	ND	250	94	99	5.2	95	97	2.1	70 - 130	30
Toluene	ND	250	105	108	2.8	103	106	2.9	70 - 130	30
trans-1,2-Dichloroethene	ND	250	102	101	1.0	101	101	0.0	70 - 130	30
trans-1,3-Dichloropropene	ND	250	104	106	1.9	99	100	1.0	70 - 130	30
trans-1,4-dichloro-2-butene	ND	250	111	116	4.4	96	100	4.1	70 - 130	30
Trichloroethene	ND	250	107	109	1.9	107	108	0.9	70 - 130	30
Trichlorofluoromethane	ND	250	26	27	3.8	26	26	0.0	70 - 130	30
Trichlorotrifluoroethane	ND	250	80	78	2.5	79	79	0.0	70 - 130	30
Vinyl chloride	ND	250	118	121	2.5	112	114	1.8	70 - 130	30
% 1,2-dichlorobenzene-d4	101	%	100	101	1.0	101	99	2.0	70 - 130	30
% Bromofluorobenzene	96	%	101	101	0.0	101	100	1.0	70 - 130	30
% Dibromofluoromethane	98	%	99	95	4.1	97	96	1.0	70 - 130	30
% Toluene-d8	99	%	100	100	0.0	100	100	0.0	70 - 130	30

l,m

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Batch 600762H (ug/kg), QC Sample No: CJ76364 (CJ75933 (50X) )

Volatiles - Soil (High Level)

1,1,1,2-Tetrachloroethane	ND	5.0	107	107	0.0	103	102	1.0	70 - 130	30
1,1,1-Trichloroethane	ND	5.0	101	100	1.0	99	98	1.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	5.0	97	100	3.0	98	97	1.0	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	98	97	1.0	97	96	1.0	70 - 130	30
1,1-Dichloroethane	ND	5.0	101	101	0.0	101	99	2.0	70 - 130	30
1,1-Dichloroethene	ND	5.0	79	77	2.6	81	80	1.2	70 - 130	30
1,1-Dichloropropene	ND	5.0	107	107	0.0	106	104	1.9	70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	104	105	1.0	105	105	0.0	70 - 130	30
1,2,3-Trichloropropane	ND	5.0	97	97	0.0	97	98	1.0	70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	106	108	1.9	106	105	0.9	70 - 130	30
1,2,4-Trimethylbenzene	ND	5.0	104	103	1.0	104	102	1.9	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	100	103	3.0	95	98	3.1	70 - 130	30
1,2-Dibromoethane	ND	5.0	99	102	3.0	100	98	2.0	70 - 130	30
1,2-Dichlorobenzene	ND	5.0	104	103	1.0	102	101	1.0	70 - 130	30
1,2-Dichloroethane	ND	5.0	98	100	2.0	97	97	0.0	70 - 130	30



QA/QC Data

SDG I.D.: GCJ75932

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
	Blank	RL									
1,2-Dichloropropane	ND	5.0	100	100	0.0	100	99	1.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	5.0	104	105	1.0	103	102	1.0	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	104	104	0.0	103	101	2.0	70 - 130	30	
1,3-Dichloropropane	ND	5.0	103	104	1.0	103	102	1.0	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	105	106	0.9	104	103	1.0	70 - 130	30	
2,2-Dichloropropane	ND	5.0	101	101	0.0	97	91	6.4	70 - 130	30	
2-Chlorotoluene	ND	5.0	102	103	1.0	102	102	0.0	70 - 130	30	
2-Hexanone	ND	25	92	96	4.3	96	93	3.2	70 - 130	30	
2-Isopropyltoluene	ND	5.0	103	104	1.0	101	101	0.0	70 - 130	30	
4-Chlorotoluene	ND	5.0	105	104	1.0	103	101	2.0	70 - 130	30	
4-Methyl-2-pentanone	ND	25	93	98	5.2	95	94	1.1	70 - 130	30	
Acetone	ND	10	73	78	6.6	80	77	3.8	70 - 130	30	
Acrylonitrile	ND	5.0	93	97	4.2	95	111	15.5	70 - 130	30	
Benzene	ND	5.0	104	104	0.0	104	102	1.9	70 - 130	30	
Bromobenzene	ND	5.0	101	101	0.0	99	100	1.0	70 - 130	30	
Bromochloromethane	ND	5.0	100	101	1.0	100	98	2.0	70 - 130	30	
Bromodichloromethane	ND	5.0	101	100	1.0	97	98	1.0	70 - 130	30	
Bromoform	ND	5.0	104	104	0.0	95	96	1.0	70 - 130	30	
Bromomethane	ND	5.0	88	90	2.2	86	84	2.4	70 - 130	30	
Carbon Disulfide	ND	5.0	77	77	0.0	76	76	0.0	70 - 130	30	
Carbon tetrachloride	ND	5.0	100	98	2.0	93	93	0.0	70 - 130	30	
Chlorobenzene	ND	5.0	105	104	1.0	103	102	1.0	70 - 130	30	
Chloroethane	ND	5.0	33	33	0.0	33	32	3.1	70 - 130	30	l,m
Chloroform	ND	5.0	100	102	2.0	100	97	3.0	70 - 130	30	
Chloromethane	ND	5.0	102	104	1.9	102	99	3.0	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	104	109	4.7	103	99	4.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	103	103	0.0	98	100	2.0	70 - 130	30	
Dibromochloromethane	ND	3.0	105	106	0.9	98	99	1.0	70 - 130	30	
Dibromomethane	ND	5.0	101	100	1.0	100	98	2.0	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	111	111	0.0	108	105	2.8	70 - 130	30	
Ethylbenzene	ND	5.0	109	109	0.0	109	106	2.8	70 - 130	30	
Hexachlorobutadiene	ND	5.0	106	107	0.9	104	104	0.0	70 - 130	30	
Isopropylbenzene	ND	5.0	105	103	1.9	102	102	0.0	70 - 130	30	
m&p-Xylene	ND	5.0	109	109	0.0	108	106	1.9	70 - 130	30	
Methyl ethyl ketone	ND	5.0	88	92	4.4	94	90	4.3	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	5.0	94	97	3.1	96	93	3.2	70 - 130	30	
Methylene chloride	ND	5.0	85	86	1.2	94	89	5.5	70 - 130	30	
Naphthalene	ND	5.0	98	100	2.0	101	101	0.0	70 - 130	30	
n-Butylbenzene	ND	5.0	111	113	1.8	110	108	1.8	70 - 130	30	
n-Propylbenzene	ND	5.0	106	104	1.9	103	102	1.0	70 - 130	30	
o-Xylene	ND	5.0	104	105	1.0	104	101	2.9	70 - 130	30	
p-Isopropyltoluene	ND	5.0	107	107	0.0	105	104	1.0	70 - 130	30	
sec-Butylbenzene	ND	5.0	106	106	0.0	104	103	1.0	70 - 130	30	
Styrene	ND	5.0	93	93	0.0	93	91	2.2	70 - 130	30	
tert-Butylbenzene	ND	5.0	103	103	0.0	102	101	1.0	70 - 130	30	
Tetrachloroethene	ND	5.0	105	105	0.0	103	101	2.0	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0	90	91	1.1	90	87	3.4	70 - 130	30	
Toluene	ND	5.0	104	104	0.0	103	103	0.0	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	101	101	0.0	101	98	3.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	103	104	1.0	99	100	1.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	107	109	1.9	98	99	1.0	70 - 130	30	
Trichloroethene	ND	5.0	106	107	0.9	104	104	0.0	70 - 130	30	
Trichlorofluoromethane	ND	5.0	26	26	0.0	26	26	0.0	70 - 130	30	l,m

## QA/QC Data

SDG I.D.: GCJ75932

Parameter	BIK		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Trichlorotrifluoroethane	ND	5.0	78	78	0.0	78	80	2.5	70 - 130	30
Vinyl chloride	ND	5.0	117	117	0.0	117	114	2.6	70 - 130	30
% 1,2-dichlorobenzene-d4	100	%	100	100	0.0	101	101	0.0	70 - 130	30
% Bromofluorobenzene	97	%	100	101	1.0	101	101	0.0	70 - 130	30
% Dibromofluoromethane	97	%	97	97	0.0	96	97	1.0	70 - 130	30
% Toluene-d8	99	%	100	100	0.0	100	101	1.0	70 - 130	30

**Comment:**


Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

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
- Intf - Interference

  
 Phyllis Shiller, Laboratory Director  
 November 17, 2021

Wednesday, November 17, 2021

Criteria: CT: GBM, RC

State: CT

## Sample Criteria Exceedances Report

GCJ75932 - TIGHE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CJ75933	\$8100SMR	Indeno(1,2,3-cd)pyrene	CT / RSR DEC RES (mg/kg) / APS Organics	ND	1300	1000	1000	ug/Kg
CJ75933	\$8100SMR	Dibenz(a,h)anthracene	CT / RSR DEC RES (mg/kg) / APS Organics	ND	1200	1000	1000	ug/Kg
CJ75933	\$8100SMR	Benz(a)anthracene	CT / RSR DEC RES (mg/kg) / Semivolatiles	ND	1300	1000	1000	ug/Kg
CJ75933	\$8100SMR	Benzo(a)pyrene	CT / RSR DEC RES (mg/kg) / Semivolatiles	ND	1200	1000	1000	ug/Kg
CJ75933	\$8100SMR	Benzo(b)fluoranthene	CT / RSR DEC RES (mg/kg) / Semivolatiles	ND	1300	1000	1000	ug/Kg
CJ75933	\$8100SMR	Benzo(ghi)perylene	CT / RSR GB (mg/kg) / APS Organics	ND	1200	1000	1000	ug/Kg
CJ75933	\$8100SMR	Chrysene	CT / RSR GB (mg/kg) / APS Organics	ND	1300	1000	1000	ug/Kg
CJ75933	\$8100SMR	Dibenz(a,h)anthracene	CT / RSR GB (mg/kg) / APS Organics	ND	1200	1000	1000	ug/Kg
CJ75933	\$8100SMR	2-Methylnaphthalene	CT / RSR GB (mg/kg) / APS Organics	220000	27000	5600	5600	ug/Kg
CJ75933	\$8100SMR	Indeno(1,2,3-cd)pyrene	CT / RSR GB (mg/kg) / APS Organics	ND	1300	1000	1000	ug/Kg
CJ75933	\$8100SMR	Benzo(k)fluoranthene	CT / RSR GB (mg/kg) / Semivolatiles	ND	1300	1000	1000	ug/Kg
CJ75933	\$8100SMR	Benz(a)anthracene	CT / RSR GB (mg/kg) / Semivolatiles	ND	1300	1000	1000	ug/Kg
CJ75933	\$8100SMR	Benzo(a)pyrene	CT / RSR GB (mg/kg) / Semivolatiles	ND	1200	1000	1000	ug/Kg
CJ75933	\$8100SMR	Benzo(b)fluoranthene	CT / RSR GB (mg/kg) / Semivolatiles	ND	1300	1000	1000	ug/Kg
CJ75933	\$8260MAR	1,2-Dibromo-3-chloropropane	CT / RSR DEC RES (mg/kg) / APS Organics	ND	120	90	90	ug/Kg
CJ75933	\$8260MAR	1,2-Dibromoethane	CT / RSR DEC RES (mg/kg) / Volatiles	ND	120	7	7	ug/Kg
CJ75933	\$8260MAR	1,2-Dibromo-3-chloropropane	CT / RSR GB (mg/kg) / APS Organics	ND	120	40	40	ug/Kg
CJ75933	\$8260MAR	1,1,2,2-Tetrachloroethane	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ75933	\$8260MAR	trans-1,3-Dichloropropene	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ75933	\$8260MAR	Dibromochloromethane	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ75933	\$8260MAR	cis-1,3-Dichloropropene	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ75933	\$8260MAR	1,2-Dibromoethane	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ75933	\$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	63000	2900	500	500	mg/Kg
CJ75933	\$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR GB (mg/kg) / Pesticides/TPH	63000	2900	2500	2500	mg/Kg
CJ75937	\$8260MER	1,2-Dibromo-3-chloropropane	CT / RSR DEC RES (mg/kg) / APS Organics	ND	100	90	90	ug/Kg
CJ75937	\$8260MER	1,2-Dibromoethane	CT / RSR DEC RES (mg/kg) / Volatiles	ND	100	7	7	ug/Kg
CJ75937	\$8260MER	1,2-Dibromo-3-chloropropane	CT / RSR GB (mg/kg) / APS Organics	ND	100	40	40	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedances. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedance information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



## REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

**Laboratory Name:** Phoenix Environmental Labs, Inc.

**Client:** Tighe & Bond

**Project Location:** METRO STATION NHPA

**Project Number:**

**Laboratory Sample ID(s):** CJ75933,  
CJ75936, CJ75937

**Sampling Date(s):** 11/10/2021

**List RCP Methods Used (e.g., 8260, 8270, et cetera)** 6010, 7470/7471, 8081, 8082, 8260, 8270, ETPH

<b>1</b>	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1A</b>	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1B</b>	<u>VPH and EPH methods only:</u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<b>2</b>	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>3</b>	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<b>4</b>	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Sections: ETPH Narration, VOA Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>5</b>	a) Were reporting limits specified or referenced on the chain-of-custody?  b) Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>6</b>	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>7</b>	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

**I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.**

**Authorized Signature:**  **Position:** Assistant Lab Director

**Printed Name:** Greg Lawrence **Date:** Wednesday, November 17, 2021

**Name of Laboratory** Phoenix Environmental Labs, Inc.

**This certification form is to be used for RCP methods only.**



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

November 17, 2021

SDG I.D.: GCJ75932

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### SDG Comments

8270 Semi-volatile Organics:

The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

Not all requested reporting levels were achieved due to the presence of target and non target compounds. Please refer to the Sample Criteria Exceedances section of this report.

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### ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 600376 (Samples: CJ75933): -----**

**The LCS recovery is above the upper range. All of the other QC is acceptable. No significant bias is suspected. (Ext. Petroleum H.C. (C9-C36))**

**Instrument:**

**AU-XL2 11/15/21-1**

Jeff Bucko, Chemist 11/15/21

CJ75933 (50X)

The initial calibration (ETPHO13I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (N15A003) and contained the following outliers: None.

The continuing calibration %D for the compound list was less than 30% except for the following compounds:

Samples: CJ75933

Preceding CC N15A003 - None.

Succeeding CC N15A017 - % Cod (surr) -32%L (30%)

**QC (Batch Specific):**

**Batch 600376 (CJ75393)**

CJ75933

All LCS recoveries were within 60 - 120 with the following exceptions: Ext. Petroleum H.C. (C9-C36)(125%)

All LCSD recoveries were within 60 - 120 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

---

### Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

**Instrument:**

**MERLIN 11/15/21 10:25**

Alex Purdue, Chemist 11/15/21

CJ75933

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

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### Mercury Narration

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

#### QC (Batch Specific):

##### Batch 600712 (CJ75398)

CJ75933

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

---

### ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

#### Instrument:

##### ARCOS 11/12/21 08:06

Cindy Pearce, Chemist 11/12/21

CJ75933

Additional criteria for CCV and ICSAB:

Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB). The linear range is defined daily by the calibration range.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

#### QC (Batch Specific):

##### Batch 600393 (CJ76008)

CJ75933

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 35% with the following exceptions: None.

Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.

---

### PCB Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

##### AU-ECD8 11/12/21-1

Saadia Chudary, Chemist 11/12/21

CJ75933 (10X)

The initial calibration (PC1025AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC1025BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds: None.

#### QC (Batch Specific):

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## RCP Certification Report

November 17, 2021

SDG I.D.: GCJ75932

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### PCB Narration

#### Batch 600357 (CJ75860)

CJ75933

All LCS recoveries were within 40 - 140 with the following exceptions: None.  
All LCSD recoveries were within 40 - 140 with the following exceptions: None.  
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

---

### PEST Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

#### AU-ECD35 11/11/21-1

Adam Werner, Chemist 11/11/21

CJ75933 (2X)

The initial calibration (PS1108AI) RSD for the compound list was less than 20% except for the following compounds: None.  
The initial calibration (PS1108BI) RSD for the compound list was less than 20% except for the following compounds: None.  
The Endrin and DDT breakdown does not exceed 15% except for the following compounds: None.  
The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds: None.  
The continuing calibration %D for the compound list was less than 20% except for the following compounds: None.

#### QC (Batch Specific):

#### Batch 600358 (CJ75860)

CJ75933

All LCS recoveries were within 40 - 140 with the following exceptions: None.  
All LCSD recoveries were within 40 - 140 with the following exceptions: None.  
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

---

### SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

#### CHEM19 11/15/21-1

Wes Bryon, Chemist 11/15/21

CJ75933 (100X)

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.  
For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM19/19\_SPLIT\_1029):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM19/1115\_03-19\_SPLIT\_1029):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.



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## RCP Certification Report

November 17, 2021

SDG I.D.: GCJ75932

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### **SVOA Narration**

The following compounds did not meet maximum % deviations: None.  
The following compounds did not meet recommended response factors: None.  
The following compounds did not meet minimum response factors: None.

**CHEM29 11/12/21-2** Wes Bryon, Chemist 11/12/21

CJ75933 (10X)

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM29/29\_BN\_1026):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM29/1112\_03-29\_BN\_1026):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

### **QC (Batch Specific):**

**Batch 600389 (CJ76040)**

CJ75933

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

---

### **VOA Narration**

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 600499H: -----**

**The QC recoveries for one or more analytes is below the method criteria. A low bias is likely. (Chloroethane, Trichlorofluoromethane)**

**QC Batch 600762H: -----**

**The QC recoveries for one or more analytes is below the method criteria. A low bias is likely. (Chloroethane, Trichlorofluoromethane)**

**Instrument:**

**CHEM31 11/11/21-2** Jane Li, Chemist 11/11/21





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## RCP Certification Report

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SDG I.D.: GCJ75932

### VOA Narration

CJ75936 (1X), CJ75937 (50X)

Initial Calibration Evaluation (CHEM31/VT-L111021):

96% of target compounds met criteria.

The following compounds had %RSDs >20%: Chloroethane 25% (20%), Methylene chloride 22% (20%), Styrene 24% (20%)

The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.073 (0.1),

Tetrachloroethene 0.183 (0.2)

The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM31/1111\_36-VT-L111021):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet Table 4 recommended minimum response factors: None.

#### **CHEM31 11/12/21-1**

Jane Li, Chemist 11/12/21

CJ75933 (50X)

Initial Calibration Evaluation (CHEM31/VT-L111021):

96% of target compounds met criteria.

The following compounds had %RSDs >20%: Chloroethane 25% (20%), Methylene chloride 22% (20%), Styrene 24% (20%)

The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.073 (0.1),

Tetrachloroethene 0.183 (0.2)

The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM31/1112\_02-VT-L111021):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet Table 4 recommended minimum response factors: None.

### QC (Batch Specific):

#### **Batch 600499 (CJ75860)**

CHEM31 11/11/2021-2

CJ75936(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

The Low Level MS/MSD are not reported for this batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

#### **Batch 600499H (CJ75860)**

CHEM31 11/11/2021-2

CJ75937(50X)

All LCS recoveries were within 70 - 130 with the following exceptions: Chloroethane(34%), Trichlorofluoromethane(26%)

All LCSD recoveries were within 70 - 130 with the following exceptions: Chloroethane(34%), Trichlorofluoromethane(27%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.



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## RCP Certification Report

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SDG I.D.: GCJ75932

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### ***VOA Narration***

**Batch 600762H (CJ76364)**      CHEM31 11/12/2021-1

CJ75933(50X)

All LCS recoveries were within 70 - 130 with the following exceptions: Chloroethane(33%), Trichlorofluoromethane(26%)

All LCSD recoveries were within 70 - 130 with the following exceptions: Chloroethane(33%), Trichlorofluoromethane(26%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

# CHAIN OF CUSTODY RECORD



587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040  
 Email: info@phoenixlabs.com Fax (860) 645-0823  
 Client Services (860) 645-8726

Coolant:  PK  ICE  No  No  
 Temp: 2.5 °C Pg 1 of 1

Data Delivery/Contact Options:

Fax:   
 Phone: 860-805-8726  
 Email: JTOisen@hybeband.com

Project P.O.: 73-5802 - OISA  
 Project: Metro Station NHFA  
 Report to: James Olson, Corey Abbotts, Brian Apps  
 Invoice to: Tigle & Bond Westfield  
 QUOTE #: DAS Pricing

This section MUST be completed with Bottle Quantities.

Sampler's Signature: *Long* Date: 11/10/21

Client Sample - Information - Identification  
 Customer Sample Identification: *B-1(3-5)* Date Sampled: 11/10/21  
 Date: 11/10/21  
 Matrix: *S*  
 Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WM=Waste Water  
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil  
 B=Bulk L=Liquid X=(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request
75932	B-1(3-5)	S	11/10/21	0900	MS/MSD, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

Relinquished by: *Long* Accepted by: *Tigle & Bond* Date: 11/10/21  
 Turnaround Time: 1 Day\*  2 Days\*  3 Days\*  Standard  Other   
 Comments, Special Requirements or Regulations: *MS/MSD*

RI	CI	MA	Data Format
<input type="checkbox"/> (Residential) Direct Exposure <input type="checkbox"/> (Comm/Industrial) Direct Exposure <input type="checkbox"/> GA Leachability <input type="checkbox"/> GB Leachability <input type="checkbox"/> GA-GW Objectives <input type="checkbox"/> GB-GW Objectives	<input checked="" type="checkbox"/> RCP Cert <input type="checkbox"/> GW Protection <input type="checkbox"/> SW Protection <input type="checkbox"/> GA Mobility <input checked="" type="checkbox"/> GB Mobility <input checked="" type="checkbox"/> Residential DEC <input type="checkbox"/> I/C DEC <input type="checkbox"/> Other	<input type="checkbox"/> MCP Certification <input type="checkbox"/> GW-1 <input type="checkbox"/> GW-2 <input type="checkbox"/> GW-3 <input type="checkbox"/> S-1 GW-1 <input type="checkbox"/> S-2 GW-1 <input type="checkbox"/> S-3 GW-1 <input type="checkbox"/> SW Protection	<input type="checkbox"/> Excel <input checked="" type="checkbox"/> PDF <input type="checkbox"/> GIS/Key <input type="checkbox"/> EQUIS <input type="checkbox"/> Other Data Package <input type="checkbox"/> Tier II Checklist <input type="checkbox"/> Full Data Package* <input checked="" type="checkbox"/> Phoenix Std Report <input type="checkbox"/> Other

\*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.  
 State where samples were collected: *CT*  
 \*SURCHARGE APPLIES



Wednesday, November 17, 2021

Attn: James Olsen  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Project ID: UNION STATION N40A  
SDG ID: GCJ77694  
Sample ID#s: CJ77694, CJ77697 - CJ77698

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. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids 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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller  
Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #M-CT007  
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  
UT Lab Registration #CT00007  
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

## Sample Id Cross Reference

November 17, 2021

SDG I.D.: GCJ77694

Project ID: UNION STATION N40A

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Client Id	Lab Id	Matrix
B-2 (5-7)	CJ77694	SOIL
TB111121 LL	CJ77697	SOIL
TB111121 HL	CJ77698	SOIL



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**Analysis Report**  
 November 17, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: SW  
 Analyzed by: see "By" below

Date            Time  
 11/11/21            9:40  
 11/15/21            13:01

Laboratory Data

SDG ID: GCJ77694  
 Phoenix ID: CJ77694

Project ID: UNION STATION N40A  
 Client ID: B-2 (5-7)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	88		%		11/15/21	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				11/15/21	O/E	SW3545A

Pesticides

4,4' -DDD	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
4,4' -DDE	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
4,4' -DDT	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
a-BHC	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
Alachlor	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
Aldrin	ND	3.8	ug/Kg	2	11/16/21	AW	SW8081B
b-BHC	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
Chlordane	ND	38	ug/Kg	2	11/16/21	AW	SW8081B
d-BHC	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
Dieldrin	ND	3.8	ug/Kg	2	11/16/21	AW	SW8081B
Endosulfan I	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
Endosulfan II	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
Endosulfan sulfate	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
Endrin	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
Endrin aldehyde	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
Endrin ketone	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
g-BHC	ND	1.5	ug/Kg	2	11/16/21	AW	SW8081B
Heptachlor	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
Heptachlor epoxide	ND	7.5	ug/Kg	2	11/16/21	AW	SW8081B
Methoxychlor	ND	38	ug/Kg	2	11/16/21	AW	SW8081B
Toxaphene	ND	150	ug/Kg	2	11/16/21	AW	SW8081B

QA/QC Surrogates

% DCBP	54		%	2	11/16/21	AW	30 - 150 %
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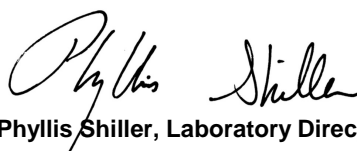
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP (Confirmation)	65		%	2	11/16/21	AW	30 - 150 %
% TCMX	44		%	2	11/16/21	AW	30 - 150 %
% TCMX (Confirmation)	54		%	2	11/16/21	AW	30 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 17, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
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 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 17, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: SW  
 Analyzed by: see "By" below

Date                      Time  
 11/11/21  
 11/15/21                      13:01

Laboratory Data

SDG ID: GCJ77694  
 Phoenix ID: CJ77697

Project ID: UNION STATION N40A  
 Client ID: TB111121 LL

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Field Extraction	Completed				11/11/21		SW5035A
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1-Dichloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1-Dichloroethene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1-Dichloropropene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2-Dibromoethane	ND	0.50	ug/Kg	1	11/16/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2-Dichloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2-Dichloropropane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,3-Dichloropropane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
2,2-Dichloropropane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
2-Chlorotoluene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
2-Hexanone	ND	25	ug/Kg	1	11/16/21	JLI	SW8260C
2-Isopropyltoluene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Chlorotoluene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	25	ug/Kg	1	11/16/21	JLI	SW8260C
Acetone	ND	250	ug/Kg	1	11/16/21	JLI	SW8260C
Acrylonitrile	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Benzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Bromobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Bromochloromethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Bromodichloromethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Bromoform	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Bromomethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Carbon Disulfide	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Carbon tetrachloride	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Chloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Chloroform	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Chloromethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Dibromochloromethane	ND	3.0	ug/Kg	1	11/16/21	JLI	SW8260C
Dibromomethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Ethylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Hexachlorobutadiene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Isopropylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
m&p-Xylene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	30	ug/Kg	1	11/16/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	11/16/21	JLI	SW8260C
Methylene chloride	ND	10	ug/Kg	1	11/16/21	JLI	SW8260C
Naphthalene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
n-Butylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
n-Propylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
o-Xylene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
p-Isopropyltoluene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
sec-Butylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Styrene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
tert-Butylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Tetrachloroethene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	10	ug/Kg	1	11/16/21	JLI	SW8260C
Toluene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Total Xylenes	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	11/16/21	JLI	SW8260C
Trichloroethene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Trichlorofluoromethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	10	ug/Kg	1	11/16/21	JLI	SW8260C
Vinyl chloride	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4	94		%	1	11/16/21	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Bromofluorobenzene	96		%	1	11/16/21	JLI	70 - 130 %
% Dibromofluoromethane	95		%	1	11/16/21	JLI	70 - 130 %
% Toluene-d8	91		%	1	11/16/21	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

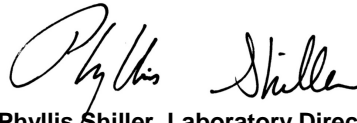
**Comments:**

TRIP BLANK INCLUDED.

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 17, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



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 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 17, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: SW  
 Analyzed by: see "By" below

Date                      Time  
 11/11/21  
 11/15/21                      13:01

Laboratory Data

SDG ID: GCJ77694  
 Phoenix ID: CJ77698

Project ID: UNION STATION N40A  
 Client ID: TB111121 HL

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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Field Extraction	Completed				11/11/21		SW5035A
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**Volatiles**

1,1,1,2-Tetrachloroethane	ND	200	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	100	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloroethane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloroethene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloropropene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	100	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dibromoethane	ND	100	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichloroethane	ND	200	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichloropropane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,3-Dichloropropane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
2,2-Dichloropropane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
2-Chlorotoluene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
2-Hexanone	ND	1300	ug/Kg	50	11/16/21	JLI	SW8260C
2-Isopropyltoluene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Chlorotoluene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	1300	ug/Kg	50	11/16/21	JLI	SW8260C
Acetone	ND	5000	ug/Kg	50	11/16/21	JLI	SW8260C
Acrylonitrile	ND	100	ug/Kg	50	11/16/21	JLI	SW8260C
Benzene	ND	200	ug/Kg	50	11/16/21	JLI	SW8260C
Bromobenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Bromochloromethane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Bromodichloromethane	ND	210	ug/Kg	50	11/16/21	JLI	SW8260C
Bromoform	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Bromomethane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Carbon Disulfide	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Carbon tetrachloride	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Chlorobenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Chloroethane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Chloroform	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Chloromethane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	100	ug/Kg	50	11/16/21	JLI	SW8260C
Dibromochloromethane	ND	100	ug/Kg	50	11/16/21	JLI	SW8260C
Dibromomethane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Dichlorodifluoromethane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Ethylbenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Hexachlorobutadiene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Isopropylbenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
m&p-Xylene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	3000	ug/Kg	50	11/16/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Methylene chloride	ND	500	ug/Kg	50	11/16/21	JLI	SW8260C
Naphthalene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
n-Butylbenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
n-Propylbenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
o-Xylene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
p-Isopropyltoluene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
sec-Butylbenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Styrene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
tert-Butylbenzene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Tetrachloroethene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	500	ug/Kg	50	11/16/21	JLI	SW8260C
Toluene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Total Xylenes	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	100	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	500	ug/Kg	50	11/16/21	JLI	SW8260C
Trichloroethene	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Trichlorofluoromethane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
Vinyl chloride	ND	250	ug/Kg	50	11/16/21	JLI	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4 (50x)	96		%	50	11/16/21	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Bromofluorobenzene (50x)	97		%	50	11/16/21	JLI	70 - 130 %
% Dibromofluoromethane (50x)	94		%	50	11/16/21	JLI	70 - 130 %
% Toluene-d8 (50x)	91		%	50	11/16/21	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TRIP BLANK INCLUDED.

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 17, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



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

November 17, 2021

## QA/QC Data

SDG I.D.: GCJ77694

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 600763 (ug/Kg), QC Sample No: CJ77714 2X (CJ77694)

### Pesticides - Soil

4,4' -DDD	ND	1.7	63	60	4.9	64	69	7.5	40 - 140	30
4,4' -DDE	ND	1.7	63	61	3.2	62	69	10.7	40 - 140	30
4,4' -DDT	ND	1.7	59	58	1.7	63	70	10.5	40 - 140	30
a-BHC	ND	1.0	57	56	1.8	52	56	7.4	40 - 140	30
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30
Aldrin	ND	1.0	58	56	3.5	52	59	12.6	40 - 140	30
b-BHC	ND	1.0	69	67	2.9	67	72	7.2	40 - 140	30
Chlordane	ND	33	63	63	0.0	61	67	9.4	40 - 140	30
d-BHC	ND	3.3	47	59	22.6	57	54	5.4	40 - 140	30
Dieldrin	ND	1.0	62	60	3.3	57	63	10.0	40 - 140	30
Endosulfan I	ND	3.3	66	62	6.3	61	67	9.4	40 - 140	30
Endosulfan II	ND	3.3	73	71	2.8	66	73	10.1	40 - 140	30
Endosulfan sulfate	ND	3.3	74	73	1.4	71	77	8.1	40 - 140	30
Endrin	ND	3.3	62	60	3.3	58	65	11.4	40 - 140	30
Endrin aldehyde	ND	3.3	60	60	0.0	63	67	6.2	40 - 140	30
Endrin ketone	ND	3.3	68	65	4.5	57	63	10.0	40 - 140	30
g-BHC	ND	1.0	61	60	1.7	67	85	23.7	40 - 140	30
Heptachlor	ND	3.3	58	56	3.5	52	58	10.9	40 - 140	30
Heptachlor epoxide	ND	3.3	61	59	3.3	56	61	8.5	40 - 140	30
Methoxychlor	ND	3.3	64	60	6.5	59	64	8.1	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	104	%	82	83	1.2	75	81	7.7	30 - 150	30
% DCBP (Confirmation)	77	%	62	63	1.6	59	74	22.6	30 - 150	30
% TCMX	85	%	68	70	2.9	62	68	9.2	30 - 150	30
% TCMX (Confirmation)	84	%	67	69	2.9	61	68	10.9	30 - 150	30

QA/QC Batch 601089 (ug/kg), QC Sample No: CJ77734 (CJ77697)

### Volatiles - Soil (Low Level)

1,1,1,2-Tetrachloroethane	ND	5.0	108	107	0.9	98	100	2.0	70 - 130	30
1,1,1-Trichloroethane	ND	5.0	96	97	1.0	91	92	1.1	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0	103	105	1.9	98	100	2.0	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	100	100	0.0	97	98	1.0	70 - 130	30
1,1-Dichloroethane	ND	5.0	116	117	0.9	112	111	0.9	70 - 130	30
1,1-Dichloroethene	ND	5.0	93	93	0.0	86	85	1.2	70 - 130	30
1,1-Dichloropropene	ND	5.0	100	99	1.0	92	94	2.2	70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	118	111	6.1	86	93	7.8	70 - 130	30
1,2,3-Trichloropropane	ND	5.0	96	100	4.1	93	94	1.1	70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	119	107	10.6	85	91	6.8	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	104	102	1.9	89	93	4.4	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	116	117	0.9	107	112	4.6	70 - 130	30
1,2-Dibromoethane	ND	5.0	109	107	1.9	103	103	0.0	70 - 130	30
1,2-Dichlorobenzene	ND	5.0	108	105	2.8	95	97	2.1	70 - 130	30

## QA/QC Data

SDG I.D.: GCJ77694

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
1,2-Dichloroethane	ND	5.0	102	103	1.0	94	96	2.1	70 - 130	30
1,2-Dichloropropane	ND	5.0	99	100	1.0	95	97	2.1	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	105	103	1.9	88	93	5.5	70 - 130	30
1,3-Dichlorobenzene	ND	5.0	105	101	3.9	89	92	3.3	70 - 130	30
1,3-Dichloropropane	ND	5.0	106	104	1.9	101	101	0.0	70 - 130	30
1,4-Dichlorobenzene	ND	5.0	108	102	5.7	90	93	3.3	70 - 130	30
2,2-Dichloropropane	ND	5.0	101	102	1.0	89	80	10.7	70 - 130	30
2-Chlorotoluene	ND	5.0	107	104	2.8	96	97	1.0	70 - 130	30
2-Hexanone	ND	25	102	106	3.8	92	99	7.3	70 - 130	30
2-Isopropyltoluene	ND	5.0	104	103	1.0	84	93	10.2	70 - 130	30
4-Chlorotoluene	ND	5.0	107	103	3.8	92	95	3.2	70 - 130	30
4-Methyl-2-pentanone	ND	25	104	105	1.0	97	102	5.0	70 - 130	30
Acetone	ND	10	89	84	5.8	NC	NC	NC	70 - 130	30
Acrylonitrile	ND	5.0	137	138	0.7	125	127	1.6	70 - 130	30
Benzene	ND	1.0	97	97	0.0	95	95	0.0	70 - 130	30
Bromobenzene	ND	5.0	108	108	0.0	102	101	1.0	70 - 130	30
Bromochloromethane	ND	5.0	96	99	3.1	92	93	1.1	70 - 130	30
Bromodichloromethane	ND	5.0	103	104	1.0	94	97	3.1	70 - 130	30
Bromoform	ND	5.0	110	108	1.8	95	99	4.1	70 - 130	30
Bromomethane	ND	5.0	101	100	1.0	91	93	2.2	70 - 130	30
Carbon Disulfide	ND	5.0	84	84	0.0	78	77	1.3	70 - 130	30
Carbon tetrachloride	ND	5.0	98	99	1.0	86	87	1.2	70 - 130	30
Chlorobenzene	ND	5.0	103	101	2.0	96	97	1.0	70 - 130	30
Chloroethane	ND	5.0	94	94	0.0	87	85	2.3	70 - 130	30
Chloroform	ND	5.0	93	94	1.1	90	90	0.0	70 - 130	30
Chloromethane	ND	5.0	98	96	2.1	87	84	3.5	70 - 130	30
cis-1,2-Dichloroethene	ND	5.0	96	95	1.0	93	94	1.1	70 - 130	30
cis-1,3-Dichloropropene	ND	5.0	105	105	0.0	97	98	1.0	70 - 130	30
Dibromochloromethane	ND	3.0	109	110	0.9	99	101	2.0	70 - 130	30
Dibromomethane	ND	5.0	105	106	0.9	98	101	3.0	70 - 130	30
Dichlorodifluoromethane	ND	5.0	108	106	1.9	89	94	5.5	70 - 130	30
Ethylbenzene	ND	1.0	104	101	2.9	98	99	1.0	70 - 130	30
Hexachlorobutadiene	ND	5.0	108	99	8.7	51	80	44.3	70 - 130	30
Isopropylbenzene	ND	1.0	103	104	1.0	92	97	5.3	70 - 130	30
m&p-Xylene	ND	2.0	102	100	2.0	96	97	1.0	70 - 130	30
Methyl ethyl ketone	ND	5.0	92	97	5.3	78	85	8.6	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	94	95	1.1	88	86	2.3	70 - 130	30
Methylene chloride	ND	5.0	83	86	3.6	83	83	0.0	70 - 130	30
Naphthalene	ND	5.0	116	116	0.0	99	103	4.0	70 - 130	30
n-Butylbenzene	ND	1.0	111	103	7.5	72	87	18.9	70 - 130	30
n-Propylbenzene	ND	1.0	107	103	3.8	87	94	7.7	70 - 130	30
o-Xylene	ND	2.0	103	101	2.0	98	98	0.0	70 - 130	30
p-Isopropyltoluene	ND	1.0	106	103	2.9	79	91	14.1	70 - 130	30
sec-Butylbenzene	ND	1.0	103	101	2.0	77	89	14.5	70 - 130	30
Styrene	ND	5.0	104	102	1.9	97	98	1.0	70 - 130	30
tert-Butylbenzene	ND	1.0	103	103	0.0	86	95	9.9	70 - 130	30
Tetrachloroethene	ND	5.0	102	97	5.0	89	92	3.3	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	88	93	5.5	83	89	7.0	70 - 130	30
Toluene	ND	1.0	99	99	0.0	96	96	0.0	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	92	92	0.0	87	85	2.3	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	110	109	0.9	97	97	0.0	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	118	118	0.0	100	99	1.0	70 - 130	30
Trichloroethene	ND	5.0	100	98	2.0	94	95	1.1	70 - 130	30

## QA/QC Data

SDG I.D.: GCJ77694

Parameter	BIK		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Trichlorofluoromethane	ND	5.0	100	98	2.0	84	85	1.2	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	88	84	4.7	73	75	2.7	70 - 130	30
Vinyl chloride	ND	5.0	101	99	2.0	94	92	2.2	70 - 130	30
% 1,2-dichlorobenzene-d4	94	%	100	100	0.0	100	100	0.0	70 - 130	30
% Bromofluorobenzene	97	%	100	99	1.0	98	98	0.0	70 - 130	30
% Dibromofluoromethane	98	%	95	96	1.0	95	96	1.0	70 - 130	30
% Toluene-d8	92	%	100	99	1.0	99	100	1.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Batch 601089H (ug/kg), QC Sample No: CJ77734 (CJ77698 (50X) )

### Volatiles - Soil (High Level)

1,1,1,2-Tetrachloroethane	ND	5.0	112	112	0.0	90	104	14.4	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	103	102	1.0	86	98	13.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	5.0	108	110	1.8	96	111	14.5	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	105	108	2.8	95	107	11.9	70 - 130	30	
1,1-Dichloroethane	ND	5.0	123	125	1.6	107	121	12.3	70 - 130	30	
1,1-Dichloroethene	ND	5.0	94	93	1.1	83	93	11.4	70 - 130	30	
1,1-Dichloropropene	ND	5.0	111	112	0.9	97	110	12.6	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	131	133	1.5	109	128	16.0	70 - 130	30	I
1,2,3-Trichloropropane	ND	5.0	103	104	1.0	93	106	13.1	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	132	132	0.0	111	125	11.9	70 - 130	30	I
1,2,4-Trimethylbenzene	ND	5.0	116	117	0.9	104	115	10.0	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	120	122	1.7	96	119	21.4	70 - 130	30	
1,2-Dibromoethane	ND	5.0	114	115	0.9	100	114	13.1	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	119	121	1.7	104	118	12.6	70 - 130	30	
1,2-Dichloroethane	ND	5.0	107	108	0.9	92	103	11.3	70 - 130	30	
1,2-Dichloropropane	ND	5.0	106	108	1.9	94	107	12.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	5.0	117	118	0.9	105	116	10.0	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	117	117	0.0	102	113	10.2	70 - 130	30	
1,3-Dichloropropane	ND	5.0	111	111	0.0	99	111	11.4	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	120	121	0.8	104	116	10.9	70 - 130	30	
2,2-Dichloropropane	ND	5.0	103	102	1.0	79	92	15.2	70 - 130	30	
2-Chlorotoluene	ND	5.0	119	121	1.7	106	118	10.7	70 - 130	30	
2-Hexanone	ND	25	101	102	1.0	89	108	19.3	70 - 130	30	
2-Isopropyltoluene	ND	5.0	118	120	1.7	105	117	10.8	70 - 130	30	
4-Chlorotoluene	ND	5.0	120	119	0.8	106	116	9.0	70 - 130	30	
4-Methyl-2-pentanone	ND	25	106	106	0.0	91	108	17.1	70 - 130	30	
Acetone	ND	10	68	66	3.0	58	70	18.8	70 - 130	30	I,m
Acrylonitrile	ND	5.0	139	145	4.2	120	144	18.2	70 - 130	30	I,m
Benzene	ND	5.0	108	110	1.8	96	108	11.8	70 - 130	30	
Bromobenzene	ND	5.0	119	120	0.8	106	118	10.7	70 - 130	30	
Bromochloromethane	ND	5.0	101	102	1.0	89	101	12.6	70 - 130	30	
Bromodichloromethane	ND	5.0	108	107	0.9	86	101	16.0	70 - 130	30	
Bromoform	ND	5.0	106	106	0.0	79	96	19.4	70 - 130	30	
Bromomethane	ND	5.0	65	65	0.0	53	62	15.7	70 - 130	30	I,m
Carbon Disulfide	ND	5.0	88	89	1.1	76	86	12.3	70 - 130	30	
Carbon tetrachloride	ND	5.0	98	99	1.0	72	87	18.9	70 - 130	30	
Chlorobenzene	ND	5.0	114	116	1.7	102	112	9.3	70 - 130	30	
Chloroethane	ND	5.0	24	25	4.1	22	24	8.7	70 - 130	30	I,m
Chloroform	ND	5.0	99	101	2.0	87	98	11.9	70 - 130	30	
Chloromethane	ND	5.0	107	107	0.0	88	101	13.8	70 - 130	30	



QA/QC Data

SDG I.D.: GCJ77694

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
cis-1,2-Dichloroethene	ND	5.0	102	107	4.8	90	101	11.5	70 - 130	30
cis-1,3-Dichloropropene	ND	5.0	110	111	0.9	89	104	15.5	70 - 130	30
Dibromochloromethane	ND	3.0	111	110	0.9	86	103	18.0	70 - 130	30
Dibromomethane	ND	5.0	111	111	0.0	96	111	14.5	70 - 130	30
Dichlorodifluoromethane	ND	5.0	116	123	5.9	98	110	11.5	70 - 130	30
Ethylbenzene	ND	5.0	117	118	0.9	112	118	5.2	70 - 130	30
Hexachlorobutadiene	ND	5.0	127	132	3.9	113	125	10.1	70 - 130	30
Isopropylbenzene	ND	5.0	117	119	1.7	106	119	11.6	70 - 130	30
m&p-Xylene	ND	5.0	113	116	2.6	116	117	0.9	70 - 130	30
Methyl ethyl ketone	ND	5.0	93	92	1.1	80	93	15.0	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	5.0	94	95	1.1	83	95	13.5	70 - 130	30
Methylene chloride	ND	5.0	87	89	2.3	78	86	9.8	70 - 130	30
Naphthalene	ND	5.0	127	128	0.8	105	127	19.0	70 - 130	30
n-Butylbenzene	ND	5.0	127	126	0.8	111	123	10.3	70 - 130	30
n-Propylbenzene	ND	5.0	120	120	0.0	108	120	10.5	70 - 130	30
o-Xylene	ND	5.0	114	115	0.9	110	116	5.3	70 - 130	30
p-Isopropyltoluene	ND	5.0	123	123	0.0	109	120	9.6	70 - 130	30
sec-Butylbenzene	ND	5.0	117	119	1.7	106	117	9.9	70 - 130	30
Styrene	ND	5.0	114	115	0.9	102	114	11.1	70 - 130	30
tert-Butylbenzene	ND	5.0	118	120	1.7	105	117	10.8	70 - 130	30
Tetrachloroethene	ND	5.0	116	117	0.9	102	113	10.2	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	90	92	2.2	80	95	17.1	70 - 130	30
Toluene	ND	5.0	111	114	2.7	99	112	12.3	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	97	98	1.0	85	95	11.1	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	111	111	0.0	88	103	15.7	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	116	113	2.6	87	109	22.4	70 - 130	30
Trichloroethene	ND	5.0	110	112	1.8	98	109	10.6	70 - 130	30
Trichlorofluoromethane	ND	5.0	21	21	0.0	18	20	10.5	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	91	91	0.0	80	88	9.5	70 - 130	30
Vinyl chloride	ND	5.0	116	122	5.0	95	114	18.2	70 - 130	30
% 1,2-dichlorobenzene-d4	93	%	100	100	0.0	99	100	1.0	70 - 130	30
% Bromofluorobenzene	96	%	98	98	0.0	97	97	0.0	70 - 130	30
% Dibromofluoromethane	94	%	92	91	1.1	91	92	1.1	70 - 130	30
% Toluene-d8	91	%	100	101	1.0	99	101	2.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

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

Intf - Interference

  
 Phyllis Shiller, Laboratory Director  
 November 17, 2021

Wednesday, November 17, 2021

Criteria: CT: GBM, RC

State: CT

## Sample Criteria Exceedances Report

GCJ77694 - TIGHE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CJ77698	\$8260MER	1,2-Dibromo-3-chloropropane	CT / RSR DEC RES (mg/kg) / APS Organics	ND	100	90	90	ug/Kg
CJ77698	\$8260MER	1,2-Dibromoethane	CT / RSR DEC RES (mg/kg) / Volatiles	ND	100	7	7	ug/Kg
CJ77698	\$8260MER	1,2-Dibromo-3-chloropropane	CT / RSR GB (mg/kg) / APS Organics	ND	100	40	40	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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.



## REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

**Laboratory Name:** Phoenix Environmental Labs, Inc.

**Client:** Tighe & Bond

**Project Location:** UNION STATION N40A

**Project Number:**

**Laboratory Sample ID(s):** CJ77694,  
CJ77697, CJ77698

**Sampling Date(s):** 11/11/2021

**List RCP Methods Used (e.g., 8260, 8270, et cetera)** 8081, 8260

<b>1</b>	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1A</b>	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1B</b>	<u>YPH and EPH methods only:</u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<b>2</b>	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>3</b>	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<b>4</b>	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Section: VOA Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>5</b>	a) Were reporting limits specified or referenced on the chain-of-custody?  b) Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>6</b>	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>7</b>	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

**I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.**

**Authorized Signature:**  **Position:** Assistant Lab Director

**Printed Name:** Greg Lawrence **Date:** Wednesday, November 17, 2021

**Name of Laboratory** Phoenix Environmental Labs, Inc.

**This certification form is to be used for RCP methods only.**



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

November 17, 2021

SDG I.D.: GCJ77694

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### PEST Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

AU-ECD4 11/16/21-2 Adam Werner, Chemist 11/16/21

CJ77694 (2X)

The initial calibration (PS1103AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PS1103BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CJ77694

Preceding CC N16B038 - Methoxychlor -22%L (20%)

Succeeding CC N16B046 - Methoxychlor -22%L (20%)

A low "1A" standard was run after the samples to demonstrate capability to detect any compounds outside of the CC acceptance criteria. All reported samples were ND for the affected compounds.

#### QC (Batch Specific):

Batch 600763 (CJ77714)

CJ77694

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

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### VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 601089 (Samples: CJ77697): -----**

**The LCS/LCSD recovery is above the upper range for one analyte that was not reported in the sample(s). No significant bias is suspected. (Acrylonitrile)**

**QC Batch 601089H: -----**

**Several QC recoveries are below the lower range. A low bias is possible. (Acetone)**

**The LCS and/or the LCSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, Hexachlorobutadiene)**

**The QC recoveries for one analyte are below the lower range. A low bias is possible. (Bromomethane)**

**The QC recoveries for one or more analytes is below the method criteria. A low bias is likely. (Chloroethane, Trichlorofluoromethane)**

**The QC recovery for one analyte are above the upper range but was not reported in the sample(s), therefore no significant bias is suspected. (Acrylonitrile)**

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## RCP Certification Report

November 17, 2021

SDG I.D.: GCJ77694

---

### VOA Narration

#### Instrument:

**CHEM14 11/16/21-1** Jane Li, Chemist 11/16/21

CJ77697 (1X), CJ77698 (50X)

Initial Calibration Evaluation (CHEM14/VT111421):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone 21% (20%)

The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.066 (0.1)

The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM14/1116\_03-VT111421):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

98% of target compounds met criteria.

The following compounds did not meet % deviation criteria: Acrylonitrile 32%H (30%)

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.048 (0.05)

#### QC (Batch Specific):

**Batch 601089 (CJ77734)** CHEM14 11/16/2021-1

CJ77697(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: Acrylonitrile(137%)

All LCSD recoveries were within 70 - 130 with the following exceptions: Acrylonitrile(138%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

**Batch 601089H (CJ77734)** CHEM14 11/16/2021-1

CJ77698(50X)

All LCS recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(131%), 1,2,4-

Trichlorobenzene(132%), Acetone(68%), Acrylonitrile(139%), Bromomethane(65%), Chloroethane(24%),

Trichlorofluoromethane(21%)

All LCSD recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(133%), 1,2,4-

Trichlorobenzene(132%), Acetone(66%), Acrylonitrile(145%), Bromomethane(65%), Chloroethane(25%),

Hexachlorobutadiene(132%), Trichlorofluoromethane(21%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

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### Temperature Narration

The samples were received at 2.4C with cooling initiated.

(Note acceptance criteria for relevant matrices is above freezing up to 6°C)





Wednesday, November 24, 2021

Attn: James Olsen  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Project ID: UNION STATION NHPA  
SDG ID: GCJ77699  
Sample ID#s: CJ77699 - CJ77700, CJ77702, CJ77704 - CJ77705, CJ77707 - CJ77708

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. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids 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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller  
Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #M-CT007  
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  
UT Lab Registration #CT00007  
VT Lab Registration #VT11301



Environmental Laboratories, Inc.  
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Tel. (860) 645-1102 Fax (860) 645-0823

## Sample Id Cross Reference

November 24, 2021

SDG I.D.: GCJ77699

Project ID: UNION STATION NHPA

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Client Id	Lab Id	Matrix
B-2A (7-9)	CJ77699	SOIL
B-3 (3-5)	CJ77700	SOIL
B-3 (7-9)	CJ77702	SOIL
B-4 (3-5)	CJ77704	SOIL
B-4 (7-9)	CJ77705	SOIL
TB111221L	CJ77707	SOIL
TB111221H	CJ77708	SOIL





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**Analysis Report**  
 November 24, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: B-5002-015A

Custody Information

Collected by:  
 Received by: LB  
 Analyzed by: see "By" below

Date                      Time  
 11/12/21                      8:30  
 11/15/21                      13:01

Laboratory Data

SDG ID: GCJ77699  
 Phoenix ID: CJ77699

Project ID: UNION STATION NHPA  
 Client ID: B-2A (7-9)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.36	0.36	mg/Kg	1	11/16/21	TH	SW6010D
Arsenic	< 0.73	0.73	mg/Kg	1	11/16/21	TH	SW6010D
Barium	12.8	0.36	mg/Kg	1	11/16/21	TH	SW6010D
Beryllium	< 0.29	0.29	mg/Kg	1	11/16/21	TH	SW6010D
Cadmium	< 0.36	0.36	mg/Kg	1	11/16/21	TH	SW6010D
Chromium	6.27	0.36	mg/Kg	1	11/16/21	TH	SW6010D
Copper	4.7	0.7	mg/kg	1	11/16/21	TH	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	11/16/21	AP	SW7471B
Nickel	3.34	0.36	mg/Kg	1	11/16/21	TH	SW6010D
Lead	2.98	0.36	mg/Kg	1	11/16/21	TH	SW6010D
Antimony	< 3.6	3.6	mg/Kg	1	11/16/21	TH	SW6010D
Selenium	< 1.5	1.5	mg/Kg	1	11/16/21	TH	SW6010D
Thallium	< 3.3	3.3	mg/Kg	1	11/16/21	TH	SW6010D
Vanadium	17.4	0.36	mg/Kg	1	11/16/21	TH	SW6010D
Zinc	12.0	0.7	mg/Kg	1	11/16/21	TH	SW6010D
Percent Solid	84		%		11/15/21	JS	SW846-%Solid
Soil Extraction for PCB	Completed				11/15/21	O/Y	SW3545A
Field Extraction	Completed				11/12/21		SW5035A
Mercury Digestion	Completed				11/16/21	AB/AB	SW7471B
Extraction of ETPH	Completed				11/15/21	I/Y	SW3546
Soil Extraction for SVOA PAH	Completed				11/15/21	I/E	SW3546
Total Metals Digest	Completed				11/15/21	M/AG	SW3050B

**TPH by GC (Extractable Products)**

Ext. Petroleum H.C. (C9-C36)	5200	590	mg/Kg	10	11/16/21	JRB	CTETPH 8015D
Identification	**		mg/Kg	10	11/16/21	JRB	CTETPH 8015D

**QA/QC Surrogates**

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% COD (surr)	Diluted Out		%	10	11/16/21	JRB	50 - 150 %
% Terphenyl (surr)	Diluted Out		%	10	11/16/21	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	400	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1221	ND	400	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1232	ND	400	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1242	ND	400	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1248	ND	400	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1254	ND	400	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1260	ND	400	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1262	ND	400	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1268	ND	400	ug/Kg	10	11/16/21	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	104		%	10	11/16/21	SC	30 - 150 %
% DCBP (Confirmation)	83		%	10	11/16/21	SC	30 - 150 %
% TCMX	80		%	10	11/16/21	SC	30 - 150 %
% TCMX (Confirmation)	78		%	10	11/16/21	SC	30 - 150 %
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	200	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,1,2,2-Tetrachloroethane	ND	140	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloroethane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloroethene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloropropene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	140	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dibromoethane	ND	140	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichloroethane	ND	200	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichloropropane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,3-Dichloropropane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
2,2-Dichloropropane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
2-Chlorotoluene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
2-Hexanone	ND	1800	ug/Kg	50	11/16/21	JLI	SW8260C
2-Isopropyltoluene	420	360	ug/Kg	50	11/16/21	JLI	SW8260C
4-Chlorotoluene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	1800	ug/Kg	50	11/16/21	JLI	SW8260C
Acetone	ND	18000	ug/Kg	50	11/16/21	JLI	SW8260C
Acrylonitrile	ND	100	ug/Kg	50	11/16/21	JLI	SW8260C
Benzene	ND	200	ug/Kg	50	11/16/21	JLI	SW8260C
Bromobenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Bromochloromethane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Bromodichloromethane	ND	210	ug/Kg	50	11/16/21	JLI	SW8260C
Bromoform	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Bromomethane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Carbon Disulfide	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Carbon tetrachloride	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Chlorobenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Chloroethane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Chloroform	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Chloromethane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	140	ug/Kg	50	11/16/21	JLI	SW8260C
Dibromochloromethane	ND	140	ug/Kg	50	11/16/21	JLI	SW8260C
Dibromomethane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Dichlorodifluoromethane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Ethylbenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Hexachlorobutadiene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Isopropylbenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
m&p-Xylene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	2200	ug/Kg	50	11/16/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	720	ug/Kg	50	11/16/21	JLI	SW8260C
Methylene chloride	ND	720	ug/Kg	50	11/16/21	JLI	SW8260C
Naphthalene	310	290	ug/Kg	50	11/16/21	JLI	SW8260C
n-Butylbenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
n-Propylbenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
o-Xylene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
p-Isopropyltoluene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
sec-Butylbenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Styrene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
tert-Butylbenzene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Tetrachloroethene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	720	ug/Kg	50	11/16/21	JLI	SW8260C
Toluene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Total Xylenes	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	140	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	720	ug/Kg	50	11/16/21	JLI	SW8260C
Trichloroethene	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Trichlorofluoromethane	ND	360	ug/Kg	50	11/16/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	720	ug/Kg	50	11/16/21	JLI	SW8260C
Vinyl chloride	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4 (50x)	95		%	50	11/16/21	JLI	70 - 130 %
% Bromofluorobenzene (50x)	123		%	50	11/16/21	JLI	70 - 130 %
% Dibromofluoromethane (50x)	95		%	50	11/16/21	JLI	70 - 130 %
% Toluene-d8 (50x)	93		%	50	11/16/21	JLI	70 - 130 %
<b><u>Polynuclear Aromatic HC</u></b>							
2-Methylnaphthalene	4100	270	ug/Kg	1	11/16/21	WB	SW8270D
Acenaphthene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acenaphthylene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Anthracene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Benz(a)anthracene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Benzo(a)pyrene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Benzo(b)fluoranthene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Benzo(ghi)perylene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Benzo(k)fluoranthene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Chrysene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Fluoranthene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Fluorene	670	270	ug/Kg	1	11/16/21	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Naphthalene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
Phenanthrene	720	270	ug/Kg	1	11/16/21	WB	SW8270D
Pyrene	ND	270	ug/Kg	1	11/16/21	WB	SW8270D
<b>QA/QC Surrogates</b>							
% 2-Fluorobiphenyl	73		%	1	11/16/21	WB	30 - 130 %
% Nitrobenzene-d5	66		%	1	11/16/21	WB	30 - 130 %
% Terphenyl-d14	94		%	1	11/16/21	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
 QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TPH Comment:

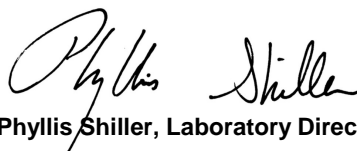
\*\*Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C22. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of non-target compounds.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 24, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 24, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: B-5002-015A

Custody Information

Collected by:  
 Received by: LB  
 Analyzed by: see "By" below

Date            Time  
 11/12/21        9:10  
 11/15/21        13:01

Laboratory Data

SDG ID: GCJ77699  
 Phoenix ID: CJ77700

Project ID: UNION STATION NHPA  
 Client ID: B-3 (3-5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		11/15/21	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				11/15/21	O/E	SW3545A

Pesticides

4,4' -DDD	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
4,4' -DDE	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
4,4' -DDT	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
a-BHC	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
Alachlor	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
Aldrin	ND	3.5	ug/Kg	2	11/16/21	AW	SW8081B
b-BHC	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
Chlordane	ND	35	ug/Kg	2	11/16/21	AW	SW8081B
d-BHC	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
Dieldrin	ND	3.5	ug/Kg	2	11/16/21	AW	SW8081B
Endosulfan I	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
Endosulfan II	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
Endosulfan sulfate	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
Endrin	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
Endrin aldehyde	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
Endrin ketone	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
g-BHC	ND	1.4	ug/Kg	2	11/16/21	AW	SW8081B
Heptachlor	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
Heptachlor epoxide	ND	7.0	ug/Kg	2	11/16/21	AW	SW8081B
Methoxychlor	ND	35	ug/Kg	2	11/16/21	AW	SW8081B
Toxaphene	ND	140	ug/Kg	2	11/16/21	AW	SW8081B

QA/QC Surrogates

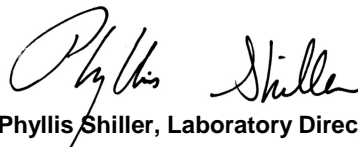
% DCBP	85		%	2	11/16/21	AW	30 - 150 %
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Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP (Confirmation)	86		%	2	11/16/21	AW	30 - 150 %
% TCMX	52		%	2	11/16/21	AW	30 - 150 %
% TCMX (Confirmation)	58		%	2	11/16/21	AW	30 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.  
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.  
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**Phyllis Shiller, Laboratory Director**

**November 24, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



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**Analysis Report**  
 November 24, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: B-5002-015A

Custody Information

Collected by:  
 Received by: LB  
 Analyzed by: see "By" below

Date                      Time  
 11/12/21                      9:50  
 11/15/21                      13:01

Laboratory Data

SDG ID: GCJ77699  
 Phoenix ID: CJ77702

Project ID: UNION STATION NHPA  
 Client ID: B-3 (7-9)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.75	0.75	mg/Kg	1	11/16/21	TH	SW6010D
Arsenic	< 1.5	1.5	mg/Kg	1	11/16/21	TH	SW6010D
Barium	34.8	0.75	mg/Kg	1	11/16/21	TH	SW6010D
Beryllium	< 0.60	0.60	mg/Kg	1	11/16/21	TH	SW6010D
Cadmium	< 0.75	0.75	mg/Kg	1	11/16/21	TH	SW6010D
Chromium	9.64	0.75	mg/Kg	1	11/16/21	TH	SW6010D
Copper	10.7	1.5	mg/kg	1	11/16/21	TH	SW6010D
Mercury	< 0.05	0.05	mg/Kg	2	11/16/21	AP	SW7471B
Nickel	7.32	0.75	mg/Kg	1	11/16/21	TH	SW6010D
Lead	7.06	0.75	mg/Kg	1	11/16/21	TH	SW6010D
Antimony	< 7.5	7.5	mg/Kg	1	11/16/21	TH	SW6010D
Selenium	< 3.0	3.0	mg/Kg	1	11/16/21	TH	SW6010D
Thallium	< 5.0	5.0	mg/Kg	1	11/16/21	TH	SW6010D
Vanadium	26.0	0.75	mg/Kg	1	11/16/21	TH	SW6010D
Zinc	21.4	1.5	mg/Kg	1	11/16/21	TH	SW6010D
Percent Solid	45		%		11/15/21	JS	SW846-%Solid
Soil Extraction for PCB	Completed				11/15/21	O/Y	SW3545A
Field Extraction	Completed				11/12/21		SW5035A
Mercury Digestion	Completed				11/16/21	AB/AB	SW7471B
Extraction of ETPH	Completed				11/15/21	I/Y	SW3546
Soil Extraction for SVOA PAH	Completed				11/15/21	I/E	SW3546
Total Metals Digest	Completed				11/15/21	M/AG	SW3050B

**TPH by GC (Extractable Products)**

Ext. Petroleum H.C. (C9-C36)	15000	1100	mg/Kg	10	11/16/21	JRB	CTETPH 8015D
Identification	**		mg/Kg	10	11/16/21	JRB	CTETPH 8015D

**QA/QC Surrogates**

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% COD (surr)	Diluted Out		%	10	11/16/21	JRB	50 - 150 %
% Terphenyl (surr)	Diluted Out		%	10	11/16/21	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	730	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1221	ND	730	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1232	ND	730	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1242	ND	730	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1248	ND	730	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1254	ND	730	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1260	ND	730	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1262	ND	730	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1268	ND	730	ug/Kg	10	11/16/21	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	88		%	10	11/16/21	SC	30 - 150 %
% DCBP (Confirmation)	84		%	10	11/16/21	SC	30 - 150 %
% TCMX	77		%	10	11/16/21	SC	30 - 150 %
% TCMX (Confirmation)	79		%	10	11/16/21	SC	30 - 150 %
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,1,2,2-Tetrachloroethane	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloroethane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloroethene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloropropene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dibromoethane	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichloroethane	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichloropropane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,3-Dichloropropane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
2,2-Dichloropropane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
2-Chlorotoluene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
2-Hexanone	ND	4000	ug/Kg	50	11/16/21	JLI	SW8260C
2-Isopropyltoluene	1400	810	ug/Kg	50	11/16/21	JLI	SW8260C
4-Chlorotoluene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	4000	ug/Kg	50	11/16/21	JLI	SW8260C
Acetone	ND	40000	ug/Kg	50	11/16/21	JLI	SW8260C
Acrylonitrile	ND	100	ug/Kg	50	11/16/21	JLI	SW8260C
Benzene	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
Bromobenzene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Bromochloromethane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Bromodichloromethane	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
Bromoform	ND	800	ug/Kg	50	11/16/21	JLI	SW8260C
Bromomethane	ND	700	ug/Kg	50	11/16/21	JLI	SW8260C
Carbon Disulfide	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Carbon tetrachloride	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Chlorobenzene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Chloroethane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Chloroform	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Chloromethane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
Dibromochloromethane	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
Dibromomethane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Dichlorodifluoromethane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Ethylbenzene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Hexachlorobutadiene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Isopropylbenzene	1200	810	ug/Kg	50	11/16/21	JLI	SW8260C
m&p-Xylene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	4800	ug/Kg	50	11/16/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	1600	ug/Kg	50	11/16/21	JLI	SW8260C
Methylene chloride	ND	1000	ug/Kg	50	11/16/21	JLI	SW8260C
Naphthalene	1500	810	ug/Kg	50	11/16/21	JLI	SW8260C
n-Butylbenzene	2700	810	ug/Kg	50	11/16/21	JLI	SW8260C
n-Propylbenzene	2900	810	ug/Kg	50	11/16/21	JLI	SW8260C
o-Xylene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
p-Isopropyltoluene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
sec-Butylbenzene	3700	810	ug/Kg	50	11/16/21	JLI	SW8260C
Styrene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
tert-Butylbenzene	480	470	ug/Kg	50	11/16/21	JLI	SW8260C
Tetrachloroethene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Toluene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Total Xylenes	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	1600	ug/Kg	50	11/16/21	JLI	SW8260C
Trichloroethene	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Trichlorofluoromethane	ND	810	ug/Kg	50	11/16/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	1600	ug/Kg	50	11/16/21	JLI	SW8260C
Vinyl chloride	ND	320	ug/Kg	50	11/16/21	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4 (50x)	97		%	50	11/16/21	JLI	70 - 130 %
% Bromofluorobenzene (50x)	109		%	50	11/16/21	JLI	70 - 130 %
% Dibromofluoromethane (50x)	97		%	50	11/16/21	JLI	70 - 130 %
% Toluene-d8 (50x)	93		%	50	11/16/21	JLI	70 - 130 %
<b><u>Polynuclear Aromatic HC</u></b>							
2-Methylnaphthalene	8100	510	ug/Kg	1	11/16/21	WB	SW8270D
Acenaphthene	3600	510	ug/Kg	1	11/16/21	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acenaphthylene	ND	510	ug/Kg	1	11/16/21	WB	SW8270D
Anthracene	1800	510	ug/Kg	1	11/16/21	WB	SW8270D
Benz(a)anthracene	ND	510	ug/Kg	1	11/16/21	WB	SW8270D
Benzo(a)pyrene	ND	510	ug/Kg	1	11/16/21	WB	SW8270D
Benzo(b)fluoranthene	ND	510	ug/Kg	1	11/16/21	WB	SW8270D
Benzo(ghi)perylene	ND	510	ug/Kg	1	11/16/21	WB	SW8270D
Benzo(k)fluoranthene	ND	510	ug/Kg	1	11/16/21	WB	SW8270D
Chrysene	ND	510	ug/Kg	1	11/16/21	WB	SW8270D
Dibenz(a,h)anthracene	ND	510	ug/Kg	1	11/16/21	WB	SW8270D
Fluoranthene	1000	510	ug/Kg	1	11/16/21	WB	SW8270D
Fluorene	7200	510	ug/Kg	1	11/16/21	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	510	ug/Kg	1	11/16/21	WB	SW8270D
Naphthalene	ND	510	ug/Kg	1	11/16/21	WB	SW8270D
Phenanthrene	12000	510	ug/Kg	1	11/16/21	WB	SW8270D
Pyrene	1700	510	ug/Kg	1	11/16/21	WB	SW8270D
<b>QA/QC Surrogates</b>							
% 2-Fluorobiphenyl	84		%	1	11/16/21	WB	30 - 130 %
% Nitrobenzene-d5	80		%	1	11/16/21	WB	30 - 130 %
% Terphenyl-d14	102		%	1	11/16/21	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
 QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TPH Comment:

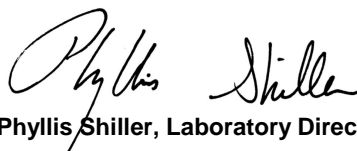
\*\*Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C26. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 24, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



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 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 24, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: B-5002-015A

Custody Information

Collected by:  
 Received by: LB  
 Analyzed by: see "By" below

Date                      Time  
 11/12/21                      12:10  
 11/15/21                      13:01

Laboratory Data

SDG ID: GCJ77699  
 Phoenix ID: CJ77704

Project ID: UNION STATION NHPA  
 Client ID: B-4 (3-5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.33	0.33	mg/Kg	1	11/16/21	TH	SW6010D
Arsenic	7.10	0.67	mg/Kg	1	11/16/21	TH	SW6010D
Barium	67.5	0.33	mg/Kg	1	11/16/21	TH	SW6010D
Beryllium	0.32	0.27	mg/Kg	1	11/16/21	TH	SW6010D
Cadmium	< 0.33	0.33	mg/Kg	1	11/16/21	TH	SW6010D
Chromium	7.01	0.33	mg/Kg	1	11/16/21	TH	SW6010D
Copper	102	0.7	mg/kg	1	11/16/21	TH	SW6010D
Mercury	< 0.03	0.03	mg/Kg	1	11/16/21	AP	SW7471B
Nickel	7.70	0.33	mg/Kg	1	11/16/21	TH	SW6010D
Lead	1730	3.3	mg/Kg	10	11/17/21	EK	SW6010D
Antimony	265	33	mg/Kg	10	11/17/21	EK	SW6010D
Selenium	< 1.3	1.3	mg/Kg	1	11/16/21	TH	SW6010D
SPLP Lead	< 0.010	0.010	mg/L	1	11/22/21	EK	SW6010D
SPLP Antimony	0.010	0.005	mg/L	1	11/22/21	TH	SW6010D
Thallium	< 3.0	3.0	mg/Kg	1	11/16/21	TH	SW6010D
SPLP Metals Digestion	Completed				11/22/21	AB/AB	SW3010A
Vanadium	13.2	0.33	mg/Kg	1	11/16/21	TH	SW6010D
Zinc	13.0	0.7	mg/Kg	1	11/16/21	TH	SW6010D
Percent Solid	96		%		11/15/21	JS	SW846-%Solid
Soil Extraction for PCB	Completed				11/15/21	O/Y	SW3545A
Soil Extraction for Pesticide	Completed				11/15/21	O/Y	SW3545A
Mercury Digestion	Completed				11/16/21	AB/AB	SW7471B
Extraction of ETPH	Completed				11/15/21	I/Y	SW3546
Soil Extraction for SVOA PAH	Completed				11/16/21	R/L	SW3546
SPLP Extraction for Metals	Completed				11/19/21	AB	SW1312
Total Metals Digest	Completed				11/15/21	M/AG	SW3050B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>TPH by GC (Extractable Products)</u></b>							
Ext. Petroleum H.C. (C9-C36)	100	51	mg/Kg	1	11/16/21	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	11/16/21	JRB	CTETPH 8015D
<b><u>QA/QC Surrogates</u></b>							
% COD (surr)	73		%	1	11/16/21	JRB	50 - 150 %
% Terphenyl (surr)	76		%	1	11/16/21	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	340	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1221	ND	340	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1232	ND	340	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1242	ND	340	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1248	ND	340	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1254	ND	340	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1260	ND	340	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1262	ND	340	ug/Kg	10	11/16/21	SC	SW8082A
PCB-1268	ND	340	ug/Kg	10	11/16/21	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	79		%	10	11/16/21	SC	30 - 150 %
% DCBP (Confirmation)	71		%	10	11/16/21	SC	30 - 150 %
% TCMX	84		%	10	11/16/21	SC	30 - 150 %
% TCMX (Confirmation)	82		%	10	11/16/21	SC	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
4,4' -DDE	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
4,4' -DDT	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
a-BHC	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
Alachlor	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
Aldrin	ND	3.4	ug/Kg	2	11/16/21	AW	SW8081B
b-BHC	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
Chlordane	ND	34	ug/Kg	2	11/16/21	AW	SW8081B
d-BHC	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
Dieldrin	ND	3.4	ug/Kg	2	11/16/21	AW	SW8081B
Endosulfan I	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
Endosulfan II	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
Endosulfan sulfate	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
Endrin	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
Endrin aldehyde	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
Endrin ketone	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
g-BHC	ND	1.3	ug/Kg	2	11/16/21	AW	SW8081B
Heptachlor	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
Heptachlor epoxide	ND	6.7	ug/Kg	2	11/16/21	AW	SW8081B
Methoxychlor	ND	34	ug/Kg	2	11/16/21	AW	SW8081B
Toxaphene	ND	130	ug/Kg	2	11/16/21	AW	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	59		%	2	11/16/21	AW	30 - 150 %
% DCBP (Confirmation)	69		%	2	11/16/21	AW	30 - 150 %
% TCMX	59		%	2	11/16/21	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% TCMX (Confirmation)	68		%	2	11/16/21	AW	30 - 150 %
<b><u>Polynuclear Aromatic HC</u></b>							
2-Methylnaphthalene	660	360	ug/Kg	1	11/17/21	WB	SW8270D
Acenaphthene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Acenaphthylene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Anthracene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Benz(a)anthracene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Benzo(a)pyrene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Benzo(b)fluoranthene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Benzo(ghi)perylene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Benzo(k)fluoranthene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Chrysene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Dibenz(a,h)anthracene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Fluoranthene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Fluorene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
Naphthalene	480	360	ug/Kg	1	11/17/21	WB	SW8270D
Phenanthrene	560	360	ug/Kg	1	11/17/21	WB	SW8270D
Pyrene	ND	360	ug/Kg	1	11/17/21	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2-Fluorobiphenyl	71		%	1	11/17/21	WB	30 - 130 %
% Nitrobenzene-d5	80		%	1	11/17/21	WB	30 - 130 %
% Terphenyl-d14	72		%	1	11/17/21	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TPH Comment:

\*\*Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 24, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 24, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: B-5002-015A

Custody Information

Collected by:  
 Received by: LB  
 Analyzed by: see "By" below

Date                      Time  
 11/12/21                      12:45  
 11/15/21                      13:01

Laboratory Data

SDG ID: GCJ77699  
 Phoenix ID: CJ77705

Project ID: UNION STATION NHPA  
 Client ID: B-4 (7-9)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	86		%		11/15/21	JS	SW846-%Solid
Field Extraction	Completed				11/12/21		SW5035A

Volatiles

1,1,1,2-Tetrachloroethane	ND	200	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	120	ug/Kg	50	11/16/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloroethane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloroethene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,1-Dichloropropene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	120	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dibromoethane	ND	120	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichloroethane	ND	200	ug/Kg	50	11/16/21	JLI	SW8260C
1,2-Dichloropropane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,3-Dichloropropane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
2,2-Dichloropropane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
2-Chlorotoluene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
2-Hexanone	ND	1500	ug/Kg	50	11/16/21	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Isopropyltoluene	840	310	ug/Kg	50	11/16/21	JLI	SW8260C
4-Chlorotoluene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	1500	ug/Kg	50	11/16/21	JLI	SW8260C
Acetone	ND	15000	ug/Kg	50	11/16/21	JLI	SW8260C
Acrylonitrile	ND	100	ug/Kg	50	11/16/21	JLI	SW8260C
Benzene	ND	200	ug/Kg	50	11/16/21	JLI	SW8260C
Bromobenzene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Bromochloromethane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Bromodichloromethane	ND	210	ug/Kg	50	11/16/21	JLI	SW8260C
Bromoform	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Bromomethane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Carbon Disulfide	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Carbon tetrachloride	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Chlorobenzene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Chloroethane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Chloroform	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Chloromethane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	120	ug/Kg	50	11/16/21	JLI	SW8260C
Dibromochloromethane	ND	120	ug/Kg	50	11/16/21	JLI	SW8260C
Dibromomethane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Dichlorodifluoromethane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Ethylbenzene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Hexachlorobutadiene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Isopropylbenzene	590	310	ug/Kg	50	11/16/21	JLI	SW8260C
m&p-Xylene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	1900	ug/Kg	50	11/16/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	620	ug/Kg	50	11/16/21	JLI	SW8260C
Methylene chloride	ND	620	ug/Kg	50	11/16/21	JLI	SW8260C
Naphthalene	850	310	ug/Kg	50	11/16/21	JLI	SW8260C
n-Butylbenzene	1300	310	ug/Kg	50	11/16/21	JLI	SW8260C
n-Propylbenzene	890	310	ug/Kg	50	11/16/21	JLI	SW8260C
o-Xylene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
p-Isopropyltoluene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
sec-Butylbenzene	2400	310	ug/Kg	50	11/16/21	JLI	SW8260C
Styrene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
tert-Butylbenzene	260	250	ug/Kg	50	11/16/21	JLI	SW8260C
Tetrachloroethene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	620	ug/Kg	50	11/16/21	JLI	SW8260C
Toluene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Total Xylenes	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	120	ug/Kg	50	11/16/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	620	ug/Kg	50	11/16/21	JLI	SW8260C
Trichloroethene	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Trichlorofluoromethane	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	620	ug/Kg	50	11/16/21	JLI	SW8260C
Vinyl chloride	ND	310	ug/Kg	50	11/16/21	JLI	SW8260C

**QA/QC Surrogates**

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 1,2-dichlorobenzene-d4 (50x)	98		%	50	11/16/21	JLI	70 - 130 %
% Bromofluorobenzene (50x)	102		%	50	11/16/21	JLI	70 - 130 %
% Dibromofluoromethane (50x)	99		%	50	11/16/21	JLI	70 - 130 %
% Toluene-d8 (50x)	93		%	50	11/16/21	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

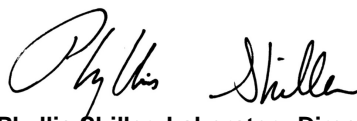
**Comments:**

**Volatile Comment:**

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 24, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 24, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: B-5002-015A

Custody Information

Collected by:  
 Received by: LB  
 Analyzed by: see "By" below

Date                      Time  
 11/12/21  
 11/15/21                      13:01

Laboratory Data

SDG ID: GCJ77699  
 Phoenix ID: CJ77707

Project ID: UNION STATION NHPA  
 Client ID: TB111221L

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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Field Extraction	Completed				11/12/21		SW5035A
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**Volatiles**

1,1,1,2-Tetrachloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1-Dichloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1-Dichloroethene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,1-Dichloropropene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2-Dibromoethane	ND	0.50	ug/Kg	1	11/16/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2-Dichloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,2-Dichloropropane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,3-Dichloropropane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
2,2-Dichloropropane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
2-Chlorotoluene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
2-Hexanone	ND	25	ug/Kg	1	11/16/21	JLI	SW8260C
2-Isopropyltoluene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Chlorotoluene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	25	ug/Kg	1	11/16/21	JLI	SW8260C
Acetone	ND	250	ug/Kg	1	11/16/21	JLI	SW8260C
Acrylonitrile	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Benzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Bromobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Bromochloromethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Bromodichloromethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Bromoform	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Bromomethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Carbon Disulfide	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Carbon tetrachloride	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Chloroethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Chloroform	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Chloromethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Dibromochloromethane	ND	3.0	ug/Kg	1	11/16/21	JLI	SW8260C
Dibromomethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Ethylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Hexachlorobutadiene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Isopropylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
m&p-Xylene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	30	ug/Kg	1	11/16/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	11/16/21	JLI	SW8260C
Methylene chloride	ND	10	ug/Kg	1	11/16/21	JLI	SW8260C
Naphthalene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
n-Butylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
n-Propylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
o-Xylene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
p-Isopropyltoluene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
sec-Butylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Styrene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
tert-Butylbenzene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Tetrachloroethene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	10	ug/Kg	1	11/16/21	JLI	SW8260C
Toluene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Total Xylenes	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	11/16/21	JLI	SW8260C
Trichloroethene	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Trichlorofluoromethane	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	10	ug/Kg	1	11/16/21	JLI	SW8260C
Vinyl chloride	ND	5.0	ug/Kg	1	11/16/21	JLI	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4	95		%	1	11/16/21	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Bromofluorobenzene	95		%	1	11/16/21	JLI	70 - 130 %
% Dibromofluoromethane	95		%	1	11/16/21	JLI	70 - 130 %
% Toluene-d8	90		%	1	11/16/21	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TRIP BLANK INCLUDED.

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 24, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 24, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: B-5002-015A

Custody Information

Collected by:  
 Received by: LB  
 Analyzed by: see "By" below

Date                      Time  
 11/12/21  
 11/15/21                      13:01

Laboratory Data

SDG ID: GCJ77699  
 Phoenix ID: CJ77708

Project ID: UNION STATION NHPA  
 Client ID: TB111221H

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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Field Extraction	Completed				11/12/21		SW5035A
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**Volatiles**

1,1,1,2-Tetrachloroethane	ND	200	ug/Kg	50	11/15/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	100	ug/Kg	50	11/15/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,1-Dichloroethane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,1-Dichloroethene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,1-Dichloropropene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	100	ug/Kg	50	11/15/21	JLI	SW8260C
1,2-Dibromoethane	ND	100	ug/Kg	50	11/15/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,2-Dichloroethane	ND	200	ug/Kg	50	11/15/21	JLI	SW8260C
1,2-Dichloropropane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,3-Dichloropropane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
2,2-Dichloropropane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
2-Chlorotoluene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
2-Hexanone	ND	1300	ug/Kg	50	11/15/21	JLI	SW8260C
2-Isopropyltoluene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Chlorotoluene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	1300	ug/Kg	50	11/15/21	JLI	SW8260C
Acetone	ND	5000	ug/Kg	50	11/15/21	JLI	SW8260C
Acrylonitrile	ND	100	ug/Kg	50	11/15/21	JLI	SW8260C
Benzene	ND	200	ug/Kg	50	11/15/21	JLI	SW8260C
Bromobenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Bromochloromethane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Bromodichloromethane	ND	210	ug/Kg	50	11/15/21	JLI	SW8260C
Bromoform	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Bromomethane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Carbon Disulfide	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Carbon tetrachloride	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Chlorobenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Chloroethane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Chloroform	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Chloromethane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	100	ug/Kg	50	11/15/21	JLI	SW8260C
Dibromochloromethane	ND	100	ug/Kg	50	11/15/21	JLI	SW8260C
Dibromomethane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Dichlorodifluoromethane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Ethylbenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Hexachlorobutadiene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Isopropylbenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
m&p-Xylene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	3000	ug/Kg	50	11/15/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Methylene chloride	ND	500	ug/Kg	50	11/15/21	JLI	SW8260C
Naphthalene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
n-Butylbenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
n-Propylbenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
o-Xylene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
p-Isopropyltoluene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
sec-Butylbenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Styrene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
tert-Butylbenzene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Tetrachloroethene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	500	ug/Kg	50	11/15/21	JLI	SW8260C
Toluene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Total Xylenes	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	100	ug/Kg	50	11/15/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	500	ug/Kg	50	11/15/21	JLI	SW8260C
Trichloroethene	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Trichlorofluoromethane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
Vinyl chloride	ND	250	ug/Kg	50	11/15/21	JLI	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4 (50x)	97		%	50	11/15/21	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Bromofluorobenzene (50x)	100		%	50	11/15/21	JLI	70 - 130 %
% Dibromofluoromethane (50x)	97		%	50	11/15/21	JLI	70 - 130 %
% Toluene-d8 (50x)	96		%	50	11/15/21	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TRIP BLANK INCLUDED.

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**Phyllis Shiller, Laboratory Director**

**November 24, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



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

November 24, 2021

## QA/QC Data

SDG I.D.: GCJ77699

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 600868 (mg/kg), QC Sample No: CJ76047 2X (CJ77699, CJ77702)

Mercury - Soil	BRL	0.02	0.10	0.07	NC	119	113	5.2	94.2	114	19.0	70 - 130	30
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Comment:

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

QA/QC Batch 600869 (mg/kg), QC Sample No: CJ77713 (CJ77704)

Mercury - Soil	BRL	0.02	<0.03	<0.03	NC	128	129	0.8	102	124	19.5	70 - 130	30
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Comment:

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

QA/QC Batch 600758 (mg/kg), QC Sample No: CJ77329 (CJ77699, CJ77702, CJ77704)

### ICP Metals - Soil

Antimony	BRL	3.3	<4.4	<4.7	NC	96.4	81.8	16.4	97.4			75 - 125	35
Arsenic	BRL	0.67	2.09	2.17	NC	119	106	11.6	96.3			75 - 125	35
Barium	BRL	0.33	14.9	16.2	8.40	105	94.8	10.2	98.4			75 - 125	35
Beryllium	BRL	0.27	0.31	0.34	NC	108	96.5	11.2	100			75 - 125	35
Cadmium	BRL	0.33	0.70	0.72	NC	113	101	11.2	102			75 - 125	35
Chromium	BRL	0.33	455	542	17.5	95.4	84.2	12.5	>130			75 - 125	35
Copper	BRL	0.67	236	295	22.2	104	91.7	12.6	95.2			75 - 125	35
Lead	BRL	0.33	9.9	9.80	1.00	113	95.7	16.6	104			75 - 125	35
Nickel	BRL	0.33	1010	1160	13.8	111	97.7	12.7	NC			75 - 125	35
Selenium	BRL	1.3	<1.8	<1.9	NC	113	93.6	18.8	98.3			75 - 125	35
Silver	BRL	0.33	<0.44	<0.47	NC	103	90.2	13.3	96.5			75 - 125	35
Thallium	BRL	3.0	<1.8	<4.2	NC	107	101	5.8	102			75 - 125	35
Vanadium	BRL	0.33	35.0	38.6	9.80	105	94.4	10.6	97.9			75 - 125	35
Zinc	BRL	0.67	96.0	91.7	4.60	107	96.7	10.1	90.5			75 - 125	35

Comment:

Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.

QA/QC Batch 601680 (mg/L), QC Sample No: CJ82262 (CJ77704)

### ICP Metals - SPLP Extraction

Antimony	BRL	0.005	<0.005	<0.005	NC	104	91.1	13.2	109			80 - 120	20
Lead	BRL	0.010	<0.010	<0.010	NC	103	90.9	12.5	108			80 - 120	20

Comment:

Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.

m = This parameter is outside laboratory MS/MSD specified recovery limits.



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# QA/QC Report

November 24, 2021

## QA/QC Data

SDG I.D.: GCJ77699

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 600750 (mg/Kg), QC Sample No: CJ77635 (CJ77699, CJ77702, CJ77704)											
<u>TPH by GC (Extractable Products) - Soil</u>											
Ext. Petroleum H.C. (C9-C36)	ND	50	90	97	7.5	114	159	33.0	60 - 120	30	m,r
% COD (surr)	74	%	92	98	6.3	111	122	9.4	50 - 150	30	
% Terphenyl (surr)	93	%	84	81	3.6	93	124	28.6	50 - 150	30	
Comment:											
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.											
QA/QC Batch 600760 (ug/Kg), QC Sample No: CJ77714 2X (CJ77699, CJ77702, CJ77704)											
<u>Polychlorinated Biphenyls - Soil</u>											
PCB-1016	ND	33	90	85	5.7	91	73	22.0	40 - 140	30	
PCB-1221	ND	33							40 - 140	30	
PCB-1232	ND	33							40 - 140	30	
PCB-1242	ND	33							40 - 140	30	
PCB-1248	ND	33							40 - 140	30	
PCB-1254	ND	33							40 - 140	30	
PCB-1260	ND	33	96	91	5.3	103	82	22.7	40 - 140	30	
PCB-1262	ND	33							40 - 140	30	
PCB-1268	ND	33							40 - 140	30	
% DCBP (Surrogate Rec)	80	%	94	82	13.6	98	82	17.8	30 - 150	30	
% DCBP (Surrogate Rec) (Confirm	76	%	92	90	2.2	97	83	15.6	30 - 150	30	
% TCMX (Surrogate Rec)	68	%	83	79	4.9	81	64	23.4	30 - 150	30	
% TCMX (Surrogate Rec) (Confirm	69	%	95	93	2.1	93	74	22.8	30 - 150	30	
QA/QC Batch 600763 (ug/Kg), QC Sample No: CJ77714 2X (CJ77700, CJ77704)											
<u>Pesticides - Soil</u>											
4,4' -DDD	ND	1.7	63	60	4.9	64	69	7.5	40 - 140	30	
4,4' -DDE	ND	1.7	63	61	3.2	62	69	10.7	40 - 140	30	
4,4' -DDT	ND	1.7	59	58	1.7	63	70	10.5	40 - 140	30	
a-BHC	ND	1.0	57	56	1.8	52	56	7.4	40 - 140	30	
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30	
Aldrin	ND	1.0	58	56	3.5	52	59	12.6	40 - 140	30	
b-BHC	ND	1.0	69	67	2.9	67	72	7.2	40 - 140	30	
Chlordane	ND	33	63	63	0.0	61	67	9.4	40 - 140	30	
d-BHC	ND	3.3	47	59	22.6	57	54	5.4	40 - 140	30	
Dieldrin	ND	1.0	62	60	3.3	57	63	10.0	40 - 140	30	
Endosulfan I	ND	3.3	66	62	6.3	61	67	9.4	40 - 140	30	
Endosulfan II	ND	3.3	73	71	2.8	66	73	10.1	40 - 140	30	
Endosulfan sulfate	ND	3.3	74	73	1.4	71	77	8.1	40 - 140	30	
Endrin	ND	3.3	62	60	3.3	58	65	11.4	40 - 140	30	
Endrin aldehyde	ND	3.3	60	60	0.0	63	67	6.2	40 - 140	30	
Endrin ketone	ND	3.3	68	65	4.5	57	63	10.0	40 - 140	30	
g-BHC	ND	1.0	61	60	1.7	67	85	23.7	40 - 140	30	



## QA/QC Data

SDG I.D.: GCJ77699

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Heptachlor	ND	3.3	58	56	3.5	52	58	10.9	40 - 140	30
Heptachlor epoxide	ND	3.3	61	59	3.3	56	61	8.5	40 - 140	30
Methoxychlor	ND	3.3	64	60	6.5	59	64	8.1	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	104	%	82	83	1.2	75	81	7.7	30 - 150	30
% DCBP (Confirmation)	77	%	62	63	1.6	59	74	22.6	30 - 150	30
% TCMX	85	%	68	70	2.9	62	68	9.2	30 - 150	30
% TCMX (Confirmation)	84	%	67	69	2.9	61	68	10.9	30 - 150	30

QA/QC Batch 600837 (ug/kg), QC Sample No: CJ78069 (CJ77699, CJ77702)

### Semivolatiles - Soil

2-Methylnaphthalene	ND	230	79	77	2.6	73	75	2.7	40 - 140	30
Acenaphthene	ND	230	88	86	2.3	79	83	4.9	30 - 130	30
Acenaphthylene	ND	130	84	84	0.0	76	78	2.6	40 - 140	30
Anthracene	ND	230	88	89	1.1	82	84	2.4	40 - 140	30
Benz(a)anthracene	ND	230	83	83	0.0	78	80	2.5	40 - 140	30
Benzo(a)pyrene	ND	130	90	90	0.0	83	85	2.4	40 - 140	30
Benzo(b)fluoranthene	ND	160	90	87	3.4	79	86	8.5	40 - 140	30
Benzo(ghi)perylene	ND	230	86	86	0.0	79	81	2.5	40 - 140	30
Benzo(k)fluoranthene	ND	230	85	87	2.3	79	76	3.9	40 - 140	30
Chrysene	ND	230	82	83	1.2	75	78	3.9	40 - 140	30
Dibenz(a,h)anthracene	ND	130	91	91	0.0	84	87	3.5	40 - 140	30
Fluoranthene	ND	230	84	87	3.5	81	79	2.5	40 - 140	30
Fluorene	ND	230	89	88	1.1	81	83	2.4	40 - 140	30
Indeno(1,2,3-cd)pyrene	ND	230	93	92	1.1	86	89	3.4	40 - 140	30
Naphthalene	ND	230	78	75	3.9	72	75	4.1	40 - 140	30
Phenanthrene	ND	130	84	85	1.2	78	81	3.8	40 - 140	30
Pyrene	ND	230	78	83	6.2	76	75	1.3	30 - 130	30
% 2-Fluorobiphenyl	67	%	76	71	6.8	67	68	1.5	30 - 130	30
% Nitrobenzene-d5	67	%	79	71	10.7	69	72	4.3	30 - 130	30
% Terphenyl-d14	82	%	92	92	0.0	87	85	2.3	30 - 130	30

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 600956 (ug/kg), QC Sample No: CJ78432 (CJ77704)

### Polynuclear Aromatic HC - Soil

2-Methylnaphthalene	ND	230	79	79	0.0	76	73	4.0	40 - 140	30
Acenaphthene	ND	230	86	87	1.2	84	83	1.2	30 - 130	30
Acenaphthylene	ND	230	80	80	0.0	79	77	2.6	40 - 140	30
Anthracene	ND	230	82	86	4.8	83	81	2.4	40 - 140	30
Benz(a)anthracene	ND	230	80	87	8.4	82	79	3.7	40 - 140	30
Benzo(a)pyrene	ND	230	79	83	4.9	79	77	2.6	40 - 140	30
Benzo(b)fluoranthene	ND	230	81	85	4.8	82	78	5.0	40 - 140	30
Benzo(ghi)perylene	ND	230	86	89	3.4	83	85	2.4	40 - 140	30
Benzo(k)fluoranthene	ND	230	79	84	6.1	78	77	1.3	40 - 140	30
Chrysene	ND	230	82	89	8.2	82	82	0.0	40 - 140	30
Dibenz(a,h)anthracene	ND	230	88	92	4.4	86	87	1.2	40 - 140	30
Fluoranthene	ND	230	78	82	5.0	80	77	3.8	40 - 140	30
Fluorene	ND	230	85	90	5.7	85	82	3.6	40 - 140	30
Indeno(1,2,3-cd)pyrene	ND	230	81	83	2.4	79	79	0.0	40 - 140	30
Naphthalene	ND	230	76	75	1.3	75	74	1.3	40 - 140	30
Phenanthrene	ND	230	81	85	4.8	82	80	2.5	40 - 140	30
Pyrene	ND	230	78	82	5.0	85	82	3.6	30 - 130	30

## QA/QC Data

SDG I.D.: GCJ77699

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
% 2-Fluorobiphenyl	74	%	75	74	1.3	75	74	1.3	30 - 130	30
% Nitrobenzene-d5	80	%	80	79	1.3	78	76	2.6	30 - 130	30
% Terphenyl-d14	80	%	83	87	4.7	87	84	3.5	30 - 130	30

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 600908H (ug/kg), QC Sample No: CJ77691 50X (CJ77708 (50X) )

### Volatiles - Soil (High Level)

1,1,1,2-Tetrachloroethane	ND	250	103	101	2.0	96	96	0.0	70 - 130	30
1,1,1-Trichloroethane	ND	250	102	100	2.0	101	100	1.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	250	98	96	2.1	95	95	0.0	70 - 130	30
1,1,2-Trichloroethane	ND	250	95	95	0.0	96	97	1.0	70 - 130	30
1,1-Dichloroethane	ND	250	100	99	1.0	100	98	2.0	70 - 130	30
1,1-Dichloroethene	ND	250	94	94	0.0	98	95	3.1	70 - 130	30
1,1-Dichloropropene	ND	250	104	104	0.0	102	106	3.8	70 - 130	30
1,2,3-Trichlorobenzene	ND	250	109	107	1.9	100	102	2.0	70 - 130	30
1,2,3-Trichloropropane	ND	250	96	95	1.0	95	95	0.0	70 - 130	30
1,2,4-Trichlorobenzene	ND	250	107	105	1.9	98	98	0.0	70 - 130	30
1,2,4-Trimethylbenzene	ND	250	104	103	1.0	99	100	1.0	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	250	111	104	6.5	139	109	24.2	70 - 130	30
1,2-Dibromoethane	ND	250	98	97	1.0	97	97	0.0	70 - 130	30
1,2-Dichlorobenzene	ND	250	102	101	1.0	98	99	1.0	70 - 130	30
1,2-Dichloroethane	ND	250	96	96	0.0	96	97	1.0	70 - 130	30
1,2-Dichloropropane	ND	250	99	100	1.0	98	99	1.0	70 - 130	30
1,3,5-Trimethylbenzene	ND	250	106	105	0.9	101	103	2.0	70 - 130	30
1,3-Dichlorobenzene	ND	250	101	100	1.0	96	97	1.0	70 - 130	30
1,3-Dichloropropane	ND	250	97	98	1.0	99	98	1.0	70 - 130	30
1,4-Dichlorobenzene	ND	250	103	102	1.0	98	98	0.0	70 - 130	30
2,2-Dichloropropane	ND	250	99	97	2.0	97	97	0.0	70 - 130	30
2-Chlorotoluene	ND	250	104	104	0.0	101	101	0.0	70 - 130	30
2-Hexanone	ND	1300	88	84	4.7	85	85	0.0	70 - 130	30
2-Isopropyltoluene	ND	250	104	105	1.0	101	104	2.9	70 - 130	30
4-Chlorotoluene	ND	250	105	104	1.0	101	102	1.0	70 - 130	30
4-Methyl-2-pentanone	ND	1300	92	91	1.1	92	94	2.2	70 - 130	30
Acetone	ND	500	73	74	1.4	84	74	12.7	70 - 130	30
Acrylonitrile	ND	250	94	91	3.2	96	93	3.2	70 - 130	30
Benzene	ND	250	101	101	0.0	101	102	1.0	70 - 130	30
Bromobenzene	ND	250	102	102	0.0	106	102	3.8	70 - 130	30
Bromochloromethane	ND	250	97	95	2.1	99	95	4.1	70 - 130	30
Bromodichloromethane	ND	250	100	99	1.0	91	94	3.2	70 - 130	30
Bromoform	ND	250	99	94	5.2	79	81	2.5	70 - 130	30
Bromomethane	ND	250	78	79	1.3	77	79	2.6	70 - 130	30
Carbon Disulfide	ND	250	90	89	1.1	90	89	1.1	70 - 130	30
Carbon tetrachloride	ND	250	103	101	2.0	94	93	1.1	70 - 130	30
Chlorobenzene	ND	250	101	99	2.0	98	99	1.0	70 - 130	30
Chloroethane	ND	250	23	24	4.3	24	22	8.7	70 - 130	30
Chloroform	ND	250	98	97	1.0	98	96	2.1	70 - 130	30
Chloromethane	ND	250	102	100	2.0	94	95	1.1	70 - 130	30
cis-1,2-Dichloroethene	ND	250	104	98	5.9	100	99	1.0	70 - 130	30
cis-1,3-Dichloropropene	ND	250	98	99	1.0	95	97	2.1	70 - 130	30
Dibromochloromethane	ND	150	101	98	3.0	88	89	1.1	70 - 130	30
Dibromomethane	ND	250	100	99	1.0	99	99	0.0	70 - 130	30

QA/QC Data

SDG I.D.: GCJ77699

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Dichlorodifluoromethane	ND	250	106	104	1.9	98	97	1.0	70 - 130	30
Ethylbenzene	ND	250	103	100	3.0	101	103	2.0	70 - 130	30
Hexachlorobutadiene	ND	250	113	109	3.6	101	105	3.9	70 - 130	30
Isopropylbenzene	ND	250	106	106	0.0	104	106	1.9	70 - 130	30
m&p-Xylene	ND	250	103	102	1.0	101	101	0.0	70 - 130	30
Methyl ethyl ketone	ND	250	91	88	3.4	98	91	7.4	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	250	94	92	2.2	97	94	3.1	70 - 130	30
Methylene chloride	ND	250	81	81	0.0	85	81	4.8	70 - 130	30
Naphthalene	ND	250	106	105	0.9	104	103	1.0	70 - 130	30
n-Butylbenzene	ND	250	113	111	1.8	108	108	0.0	70 - 130	30
n-Propylbenzene	ND	250	108	108	0.0	103	106	2.9	70 - 130	30
o-Xylene	ND	250	102	101	1.0	100	100	0.0	70 - 130	30
p-Isopropyltoluene	ND	250	109	108	0.9	104	106	1.9	70 - 130	30
sec-Butylbenzene	ND	250	108	107	0.9	102	106	3.8	70 - 130	30
Styrene	ND	250	85	84	1.2	83	84	1.2	70 - 130	30
tert-Butylbenzene	ND	250	107	106	0.9	103	106	2.9	70 - 130	30
Tetrachloroethene	ND	250	106	107	0.9	103	107	3.8	70 - 130	30
Tetrahydrofuran (THF)	ND	250	91	89	2.2	93	88	5.5	70 - 130	30
Toluene	ND	250	102	103	1.0	101	104	2.9	70 - 130	30
trans-1,2-Dichloroethene	ND	250	99	98	1.0	101	100	1.0	70 - 130	30
trans-1,3-Dichloropropene	ND	250	99	98	1.0	93	95	2.1	70 - 130	30
trans-1,4-dichloro-2-butene	ND	250	101	98	3.0	90	91	1.1	70 - 130	30
Trichloroethene	ND	250	102	102	0.0	100	103	3.0	70 - 130	30
Trichlorofluoromethane	ND	250	46	46	0.0	54	51	5.7	70 - 130	30
Trichlorotrifluoroethane	ND	250	91	88	3.4	91	90	1.1	70 - 130	30
Vinyl chloride	ND	250	109	107	1.9	109	105	3.7	70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	101	102	1.0	101	101	0.0	70 - 130	30
% Bromofluorobenzene	98	%	99	99	0.0	97	98	1.0	70 - 130	30
% Dibromofluoromethane	97	%	96	96	0.0	98	94	4.2	70 - 130	30
% Toluene-d8	96	%	101	101	0.0	101	102	1.0	70 - 130	30

l,m

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Batch 601089 (ug/kg), QC Sample No: CJ77734 (CJ77707)

Volatiles - Soil (Low Level)

1,1,1,2-Tetrachloroethane	ND	5.0	108	107	0.9	98	100	2.0	70 - 130	30
1,1,1-Trichloroethane	ND	5.0	96	97	1.0	91	92	1.1	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0	103	105	1.9	98	100	2.0	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	100	100	0.0	97	98	1.0	70 - 130	30
1,1-Dichloroethane	ND	5.0	116	117	0.9	112	111	0.9	70 - 130	30
1,1-Dichloroethene	ND	5.0	93	93	0.0	86	85	1.2	70 - 130	30
1,1-Dichloropropene	ND	5.0	100	99	1.0	92	94	2.2	70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	118	111	6.1	86	93	7.8	70 - 130	30
1,2,3-Trichloropropane	ND	5.0	96	100	4.1	93	94	1.1	70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	119	107	10.6	85	91	6.8	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	104	102	1.9	89	93	4.4	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	116	117	0.9	107	112	4.6	70 - 130	30
1,2-Dibromoethane	ND	5.0	109	107	1.9	103	103	0.0	70 - 130	30
1,2-Dichlorobenzene	ND	5.0	108	105	2.8	95	97	2.1	70 - 130	30
1,2-Dichloroethane	ND	5.0	102	103	1.0	94	96	2.1	70 - 130	30
1,2-Dichloropropane	ND	5.0	99	100	1.0	95	97	2.1	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	105	103	1.9	88	93	5.5	70 - 130	30

QA/QC Data

SDG I.D.: GCJ77699

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,3-Dichlorobenzene	ND	5.0	105	101	3.9	89	92	3.3	70 - 130	30
1,3-Dichloropropane	ND	5.0	106	104	1.9	101	101	0.0	70 - 130	30
1,4-Dichlorobenzene	ND	5.0	108	102	5.7	90	93	3.3	70 - 130	30
2,2-Dichloropropane	ND	5.0	101	102	1.0	89	80	10.7	70 - 130	30
2-Chlorotoluene	ND	5.0	107	104	2.8	96	97	1.0	70 - 130	30
2-Hexanone	ND	25	102	106	3.8	92	99	7.3	70 - 130	30
2-Isopropyltoluene	ND	5.0	104	103	1.0	84	93	10.2	70 - 130	30
4-Chlorotoluene	ND	5.0	107	103	3.8	92	95	3.2	70 - 130	30
4-Methyl-2-pentanone	ND	25	104	105	1.0	97	102	5.0	70 - 130	30
Acetone	ND	10	89	84	5.8	NC	NC	NC	70 - 130	30
Acrylonitrile	ND	5.0	137	138	0.7	125	127	1.6	70 - 130	30
Benzene	ND	1.0	97	97	0.0	95	95	0.0	70 - 130	30
Bromobenzene	ND	5.0	108	108	0.0	102	101	1.0	70 - 130	30
Bromochloromethane	ND	5.0	96	99	3.1	92	93	1.1	70 - 130	30
Bromodichloromethane	ND	5.0	103	104	1.0	94	97	3.1	70 - 130	30
Bromoform	ND	5.0	110	108	1.8	95	99	4.1	70 - 130	30
Bromomethane	ND	5.0	101	100	1.0	91	93	2.2	70 - 130	30
Carbon Disulfide	ND	5.0	84	84	0.0	78	77	1.3	70 - 130	30
Carbon tetrachloride	ND	5.0	98	99	1.0	86	87	1.2	70 - 130	30
Chlorobenzene	ND	5.0	103	101	2.0	96	97	1.0	70 - 130	30
Chloroethane	ND	5.0	94	94	0.0	87	85	2.3	70 - 130	30
Chloroform	ND	5.0	93	94	1.1	90	90	0.0	70 - 130	30
Chloromethane	ND	5.0	98	96	2.1	87	84	3.5	70 - 130	30
cis-1,2-Dichloroethene	ND	5.0	96	95	1.0	93	94	1.1	70 - 130	30
cis-1,3-Dichloropropene	ND	5.0	105	105	0.0	97	98	1.0	70 - 130	30
Dibromochloromethane	ND	3.0	109	110	0.9	99	101	2.0	70 - 130	30
Dibromomethane	ND	5.0	105	106	0.9	98	101	3.0	70 - 130	30
Dichlorodifluoromethane	ND	5.0	108	106	1.9	89	94	5.5	70 - 130	30
Ethylbenzene	ND	1.0	104	101	2.9	98	99	1.0	70 - 130	30
Hexachlorobutadiene	ND	5.0	108	99	8.7	51	80	44.3	70 - 130	30
Isopropylbenzene	ND	1.0	103	104	1.0	92	97	5.3	70 - 130	30
m&p-Xylene	ND	2.0	102	100	2.0	96	97	1.0	70 - 130	30
Methyl ethyl ketone	ND	5.0	92	97	5.3	78	85	8.6	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	94	95	1.1	88	86	2.3	70 - 130	30
Methylene chloride	ND	5.0	83	86	3.6	83	83	0.0	70 - 130	30
Naphthalene	ND	5.0	116	116	0.0	99	103	4.0	70 - 130	30
n-Butylbenzene	ND	1.0	111	103	7.5	72	87	18.9	70 - 130	30
n-Propylbenzene	ND	1.0	107	103	3.8	87	94	7.7	70 - 130	30
o-Xylene	ND	2.0	103	101	2.0	98	98	0.0	70 - 130	30
p-Isopropyltoluene	ND	1.0	106	103	2.9	79	91	14.1	70 - 130	30
sec-Butylbenzene	ND	1.0	103	101	2.0	77	89	14.5	70 - 130	30
Styrene	ND	5.0	104	102	1.9	97	98	1.0	70 - 130	30
tert-Butylbenzene	ND	1.0	103	103	0.0	86	95	9.9	70 - 130	30
Tetrachloroethene	ND	5.0	102	97	5.0	89	92	3.3	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	88	93	5.5	83	89	7.0	70 - 130	30
Toluene	ND	1.0	99	99	0.0	96	96	0.0	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	92	92	0.0	87	85	2.3	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	110	109	0.9	97	97	0.0	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	118	118	0.0	100	99	1.0	70 - 130	30
Trichloroethene	ND	5.0	100	98	2.0	94	95	1.1	70 - 130	30
Trichlorofluoromethane	ND	5.0	100	98	2.0	84	85	1.2	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	88	84	4.7	73	75	2.7	70 - 130	30
Vinyl chloride	ND	5.0	101	99	2.0	94	92	2.2	70 - 130	30

## QA/QC Data

SDG I.D.: GCJ77699

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
% 1,2-dichlorobenzene-d4	94	%	100	100	0.0	100	100	0.0	70 - 130	30
% Bromofluorobenzene	97	%	100	99	1.0	98	98	0.0	70 - 130	30
% Dibromofluoromethane	98	%	95	96	1.0	95	96	1.0	70 - 130	30
% Toluene-d8	92	%	100	99	1.0	99	100	1.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Batch 601084H (ug/kg), QC Sample No: CJ77810 (CJ77699 (50X) , CJ77702 (50X) , CJ77705 (50X) )

### Volatiles - Soil (High Level)

1,1,1,2-Tetrachloroethane	ND	5.0	100	101	1.0	99	100	1.0	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	102	102	0.0	99	102	3.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	5.0	97	98	1.0	96	99	3.1	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	98	97	1.0	98	100	2.0	70 - 130	30	
1,1-Dichloroethane	ND	5.0	102	100	2.0	99	102	3.0	70 - 130	30	
1,1-Dichloroethene	ND	5.0	100	99	1.0	97	101	4.0	70 - 130	30	
1,1-Dichloropropene	ND	5.0	106	107	0.9	105	105	0.0	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	110	112	1.8	104	105	1.0	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	97	97	0.0	95	100	5.1	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	110	110	0.0	103	102	1.0	70 - 130	30	
1,2,4-Trimethylbenzene	ND	5.0	104	105	1.0	100	103	3.0	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	101	100	1.0	>200	188	NC	70 - 130	30	m
1,2-Dibromoethane	ND	5.0	100	98	2.0	99	101	2.0	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	102	104	1.9	101	102	1.0	70 - 130	30	
1,2-Dichloroethane	ND	5.0	97	99	2.0	99	99	0.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0	100	101	1.0	101	102	1.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	5.0	105	107	1.9	103	104	1.0	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	101	103	2.0	97	100	3.0	70 - 130	30	
1,3-Dichloropropane	ND	5.0	100	100	0.0	105	102	2.9	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	103	105	1.9	101	102	1.0	70 - 130	30	
2,2-Dichloropropane	ND	5.0	108	101	6.7	95	103	8.1	70 - 130	30	
2-Chlorotoluene	ND	5.0	103	106	2.9	101	104	2.9	70 - 130	30	
2-Hexanone	ND	25	87	85	2.3	86	91	5.6	70 - 130	30	
2-Isopropyltoluene	ND	5.0	104	106	1.9	103	105	1.9	70 - 130	30	
4-Chlorotoluene	ND	5.0	104	107	2.8	103	106	2.9	70 - 130	30	
4-Methyl-2-pentanone	ND	25	92	92	0.0	93	97	4.2	70 - 130	30	
Acetone	ND	10	77	74	4.0	78	87	10.9	70 - 130	30	
Acrylonitrile	ND	5.0	96	93	3.2	94	99	5.2	70 - 130	30	
Benzene	ND	5.0	102	103	1.0	102	102	0.0	70 - 130	30	
Bromobenzene	ND	5.0	101	104	2.9	155	106	37.5	70 - 130	30	m,r
Bromochloromethane	ND	5.0	100	98	2.0	99	101	2.0	70 - 130	30	
Bromodichloromethane	ND	5.0	98	98	0.0	93	95	2.1	70 - 130	30	
Bromoform	ND	5.0	90	87	3.4	81	84	3.6	70 - 130	30	
Bromomethane	ND	5.0	83	79	4.9	79	83	4.9	70 - 130	30	
Carbon Disulfide	ND	5.0	94	92	2.2	89	92	3.3	70 - 130	30	
Carbon tetrachloride	ND	5.0	102	101	1.0	90	96	6.5	70 - 130	30	
Chlorobenzene	ND	5.0	102	103	1.0	103	101	2.0	70 - 130	30	
Chloroethane	ND	5.0	24	23	4.3	23	23	0.0	70 - 130	30	l,m
Chloroform	ND	5.0	101	98	3.0	97	99	2.0	70 - 130	30	
Chloromethane	ND	5.0	104	102	1.9	94	99	5.2	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	103	101	2.0	99	103	4.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	100	100	0.0	97	99	2.0	70 - 130	30	
Dibromochloromethane	ND	3.0	96	95	1.0	91	92	1.1	70 - 130	30	

QA/QC Data

SDG I.D.: GCJ77699

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Dibromomethane	ND	5.0	102	101	1.0	103	103	0.0	70 - 130	30
Dichlorodifluoromethane	ND	5.0	112	108	3.6	103	106	2.9	70 - 130	30
Ethylbenzene	ND	5.0	103	104	1.0	105	103	1.9	70 - 130	30
Hexachlorobutadiene	ND	5.0	111	113	1.8	102	105	2.9	70 - 130	30
Isopropylbenzene	ND	5.0	106	107	0.9	104	107	2.8	70 - 130	30
m&p-Xylene	ND	5.0	104	105	1.0	106	103	2.9	70 - 130	30
Methyl ethyl ketone	ND	5.0	89	90	1.1	93	101	8.2	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	5.0	98	97	1.0	96	100	4.1	70 - 130	30
Methylene chloride	ND	5.0	85	84	1.2	84	88	4.7	70 - 130	30
Naphthalene	ND	5.0	106	107	0.9	107	109	1.9	70 - 130	30
n-Butylbenzene	ND	5.0	113	117	3.5	110	110	0.0	70 - 130	30
n-Propylbenzene	ND	5.0	107	111	3.7	104	107	2.8	70 - 130	30
o-Xylene	ND	5.0	102	103	1.0	105	103	1.9	70 - 130	30
p-Isopropyltoluene	ND	5.0	110	111	0.9	103	107	3.8	70 - 130	30
sec-Butylbenzene	ND	5.0	106	109	2.8	99	105	5.9	70 - 130	30
Styrene	ND	5.0	85	87	2.3	88	86	2.3	70 - 130	30
tert-Butylbenzene	ND	5.0	105	107	1.9	104	106	1.9	70 - 130	30
Tetrachloroethene	ND	5.0	108	109	0.9	106	107	0.9	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	94	89	5.5	91	95	4.3	70 - 130	30
Toluene	ND	5.0	103	106	2.9	104	104	0.0	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	105	103	1.9	100	103	3.0	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	100	100	0.0	96	98	2.1	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	99	97	2.0	90	96	6.5	70 - 130	30
Trichloroethene	ND	5.0	103	103	0.0	103	102	1.0	70 - 130	30
Trichlorofluoromethane	ND	5.0	50	48	4.1	44	48	8.7	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	94	93	1.1	92	93	1.1	70 - 130	30
Vinyl chloride	ND	5.0	114	112	1.8	104	110	5.6	70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	99	102	3.0	102	106	3.8	70 - 130	30
% Bromofluorobenzene	98	%	99	99	0.0	92	96	4.3	70 - 130	30
% Dibromofluoromethane	100	%	99	97	2.0	94	97	3.1	70 - 130	30
% Toluene-d8	95	%	101	102	1.0	100	102	2.0	70 - 130	30

l,m


Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

- 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
- Intf - Interference

  
 Phyllis Shiller, Laboratory Director  
 November 24, 2021

Wednesday, November 24, 2021

Criteria: CT: GBM, RC

State: CT

# Sample Criteria Exceedances Report

GCJ77699 - TIGHE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CJ77699	\$8260MAR	1,2-Dibromo-3-chloropropane	CT / RSR DEC RES (mg/kg) / APS Organics	ND	140	90	90	ug/Kg
CJ77699	\$8260MAR	1,2-Dibromoethane	CT / RSR DEC RES (mg/kg) / Volatiles	ND	140	7	7	ug/Kg
CJ77699	\$8260MAR	1,2-Dibromo-3-chloropropane	CT / RSR GB (mg/kg) / APS Organics	ND	140	40	40	ug/Kg
CJ77699	\$8260MAR	1,2-Dibromoethane	CT / RSR GB (mg/kg) / Volatiles	ND	140	100	100	ug/Kg
CJ77699	\$8260MAR	cis-1,3-Dichloropropene	CT / RSR GB (mg/kg) / Volatiles	ND	140	100	100	ug/Kg
CJ77699	\$8260MAR	Dibromochloromethane	CT / RSR GB (mg/kg) / Volatiles	ND	140	100	100	ug/Kg
CJ77699	\$8260MAR	trans-1,3-Dichloropropene	CT / RSR GB (mg/kg) / Volatiles	ND	140	100	100	ug/Kg
CJ77699	\$8260MAR	1,1,2,2-Tetrachloroethane	CT / RSR GB (mg/kg) / Volatiles	ND	140	100	100	ug/Kg
CJ77699	\$ETPH_SM	Ext. Petroleum H.C. (C9-C36)	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	5200	590	500	500	mg/Kg
CJ77699	\$ETPH_SM	Ext. Petroleum H.C. (C9-C36)	CT / RSR GB (mg/kg) / Pesticides/TPH	5200	590	2500	2500	mg/Kg
CJ77702	\$8100SMR	2-Methylnaphthalene	CT / RSR GB (mg/kg) / APS Organics	8100	510	5600	5600	ug/Kg
CJ77702	\$8260MAR	1,2-Dibromo-3-chloropropane	CT / RSR DEC RES (mg/kg) / APS Organics	ND	320	90	90	ug/Kg
CJ77702	\$8260MAR	1,2-Dibromoethane	CT / RSR DEC RES (mg/kg) / Volatiles	ND	320	7	7	ug/Kg
CJ77702	\$8260MAR	Bromodichloromethane	CT / RSR GB (mg/kg) / APS Organics	ND	320	210	210	ug/Kg
CJ77702	\$8260MAR	1,2-Dibromo-3-chloropropane	CT / RSR GB (mg/kg) / APS Organics	ND	320	40	40	ug/Kg
CJ77702	\$8260MAR	Tetrahydrofuran (THF)	CT / RSR GB (mg/kg) / APS Organics	ND	810	800	800	ug/Kg
CJ77702	\$8260MAR	1,1,2,2-Tetrachloroethane	CT / RSR GB (mg/kg) / Volatiles	ND	320	100	100	ug/Kg
CJ77702	\$8260MAR	1,2-Dibromoethane	CT / RSR GB (mg/kg) / Volatiles	ND	320	100	100	ug/Kg
CJ77702	\$8260MAR	1,2-Dichloroethane	CT / RSR GB (mg/kg) / Volatiles	ND	320	200	200	ug/Kg
CJ77702	\$8260MAR	1,1,1,2-Tetrachloroethane	CT / RSR GB (mg/kg) / Volatiles	ND	320	200	200	ug/Kg
CJ77702	\$8260MAR	Dibromochloromethane	CT / RSR GB (mg/kg) / Volatiles	ND	320	100	100	ug/Kg
CJ77702	\$8260MAR	trans-1,3-Dichloropropene	CT / RSR GB (mg/kg) / Volatiles	ND	320	100	100	ug/Kg
CJ77702	\$8260MAR	cis-1,3-Dichloropropene	CT / RSR GB (mg/kg) / Volatiles	ND	320	100	100	ug/Kg
CJ77702	\$8260MAR	Benzene	CT / RSR GB (mg/kg) / Volatiles	ND	320	200	200	ug/Kg
CJ77702	\$ETPH_SM	Ext. Petroleum H.C. (C9-C36)	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	15000	1100	500	500	mg/Kg
CJ77702	\$ETPH_SM	Ext. Petroleum H.C. (C9-C36)	CT / RSR GB (mg/kg) / Pesticides/TPH	15000	1100	2500	2500	mg/Kg
CJ77704	PB-SM	Lead	CT / RSR DEC RES (mg/kg) / Inorganics	1730	3.3	400	400	mg/Kg
CJ77704	SB-SM	Antimony	CT / RSR DEC RES (mg/kg) / Inorganics	265	33	27	27	mg/Kg
CJ77705	\$8260MAR	1,2-Dibromo-3-chloropropane	CT / RSR DEC RES (mg/kg) / APS Organics	ND	120	90	90	ug/Kg
CJ77705	\$8260MAR	1,2-Dibromoethane	CT / RSR DEC RES (mg/kg) / Volatiles	ND	120	7	7	ug/Kg
CJ77705	\$8260MAR	1,2-Dibromo-3-chloropropane	CT / RSR GB (mg/kg) / APS Organics	ND	120	40	40	ug/Kg
CJ77705	\$8260MAR	1,2-Dibromoethane	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ77705	\$8260MAR	cis-1,3-Dichloropropene	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ77705	\$8260MAR	Dibromochloromethane	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ77705	\$8260MAR	trans-1,3-Dichloropropene	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ77705	\$8260MAR	1,1,2,2-Tetrachloroethane	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ77708	\$8260MER	1,2-Dibromo-3-chloropropane	CT / RSR DEC RES (mg/kg) / APS Organics	ND	100	90	90	ug/Kg
CJ77708	\$8260MER	1,2-Dibromoethane	CT / RSR DEC RES (mg/kg) / Volatiles	ND	100	7	7	ug/Kg
CJ77708	\$8260MER	1,2-Dibromo-3-chloropropane	CT / RSR GB (mg/kg) / APS Organics	ND	100	40	40	ug/Kg

Wednesday, November 24, 2021

Criteria: CT: GBM, RC

State: CT

## Sample Criteria Exceedances Report

### GCJ77699 - TIGHE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
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Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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.





# REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

**Laboratory Name:** Phoenix Environmental Labs, Inc.

**Client:** Tighe & Bond

**Project Location:** UNION STATION NHPA

**Project Number:**

**Laboratory Sample ID(s):** CJ77699, CJ77700,  
CJ77702, CJ77704, CJ77705, CJ77707, CJ77708

**Sampling Date(s):** 11/12/2021

**List RCP Methods Used (e.g., 8260, 8270, et cetera)** 1311/1312, 6010, 7470/7471, 8081, 8082, 8260, 8270, ETPH

<b>1</b>	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1A</b>	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1B</b>	<u><b>VPH and EPH methods only:</b></u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<b>2</b>	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>3</b>	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<b>4</b>	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Section: VOA Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>5</b>	a) Were reporting limits specified or referenced on the chain-of-custody?  b) Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>6</b>	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>7</b>	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

**I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.**

**Authorized Signature:**  **Position:** Assistant Lab Director

**Printed Name:** Greg Lawrence **Date:** Wednesday, November 24, 2021

**Name of Laboratory** Phoenix Environmental Labs, Inc.

**This certification form is to be used for RCP methods only.**



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
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## RCP Certification Report

November 24, 2021

SDG I.D.: GCJ77699

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### SDG Comments

8270 Semi-volatile Organics: CJ77699, CJ77702, CJ77704

The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

Not all requested reporting levels were achieved due to the presence of target and non target compounds. Please refer to the Sample Criteria Exceedances section of this report.

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### ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

**AU-FID11 11/16/21-1** Jeff Bucko, Chemist 11/16/21

CJ77704 (1X)

The initial calibration (ETPHO11I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (N16A003\_1) and contained the following outliers: None.

The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

**AU-XL2 11/15/21-1** Jeff Bucko, Chemist 11/15/21

CJ77699 (10X), CJ77702 (10X)

The initial calibration (ETPHO13I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (N15A003) and contained the following outliers: None.

The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

#### QC (Batch Specific):

**Batch 600750 (CJ77635)**

CJ77699, CJ77702, CJ77704

All LCS recoveries were within 60 - 120 with the following exceptions: None.

All LCSD recoveries were within 60 - 120 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

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### Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

#### Instrument:

**MERLIN 11/16/21 07:51** Alex Purdue, Chemist 11/16/21

CJ77699, CJ77702

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

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## Certification Report

November 24, 2021

SDG I.D.: GCJ77699

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### Mercury Narration

**MERLIN 11/16/21 11:32** Alex Purdue, Chemist 11/16/21

CJ77704

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

### QC (Batch Specific):

**Batch 600868 (CJ76047)**

CJ77699, CJ77702

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

**Batch 600869 (CJ77713)**

CJ77704

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

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### ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

#### Instrument:

**ARCOS 11/16/21 08:35** Tina Hall, Chemist 11/16/21

CJ77699, CJ77702, CJ77704

Additional criteria for CCV and ICSAB:

Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB). The linear range is defined daily by the calibration range.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

**ARCOS-2 11/17/21 08:55** Emily Kolominskaya, Chemist 11/17/21

CJ77704

The linear range is defined daily by the calibration range.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.



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## Certification Report

November 24, 2021

SDG I.D.: GCJ77699

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### **ICP Metals Narration**

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

**BLUE 11/22/21 08:15** Emily Kolominskaya, Tina Hall, Chemist 11/22/21

CJ77704

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria. The linear range is defined daily by the calibration range.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

### **QC (Batch Specific):**

#### **Batch 600758 (CJ77329)**

CJ77699, CJ77702, CJ77704

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 35% with the following exceptions: None.

Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.

#### **Batch 601680 (CJ82262)**

CJ77704

All LCS recoveries were within 80 - 120 with the following exceptions: None.

All LCSD recoveries were within 80 - 120 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.

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### **PCB Narration**

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### **Instrument:**

**AU-ECD24 11/16/21-1** Saadia Chudary, Chemist 11/16/21

CJ77699 (10X), CJ77702 (10X), CJ77704 (10X)

The initial calibration (PC1001AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC1001BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds: None.

#### **QC (Batch Specific):**

#### **Batch 600760 (CJ77714)**

CJ77699, CJ77702, CJ77704

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.



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## RCP Certification Report

November 24, 2021

SDG I.D.: GCJ77699

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### PEST Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

**AU-ECD4 11/16/21-2** Adam Werner, Chemist 11/16/21

CJ77700 (2X), CJ77704 (2X)

The initial calibration (PS1103AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PS1103BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CJ77700, CJ77704

Preceding CC N16B024 - None.

Succeeding CC N16B038 - Methoxychlor -22%L (20%)

A low "1A" standard was run after the samples to demonstrate capability to detect any compounds outside of the CC acceptance criteria. All reported samples were ND for the affected compounds.

#### QC (Batch Specific):

**Batch 600763 (CJ77714)**

CJ77700, CJ77704

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

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### SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

**CHEM07 11/16/21-2** Wes Bryon, Chemist 11/16/21

CJ77704 (1X)

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM07/7\_BN\_1111):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM07/1116\_31-7\_BN\_1111):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.



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## RCP Certification Report

November 24, 2021

SDG I.D.: GCJ77699

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### SVOA Narration

#### CHEM29 11/15/21-1

Matt Richard, Chemist 11/15/21

CJ77699 (1X), CJ77702 (1X)

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM29/29\_SPLIT\_1026):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM29/1115\_09-29\_SPLIT\_1026):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

### QC (Batch Specific):

#### Batch 600837 (CJ78069)

CJ77699, CJ77702

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

#### Batch 600956 (CJ78432)

CJ77704

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

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### VOA Narration



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

November 24, 2021

SDG I.D.: GCJ77699

### VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 600908H: -----**

**The QC recoveries for one or more analytes is below the method criteria. A low bias is likely. (Chloroethane, Trichlorofluoromethane)**

**QC Batch 601084H: -----**

**The QC recoveries for one or more analytes is below the method criteria. A low bias is likely. (Chloroethane, Trichlorofluoromethane)**

**QC Batch 601089 (Samples: CJ77707): -----**

**The LCS/LCSD recovery is above the upper range for one analyte that was not reported in the sample(s), therefore no significant bias is suspected. (Acrylonitrile)**

#### Instrument:

**CHEM14 11/16/21-1** Jane Li, Chemist 11/16/21

CJ77707 (1X)

Initial Calibration Evaluation (CHEM14/VT111421):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone 21% (20%)

The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.066 (0.1)

The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM14/1116\_03-VT111421):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

98% of target compounds met criteria.

The following compounds did not meet % deviation criteria: Acrylonitrile 32%H (30%)

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.048 (0.05)

**CHEM18 11/15/21-2** Jane Li, Chemist 11/15/21

CJ77708 (50X)

Initial Calibration Evaluation (CHEM18/VT-M111521):

98% of target compounds met criteria.

The following compounds had %RSDs >20%: Methylene chloride 21% (20%), Styrene 30% (20%)

The following compounds did not meet Table 4 recommended minimum response factors: None.

The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM18/1115\_17-VT-M111521):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet Table 4 recommended minimum response factors: None.

**CHEM18 11/16/21-1** Jane Li, Chemist 11/16/21



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

November 24, 2021

SDG I.D.: GCJ77699

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### VOA Narration

CJ77699 (50X), CJ77702 (50X), CJ77705 (50X)

Initial Calibration Evaluation (CHEM18/VT-M111521):

98% of target compounds met criteria.

The following compounds had %RSDs >20%: Methylene chloride 21% (20%), Styrene 30% (20%)

The following compounds did not meet Table 4 recommended minimum response factors: None.

The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM18/1116\_02-VT-M111521):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet Table 4 recommended minimum response factors: None.

### QC (Batch Specific):

**Batch 600908H (CJ77691)** CHEM18 11/15/2021-2

CJ77708(50X)

All LCS recoveries were within 70 - 130 with the following exceptions: Chloroethane(23%), Trichlorofluoromethane(46%)

All LCSD recoveries were within 70 - 130 with the following exceptions: Chloroethane(24%), Trichlorofluoromethane(46%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

**Batch 601084H (CJ77810)** CHEM18 11/16/2021-1

CJ77699(50X), CJ77702(50X), CJ77705(50X)

All LCS recoveries were within 70 - 130 with the following exceptions: Chloroethane(24%), Trichlorofluoromethane(50%)

All LCSD recoveries were within 70 - 130 with the following exceptions: Chloroethane(23%), Trichlorofluoromethane(48%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

**Batch 601089 (CJ77734)** CHEM14 11/16/2021-1

CJ77707(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: Acrylonitrile(137%)

All LCSD recoveries were within 70 - 130 with the following exceptions: Acrylonitrile(138%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

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### Temperature Narration

The samples were received at 2.4C with cooling initiated.

(Note acceptance criteria for relevant matrices is above freezing up to 6°C)





605 77699

**Shannon Wilhelm**

---

**From:** Casey Watts <CWatts@TigheBond.com>  
**Sent:** Tuesday, November 16, 2021 11:11 AM  
**To:** James T. Olsen; Shannon Wilhelm  
**Subject:** Re: Question on COC

Yes this sample should be on hold

**Casey Watts | Environmental Scientist**

**Tighe & Bond** | 213 Court Street, Suite 1100 | Middletown, CT 06457 | T. 860.704.4760 | C. 203.535.5533

[www.tighebond.com](http://www.tighebond.com) | Follow us on: [Twitter](#) [Facebook](#) [LinkedIn](#)



---

**From:** James T. Olsen <JTolsen@tighebond.com>  
**Sent:** Tuesday, November 16, 2021, 11:09 AM  
**To:** Casey Watts  
**Subject:** FW: Question on COC

Casey, please respond to Phoenix. Is this a hold sample?

---

**From:** Shannon Wilhelm <shannon@phoenixlabs.com>  
**Sent:** Tuesday, November 16, 2021 10:50 AM  
**To:** James T. Olsen <JTolsen@tighebond.com>  
**Subject:** Question on COC  
**Importance:** High

[ Caution - External Sender ]

Good Morning,

Please see attached regarding samples received yesterday. There's nothing checked off for analysis for sample Id B-3 (11-12) so just making sure you want this placed on hold for now. Please LMK.

Thank you,

Shannon Wilhelm  
Client Services Representative  
Phoenix Environmental Laboratories  
587 East Middle Turnpike  
Manchester CT 06040  
860-645-1102

---

**Sarah Bell**

**From:** Ian Adomeit <IAdomeit@TigheBond.com>  
**Sent:** Friday, November 19, 2021 11:44 AM  
**To:** Sarah Bell  
**Cc:** Jill L. Libby  
**Subject:** Additional Analysis - Lab ID GCJ77699

Hi Sarah,

Can you please run SPLP for Antimony and Lead for Sample ID CJ77704? 5-day TAT. Lab Report ID is GCJ77699.

Thanks,  
Ian

**Ian Adomeit** *(he/him)*  
Staff Engineer

**Tighe&Bond**

o. 860.852.5236 | m. 860.463.6715

213 Court Street, Suite 1100, Middletown, CT 06457  
w: [tighebond.com](http://tighebond.com) | [halvorsondesign.com](http://halvorsondesign.com)





Wednesday, November 24, 2021

Attn: James Olsen  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Project ID: UNION STATION NHPA  
SDG ID: GCJ78139  
Sample ID#s: CJ78139 - CJ78140, CJ78142 - CJ78143

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. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids 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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller

Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #M-CT007  
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  
UT Lab Registration #CT00007  
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

## Sample Id Cross Reference

November 24, 2021

SDG I.D.: GCJ78139

Project ID: UNION STATION NHPA

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Client Id	Lab Id	Matrix
B-5A (5-7)	CJ78139	SOIL
B-5A (7-9)	CJ78140	SOIL
TB111521L	CJ78142	SOIL
TB111521H	CJ78143	SOIL



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 24, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: CP  
 Analyzed by: see "By" below

Date                      Time  
 11/15/21                      10:50  
 11/16/21                      10:36

Laboratory Data

SDG ID: GCJ78139  
 Phoenix ID: CJ78139

Project ID: UNION STATION NHPA  
 Client ID: B-5A (5-7)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	84		%		11/16/21	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				11/16/21	O/Y	SW3545A

Pesticides

4,4' -DDD	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
4,4' -DDE	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
4,4' -DDT	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
a-BHC	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
Alachlor	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
Aldrin	ND	3.9	ug/Kg	2	11/17/21	AW	SW8081B
b-BHC	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
Chlordane	ND	39	ug/Kg	2	11/17/21	AW	SW8081B
d-BHC	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
Dieldrin	ND	3.9	ug/Kg	2	11/17/21	AW	SW8081B
Endosulfan I	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
Endosulfan II	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
Endosulfan sulfate	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
Endrin	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
Endrin aldehyde	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
Endrin ketone	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
g-BHC	ND	1.6	ug/Kg	2	11/17/21	AW	SW8081B
Heptachlor	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
Heptachlor epoxide	ND	7.8	ug/Kg	2	11/17/21	AW	SW8081B
Methoxychlor	ND	39	ug/Kg	2	11/17/21	AW	SW8081B
Toxaphene	ND	160	ug/Kg	2	11/17/21	AW	SW8081B

QA/QC Surrogates

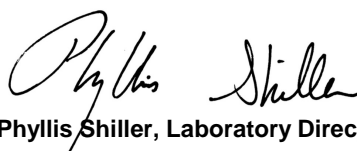
% DCBP	80		%	2	11/17/21	AW	30 - 150 %
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Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP (Confirmation)	93		%	2	11/17/21	AW	30 - 150 %
% TCMX	55		%	2	11/17/21	AW	30 - 150 %
% TCMX (Confirmation)	61		%	2	11/17/21	AW	30 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.  
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.  
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 24, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 24, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: CP  
 Analyzed by: see "By" below

Date                      Time  
 11/15/21                      10:51  
 11/16/21                      10:36

Laboratory Data

SDG ID: GCJ78139  
 Phoenix ID: CJ78140

Project ID: UNION STATION NHPA  
 Client ID: B-5A (7-9)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.36	0.36	mg/Kg	1	11/17/21	EK	SW6010D
Arsenic	< 0.73	0.73	mg/Kg	1	11/17/21	EK	SW6010D
Barium	21.1	0.36	mg/Kg	1	11/17/21	EK	SW6010D
Beryllium	< 0.29	0.29	mg/Kg	1	11/17/21	EK	SW6010D
Cadmium	< 0.36	0.36	mg/Kg	1	11/17/21	EK	SW6010D
Chromium	6.78	0.36	mg/Kg	1	11/17/21	EK	SW6010D
Copper	8.5	0.7	mg/kg	1	11/17/21	EK	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	11/22/21	AP	SW7471B
Nickel	4.96	0.36	mg/Kg	1	11/17/21	EK	SW6010D
Lead	5.49	0.36	mg/Kg	1	11/17/21	EK	SW6010D
Antimony	< 3.6	3.6	mg/Kg	1	11/17/21	EK	SW6010D
Selenium	< 1.5	1.5	mg/Kg	1	11/17/21	EK	SW6010D
Thallium	< 3.3	3.3	mg/Kg	1	11/17/21	EK	SW6010D
Vanadium	23.7	0.36	mg/Kg	1	11/17/21	EK	SW6010D
Zinc	15.5	0.7	mg/Kg	1	11/17/21	EK	SW6010D
Percent Solid	87		%		11/16/21	JS	SW846-%Solid
Soil Extraction for PCB	Completed				11/16/21	O/E	SW3545A
Field Extraction	Completed				11/15/21		SW5035A
Mercury Digestion	Completed				11/20/21	K/AB/AB	SW7471B
Extraction of ETPH	Completed				11/16/21	R/Y	SW3546
Soil Extraction for SVOA PAH	Completed				11/16/21	R/L	SW3546
Total Metals Digest	Completed				11/16/21	M/AG	SW3050B

**TPH by GC (Extractable Products)**

Ext. Petroleum H.C. (C9-C36)	5800	950	mg/Kg	10	11/18/21	JRB	CTETPH 8015D
Identification	**		mg/Kg	10	11/18/21	JRB	CTETPH 8015D

**QA/QC Surrogates**

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% COD (surr)	Diluted Out		%	10	11/18/21	JRB	50 - 150 %
% Terphenyl (surr)	Diluted Out		%	10	11/18/21	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	370	ug/Kg	10	11/17/21	SC	SW8082A
PCB-1221	ND	370	ug/Kg	10	11/17/21	SC	SW8082A
PCB-1232	ND	370	ug/Kg	10	11/17/21	SC	SW8082A
PCB-1242	ND	370	ug/Kg	10	11/17/21	SC	SW8082A
PCB-1248	ND	370	ug/Kg	10	11/17/21	SC	SW8082A
PCB-1254	ND	370	ug/Kg	10	11/17/21	SC	SW8082A
PCB-1260	ND	370	ug/Kg	10	11/17/21	SC	SW8082A
PCB-1262	ND	370	ug/Kg	10	11/17/21	SC	SW8082A
PCB-1268	ND	370	ug/Kg	10	11/17/21	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	78		%	10	11/17/21	SC	30 - 150 %
% DCBP (Confirmation)	90		%	10	11/17/21	SC	30 - 150 %
% TCMX	59		%	10	11/17/21	SC	30 - 150 %
% TCMX (Confirmation)	61		%	10	11/17/21	SC	30 - 150 %
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	200	ug/Kg	50	11/23/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	120	ug/Kg	50	11/23/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,1-Dichloroethane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,1-Dichloroethene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,1-Dichloropropene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,2,4-Trimethylbenzene	5000	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	120	ug/Kg	50	11/23/21	JLI	SW8260C
1,2-Dibromoethane	ND	120	ug/Kg	50	11/23/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,2-Dichloroethane	ND	200	ug/Kg	50	11/23/21	JLI	SW8260C
1,2-Dichloropropane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,3-Dichloropropane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
2,2-Dichloropropane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
2-Chlorotoluene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
2-Hexanone	ND	1500	ug/Kg	50	11/23/21	JLI	SW8260C
2-Isopropyltoluene	400	300	ug/Kg	50	11/23/21	JLI	SW8260C
4-Chlorotoluene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	1500	ug/Kg	50	11/23/21	JLI	SW8260C
Acetone	ND	15000	ug/Kg	50	11/23/21	JLI	SW8260C
Acrylonitrile	ND	100	ug/Kg	50	11/23/21	JLI	SW8260C
Benzene	ND	200	ug/Kg	50	11/23/21	JLI	SW8260C
Bromobenzene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Bromochloromethane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Bromodichloromethane	ND	210	ug/Kg	50	11/23/21	JLI	SW8260C
Bromoform	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Bromomethane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Carbon Disulfide	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Carbon tetrachloride	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Chlorobenzene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Chloroethane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Chloroform	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Chloromethane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	120	ug/Kg	50	11/23/21	JLI	SW8260C
Dibromochloromethane	ND	120	ug/Kg	50	11/23/21	JLI	SW8260C
Dibromomethane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Dichlorodifluoromethane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Ethylbenzene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Hexachlorobutadiene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Isopropylbenzene	230	230	ug/Kg	50	11/23/21	JLI	SW8260C
m&p-Xylene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	1800	ug/Kg	50	11/23/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	600	ug/Kg	50	11/23/21	JLI	SW8260C
Methylene chloride	ND	600	ug/Kg	50	11/23/21	JLI	SW8260C
Naphthalene	450	300	ug/Kg	50	11/23/21	JLI	SW8260C
n-Butylbenzene	760	300	ug/Kg	50	11/23/21	JLI	SW8260C
n-Propylbenzene	540	300	ug/Kg	50	11/23/21	JLI	SW8260C
o-Xylene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
p-Isopropyltoluene	440	300	ug/Kg	50	11/23/21	JLI	SW8260C
sec-Butylbenzene	660	300	ug/Kg	50	11/23/21	JLI	SW8260C
Styrene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
tert-Butylbenzene	140	130	ug/Kg	50	11/23/21	JLI	SW8260C
Tetrachloroethene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	600	ug/Kg	50	11/23/21	JLI	SW8260C
Toluene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Total Xylenes	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	120	ug/Kg	50	11/23/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	600	ug/Kg	50	11/23/21	JLI	SW8260C
Trichloroethene	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Trichlorofluoromethane	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	600	ug/Kg	50	11/23/21	JLI	SW8260C
Vinyl chloride	ND	300	ug/Kg	50	11/23/21	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4 (50x)	98		%	50	11/23/21	JLI	70 - 130 %
% Bromofluorobenzene (50x)	108		%	50	11/23/21	JLI	70 - 130 %
% Dibromofluoromethane (50x)	101		%	50	11/23/21	JLI	70 - 130 %
% Toluene-d8 (50x)	96		%	50	11/23/21	JLI	70 - 130 %
<b><u>Polynuclear Aromatic HC</u></b>							
2-Methylnaphthalene	22000	2600	ug/Kg	10	11/17/21	WB	SW8270D
Acenaphthene	1600	260	ug/Kg	1	11/17/21	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acenaphthylene	ND	260	ug/Kg	1	11/17/21	WB	SW8270D
Anthracene	620	260	ug/Kg	1	11/17/21	WB	SW8270D
Benz(a)anthracene	ND	260	ug/Kg	1	11/17/21	WB	SW8270D
Benzo(a)pyrene	ND	260	ug/Kg	1	11/17/21	WB	SW8270D
Benzo(b)fluoranthene	ND	260	ug/Kg	1	11/17/21	WB	SW8270D
Benzo(ghi)perylene	ND	260	ug/Kg	1	11/17/21	WB	SW8270D
Benzo(k)fluoranthene	ND	260	ug/Kg	1	11/17/21	WB	SW8270D
Chrysene	ND	260	ug/Kg	1	11/17/21	WB	SW8270D
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	11/17/21	WB	SW8270D
Fluoranthene	270	260	ug/Kg	1	11/17/21	WB	SW8270D
Fluorene	2300	260	ug/Kg	1	11/17/21	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	260	ug/Kg	1	11/17/21	WB	SW8270D
Naphthalene	ND	260	ug/Kg	1	11/17/21	WB	SW8270D
Phenanthrene	5100	260	ug/Kg	1	11/17/21	WB	SW8270D
Pyrene	320	260	ug/Kg	1	11/17/21	WB	SW8270D
<b>QA/QC Surrogates</b>							
% 2-Fluorobiphenyl	58		%	1	11/17/21	WB	30 - 130 %
% Nitrobenzene-d5	128		%	1	11/17/21	WB	30 - 130 %
% Terphenyl-d14	64		%	1	11/17/21	WB	30 - 130 %
% 2-Fluorobiphenyl (10x)	Diluted Out		%	10	11/17/21	WB	30 - 130 %
% Nitrobenzene-d5 (10x)	Diluted Out		%	10	11/17/21	WB	30 - 130 %
% Terphenyl-d14 (10x)	Diluted Out		%	10	11/17/21	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
 QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TPH Comment:

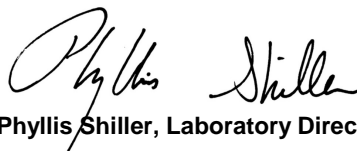
\*\*Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C26. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 24, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 24, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: CP  
 Analyzed by: see "By" below

Date                      Time  
 11/15/21  
 11/16/21                      10:36

Laboratory Data

SDG ID: GCJ78139  
 Phoenix ID: CJ78142

Project ID: UNION STATION NHPA  
 Client ID: TB111521L

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Field Extraction	Completed				11/15/21		SW5035A
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,1-Dichloroethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,1-Dichloroethene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,1-Dichloropropene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,2-Dibromoethane	ND	0.50	ug/Kg	1	11/17/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,2-Dichloroethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,2-Dichloropropane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,3-Dichloropropane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
2,2-Dichloropropane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
2-Chlorotoluene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
2-Hexanone	ND	25	ug/Kg	1	11/17/21	JLI	SW8260C
2-Isopropyltoluene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Chlorotoluene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	25	ug/Kg	1	11/17/21	JLI	SW8260C
Acetone	ND	250	ug/Kg	1	11/17/21	JLI	SW8260C
Acrylonitrile	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Benzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Bromobenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Bromochloromethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Bromodichloromethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Bromoform	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Bromomethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Carbon Disulfide	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Carbon tetrachloride	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Chloroethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Chloroform	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Chloromethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Dibromochloromethane	ND	3.0	ug/Kg	1	11/17/21	JLI	SW8260C
Dibromomethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Ethylbenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Hexachlorobutadiene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Isopropylbenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
m&p-Xylene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	30	ug/Kg	1	11/17/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	11/17/21	JLI	SW8260C
Methylene chloride	ND	10	ug/Kg	1	11/17/21	JLI	SW8260C
Naphthalene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
n-Butylbenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
n-Propylbenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
o-Xylene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
p-Isopropyltoluene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
sec-Butylbenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Styrene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
tert-Butylbenzene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Tetrachloroethene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	10	ug/Kg	1	11/17/21	JLI	SW8260C
Toluene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Total Xylenes	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	11/17/21	JLI	SW8260C
Trichloroethene	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Trichlorofluoromethane	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	10	ug/Kg	1	11/17/21	JLI	SW8260C
Vinyl chloride	ND	5.0	ug/Kg	1	11/17/21	JLI	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4	94		%	1	11/17/21	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Bromofluorobenzene	97		%	1	11/17/21	JLI	70 - 130 %
% Dibromofluoromethane	96		%	1	11/17/21	JLI	70 - 130 %
% Toluene-d8	92		%	1	11/17/21	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TRIP BLANK INCLUDED.

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 24, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 November 24, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: SOIL  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: CP  
 Analyzed by: see "By" below

Date

11/15/21

Time

10:36

Laboratory Data

SDG ID: GCJ78139  
 Phoenix ID: CJ78143

Project ID: UNION STATION NHPA  
 Client ID: TB111521H

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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Field Extraction	Completed				11/15/21		SW5035A
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**Volatiles**

1,1,1,2-Tetrachloroethane	ND	200	ug/Kg	50	11/17/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	100	ug/Kg	50	11/17/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,1-Dichloroethane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,1-Dichloroethene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,1-Dichloropropene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	100	ug/Kg	50	11/17/21	JLI	SW8260C
1,2-Dibromoethane	ND	100	ug/Kg	50	11/17/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,2-Dichloroethane	ND	200	ug/Kg	50	11/17/21	JLI	SW8260C
1,2-Dichloropropane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,3-Dichloropropane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
2,2-Dichloropropane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
2-Chlorotoluene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
2-Hexanone	ND	1300	ug/Kg	50	11/17/21	JLI	SW8260C
2-Isopropyltoluene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Chlorotoluene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	1300	ug/Kg	50	11/17/21	JLI	SW8260C
Acetone	ND	5000	ug/Kg	50	11/17/21	JLI	SW8260C
Acrylonitrile	ND	100	ug/Kg	50	11/17/21	JLI	SW8260C
Benzene	ND	200	ug/Kg	50	11/17/21	JLI	SW8260C
Bromobenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Bromochloromethane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Bromodichloromethane	ND	210	ug/Kg	50	11/17/21	JLI	SW8260C
Bromoform	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Bromomethane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Carbon Disulfide	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Carbon tetrachloride	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Chlorobenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Chloroethane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Chloroform	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Chloromethane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
cis-1,3-Dichloropropene	ND	100	ug/Kg	50	11/17/21	JLI	SW8260C
Dibromochloromethane	ND	100	ug/Kg	50	11/17/21	JLI	SW8260C
Dibromomethane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Dichlorodifluoromethane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Ethylbenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Hexachlorobutadiene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Isopropylbenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
m&p-Xylene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	3000	ug/Kg	50	11/17/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Methylene chloride	ND	500	ug/Kg	50	11/17/21	JLI	SW8260C
Naphthalene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
n-Butylbenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
n-Propylbenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
o-Xylene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
p-Isopropyltoluene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
sec-Butylbenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Styrene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
tert-Butylbenzene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Tetrachloroethene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	500	ug/Kg	50	11/17/21	JLI	SW8260C
Toluene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Total Xylenes	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	100	ug/Kg	50	11/17/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	500	ug/Kg	50	11/17/21	JLI	SW8260C
Trichloroethene	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Trichlorofluoromethane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
Vinyl chloride	ND	250	ug/Kg	50	11/17/21	JLI	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4 (50x)	95		%	50	11/17/21	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Bromofluorobenzene (50x)	97		%	50	11/17/21	JLI	70 - 130 %
% Dibromofluoromethane (50x)	93		%	50	11/17/21	JLI	70 - 130 %
% Toluene-d8 (50x)	91		%	50	11/17/21	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TRIP BLANK INCLUDED.

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**November 24, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
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 Tel. (860) 645-1102 Fax (860) 645-0823

# QA/QC Report

November 24, 2021

## QA/QC Data

SDG I.D.: GCJ78139

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 601625 (mg/kg), QC Sample No: CJ82377 (CJ78140)													
Mercury - Soil	BRL	0.02	<0.03	<0.03	NC	123	122	0.8	88.9	84.8	4.7	70 - 130	30
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.													
QA/QC Batch 600959 (mg/kg), QC Sample No: CJ78733 (CJ78140)													
<u>ICP Metals - Soil</u>													
Antimony	BRL	3.3	<6.1	<6.1	NC	107	104	2.8	92.3			75 - 125	35
Arsenic	BRL	0.67	1.8	1.6	NC	113	109	3.6	99.8			75 - 125	35
Barium	BRL	0.33	114	113	0.90	107	109	1.9	101			75 - 125	35
Beryllium	BRL	0.27	1.31	1.32	NC	106	104	1.9	100			75 - 125	35
Cadmium	BRL	0.33	<0.61	<0.61	NC	108	106	1.9	99.5			75 - 125	35
Chromium	BRL	0.33	18.7	17.7	5.50	94.7	89.9	5.2	102			75 - 125	35
Copper	BRL	0.67	18.6	17.2	7.80	103	103	0.0	102			75 - 125	35
Lead	BRL	0.33	31.4	21.5	37.4	105	107	1.9	102			75 - 125	35
Nickel	BRL	0.33	12.3	11.3	8.50	110	107	2.8	102			75 - 125	35
Selenium	BRL	1.3	<2.4	<2.4	NC	95.8	98.5	2.8	96.3			75 - 125	35
Silver	BRL	0.33	<0.61	<0.61	NC	101	99.0	2.0	98.5			75 - 125	35
Thallium	BRL	3.0	<5.5	<5.5	NC	110	108	1.8	98.4			75 - 125	35
Vanadium	BRL	0.33	21.8	20.9	4.20	105	106	0.9	104			75 - 125	35
Zinc	BRL	0.67	50.1	43.2	14.8	108	107	0.9	111			75 - 125	35

Comment:

Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.

r = This parameter is outside laboratory RPD specified recovery limits.



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# QA/QC Report

November 24, 2021

## QA/QC Data

SDG I.D.: GCJ78139

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 600940 (mg/Kg), QC Sample No: CJ78166 (CJ78140)										
<u>TPH by GC (Extractable Products) - Soil</u>										
Ext. Petroleum H.C. (C9-C36)	ND	50	97	117	18.7	121	108	11.4	60 - 120	30
% COD (surr)	84	%	77	109	34.4	108	107	0.9	50 - 150	30
% Terphenyl (surr)	78	%	83	105	23.4	119	111	7.0	50 - 150	30

Comment:

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

QA/QC Batch 600954 (ug/Kg), QC Sample No: CJ78937 2X (CJ78140)

### Polychlorinated Biphenyls - Soil

PCB-1016	ND	33	86	87	1.2	73			40 - 140	30
PCB-1221	ND	33							40 - 140	30
PCB-1232	ND	33							40 - 140	30
PCB-1242	ND	33							40 - 140	30
PCB-1248	ND	33							40 - 140	30
PCB-1254	ND	33							40 - 140	30
PCB-1260	ND	33	84	85	1.2	69			40 - 140	30
PCB-1262	ND	33							40 - 140	30
PCB-1268	ND	33							40 - 140	30
% DCBP (Surrogate Rec)	49	%	86	85	1.2	70			30 - 150	30
% DCBP (Surrogate Rec) (Confirm	45	%	79	78	1.3	59			30 - 150	30
% TCMX (Surrogate Rec)	44	%	81	81	0.0	67			30 - 150	30
% TCMX (Surrogate Rec) (Confirm	46	%	80	80	0.0	66			30 - 150	30

QA/QC Batch 600953 (ug/Kg), QC Sample No: CJ77955 2X (CJ78139)

### Pesticides - Soil

4,4' -DDD	ND	1.7	64	67	4.6	75	84	11.3	40 - 140	30
4,4' -DDE	ND	1.7	58	67	14.4	73	78	6.6	40 - 140	30
4,4' -DDT	ND	1.7	61	61	0.0	76	74	2.7	40 - 140	30
a-BHC	ND	1.0	59	55	7.0	55	60	8.7	40 - 140	30
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30
Aldrin	ND	1.0	57	58	1.7	56	62	10.2	40 - 140	30
b-BHC	ND	1.0	82	70	15.8	70	77	9.5	40 - 140	30
Chlordane	ND	33	60	65	8.0	66	74	11.4	40 - 140	30
d-BHC	ND	3.3	56	48	15.4	48	53	9.9	40 - 140	30
Dieldrin	ND	1.0	62	64	3.2	69	73	5.6	40 - 140	30
Endosulfan I	ND	3.3	63	69	9.1	67	74	9.9	40 - 140	30
Endosulfan II	ND	3.3	67	74	9.9	74	83	11.5	40 - 140	30
Endosulfan sulfate	ND	3.3	72	77	6.7	78	88	12.0	40 - 140	30
Endrin	ND	3.3	65	66	1.5	68	75	9.8	40 - 140	30
Endrin aldehyde	ND	3.3	60	60	0.0	66	72	8.7	40 - 140	30
Endrin ketone	ND	3.3	67	69	2.9	68	78	13.7	40 - 140	30
g-BHC	ND	1.0	62	61	1.6	58	64	9.8	40 - 140	30

## QA/QC Data

SDG I.D.: GCJ78139

Parameter	Blank		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	BLK RL								
Heptachlor	ND	3.3	59	57	3.4	55	61	10.3	40 - 140	30
Heptachlor epoxide	ND	3.3	60	62	3.3	62	68	9.2	40 - 140	30
Methoxychlor	ND	3.3	63	67	6.2	78	78	0.0	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	87	%	81	85	4.8	89	99	10.6	30 - 150	30
% DCBP (Confirmation)	87	%	84	67	22.5	78	77	1.3	30 - 150	30
% TCMX	72	%	66	67	1.5	66	72	8.7	30 - 150	30
% TCMX (Confirmation)	76	%	70	67	4.4	67	72	7.2	30 - 150	30

QA/QC Batch 600956 (ug/kg), QC Sample No: CJ78432 (CJ78140)

### Polynuclear Aromatic HC - Soil

2-Methylnaphthalene	ND	230	79	79	0.0	76	73	4.0	40 - 140	30
Acenaphthene	ND	230	86	87	1.2	84	83	1.2	30 - 130	30
Acenaphthylene	ND	230	80	80	0.0	79	77	2.6	40 - 140	30
Anthracene	ND	230	82	86	4.8	83	81	2.4	40 - 140	30
Benz(a)anthracene	ND	230	80	87	8.4	82	79	3.7	40 - 140	30
Benzo(a)pyrene	ND	230	79	83	4.9	79	77	2.6	40 - 140	30
Benzo(b)fluoranthene	ND	230	81	85	4.8	82	78	5.0	40 - 140	30
Benzo(ghi)perylene	ND	230	86	89	3.4	83	85	2.4	40 - 140	30
Benzo(k)fluoranthene	ND	230	79	84	6.1	78	77	1.3	40 - 140	30
Chrysene	ND	230	82	89	8.2	82	82	0.0	40 - 140	30
Dibenz(a,h)anthracene	ND	230	88	92	4.4	86	87	1.2	40 - 140	30
Fluoranthene	ND	230	78	82	5.0	80	77	3.8	40 - 140	30
Fluorene	ND	230	85	90	5.7	85	82	3.6	40 - 140	30
Indeno(1,2,3-cd)pyrene	ND	230	81	83	2.4	79	79	0.0	40 - 140	30
Naphthalene	ND	230	76	75	1.3	75	74	1.3	40 - 140	30
Phenanthrene	ND	230	81	85	4.8	82	80	2.5	40 - 140	30
Pyrene	ND	230	78	82	5.0	85	82	3.6	30 - 130	30
% 2-Fluorobiphenyl	74	%	75	74	1.3	75	74	1.3	30 - 130	30
% Nitrobenzene-d5	80	%	80	79	1.3	78	76	2.6	30 - 130	30
% Terphenyl-d14	80	%	83	87	4.7	87	84	3.5	30 - 130	30

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 601279 (ug/kg), QC Sample No: CJ79266 (CJ78142)

### Volatiles - Soil (Low Level)

1,1,1,2-Tetrachloroethane	ND	5.0	105	108	2.8	99	101	2.0	70 - 130	30
1,1,1-Trichloroethane	ND	5.0	94	99	5.2	90	92	2.2	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0	98	100	2.0	92	92	0.0	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	96	99	3.1	92	94	2.2	70 - 130	30
1,1-Dichloroethane	ND	5.0	112	116	3.5	110	111	0.9	70 - 130	30
1,1-Dichloroethene	ND	5.0	87	96	9.8	84	86	2.4	70 - 130	30
1,1-Dichloropropene	ND	5.0	95	99	4.1	91	93	2.2	70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	109	109	0.0	76	81	6.4	70 - 130	30
1,2,3-Trichloropropane	ND	5.0	93	96	3.2	90	87	3.4	70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	106	107	0.9	78	82	5.0	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	100	101	1.0	88	91	3.4	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	109	115	5.4	99	103	4.0	70 - 130	30
1,2-Dibromoethane	ND	5.0	103	105	1.9	98	98	0.0	70 - 130	30
1,2-Dichlorobenzene	ND	5.0	103	104	1.0	86	92	6.7	70 - 130	30
1,2-Dichloroethane	ND	5.0	98	101	3.0	93	93	0.0	70 - 130	30
1,2-Dichloropropane	ND	5.0	93	98	5.2	93	94	1.1	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	101	100	1.0	90	93	3.3	70 - 130	30

QA/QC Data

SDG I.D.: GCJ78139

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,3-Dichlorobenzene	ND	5.0	99	99	0.0	83	87	4.7	70 - 130	30	
1,3-Dichloropropane	ND	5.0	99	103	4.0	96	96	0.0	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	101	101	0.0	85	89	4.6	70 - 130	30	
2,2-Dichloropropane	ND	5.0	96	92	4.3	90	89	1.1	70 - 130	30	
2-Chlorotoluene	ND	5.0	102	104	1.9	91	94	3.2	70 - 130	30	
2-Hexanone	ND	25	94	100	6.2	89	87	2.3	70 - 130	30	
2-Isopropyltoluene	ND	5.0	101	102	1.0	86	91	5.6	70 - 130	30	
4-Chlorotoluene	ND	5.0	101	101	0.0	88	92	4.4	70 - 130	30	
4-Methyl-2-pentanone	ND	25	96	101	5.1	93	91	2.2	70 - 130	30	
Acetone	ND	10	73	90	20.9	29	26	10.9	70 - 130	30	m
Acrylonitrile	ND	5.0	126	132	4.7	121	117	3.4	70 - 130	30	l
Benzene	ND	1.0	94	98	4.2	92	94	2.2	70 - 130	30	
Bromobenzene	ND	5.0	104	105	1.0	95	97	2.1	70 - 130	30	
Bromochloromethane	ND	5.0	93	96	3.2	91	92	1.1	70 - 130	30	
Bromodichloromethane	ND	5.0	98	100	2.0	95	97	2.1	70 - 130	30	
Bromoform	ND	5.0	102	108	5.7	97	99	2.0	70 - 130	30	
Bromomethane	ND	5.0	98	106	7.8	91	95	4.3	70 - 130	30	
Carbon Disulfide	ND	5.0	78	85	8.6	72	74	2.7	70 - 130	30	
Carbon tetrachloride	ND	5.0	96	100	4.1	90	94	4.3	70 - 130	30	
Chlorobenzene	ND	5.0	99	101	2.0	92	95	3.2	70 - 130	30	
Chloroethane	ND	5.0	88	94	6.6	85	88	3.5	70 - 130	30	
Chloroform	ND	5.0	91	95	4.3	89	90	1.1	70 - 130	30	
Chloromethane	ND	5.0	88	91	3.4	80	81	1.2	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	93	95	2.1	90	92	2.2	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	100	103	3.0	94	97	3.1	70 - 130	30	
Dibromochloromethane	ND	3.0	105	108	2.8	99	101	2.0	70 - 130	30	
Dibromomethane	ND	5.0	99	103	4.0	94	96	2.1	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	95	97	2.1	77	80	3.8	70 - 130	30	
Ethylbenzene	ND	1.0	101	103	2.0	95	97	2.1	70 - 130	30	
Hexachlorobutadiene	ND	5.0	103	100	3.0	65	67	3.0	70 - 130	30	m
Isopropylbenzene	ND	1.0	99	101	2.0	92	94	2.2	70 - 130	30	
m&p-Xylene	ND	2.0	98	100	2.0	91	95	4.3	70 - 130	30	
Methyl ethyl ketone	ND	5.0	86	91	5.6	69	66	4.4	70 - 130	30	m
Methyl t-butyl ether (MTBE)	ND	1.0	92	91	1.1	88	86	2.3	70 - 130	30	
Methylene chloride	ND	5.0	79	86	8.5	79	81	2.5	70 - 130	30	
Naphthalene	ND	5.0	108	112	3.6	86	91	5.6	70 - 130	30	
n-Butylbenzene	ND	1.0	103	101	2.0	80	84	4.9	70 - 130	30	
n-Propylbenzene	ND	1.0	103	102	1.0	90	93	3.3	70 - 130	30	
o-Xylene	ND	2.0	99	102	3.0	92	96	4.3	70 - 130	30	
p-Isopropyltoluene	ND	1.0	102	101	1.0	86	90	4.5	70 - 130	30	
sec-Butylbenzene	ND	1.0	99	100	1.0	84	88	4.7	70 - 130	30	
Styrene	ND	5.0	100	103	3.0	91	95	4.3	70 - 130	30	
tert-Butylbenzene	ND	1.0	101	103	2.0	89	93	4.4	70 - 130	30	
Tetrachloroethene	ND	5.0	97	98	1.0	89	93	4.4	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0	84	89	5.8	82	78	5.0	70 - 130	30	
Toluene	ND	1.0	95	100	5.1	92	95	3.2	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	86	94	8.9	84	86	2.4	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	104	105	1.0	95	98	3.1	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	108	110	1.8	96	94	2.1	70 - 130	30	
Trichloroethene	ND	5.0	95	99	4.1	91	94	3.2	70 - 130	30	
Trichlorofluoromethane	ND	5.0	94	99	5.2	87	89	2.3	70 - 130	30	
Trichlorotrifluoroethane	ND	5.0	83	86	3.6	76	79	3.9	70 - 130	30	
Vinyl chloride	ND	5.0	93	99	6.3	86	90	4.5	70 - 130	30	

## QA/QC Data

SDG I.D.: GCJ78139

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
% 1,2-dichlorobenzene-d4	95	%	100	100	0.0	100	100	0.0	70 - 130	30
% Bromofluorobenzene	96	%	99	98	1.0	98	98	0.0	70 - 130	30
% Dibromofluoromethane	99	%	97	97	0.0	94	94	0.0	70 - 130	30
% Toluene-d8	91	%	99	99	0.0	99	99	0.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Batch 601279H (ug/kg), QC Sample No: CJ79266 (CJ78143 (50X) )

### Volatiles - Soil (High Level)

1,1,1,2-Tetrachloroethane	ND	5.0	111	109	1.8	109	110	0.9	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	99	100	1.0	98	98	0.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	5.0	104	103	1.0	103	104	1.0	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	104	104	0.0	105	104	1.0	70 - 130	30	
1,1-Dichloroethane	ND	5.0	119	120	0.8	119	117	1.7	70 - 130	30	
1,1-Dichloroethene	ND	5.0	91	93	2.2	92	91	1.1	70 - 130	30	
1,1-Dichloropropene	ND	5.0	107	108	0.9	108	106	1.9	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	129	127	1.6	119	121	1.7	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	99	100	1.0	100	101	1.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	130	129	0.8	119	120	0.8	70 - 130	30	
1,2,4-Trimethylbenzene	ND	5.0	113	114	0.9	112	111	0.9	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	116	112	3.5	110	118	7.0	70 - 130	30	
1,2-Dibromoethane	ND	5.0	110	110	0.0	112	109	2.7	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	118	117	0.9	114	113	0.9	70 - 130	30	
1,2-Dichloroethane	ND	5.0	106	104	1.9	103	102	1.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0	104	104	0.0	105	104	1.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	5.0	114	114	0.0	113	112	0.9	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	114	114	0.0	110	110	0.0	70 - 130	30	
1,3-Dichloropropane	ND	5.0	108	109	0.9	109	108	0.9	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	117	118	0.9	113	112	0.9	70 - 130	30	
2,2-Dichloropropane	ND	5.0	97	99	2.0	92	89	3.3	70 - 130	30	
2-Chlorotoluene	ND	5.0	116	116	0.0	114	113	0.9	70 - 130	30	
2-Hexanone	ND	25	96	98	2.1	98	99	1.0	70 - 130	30	
2-Isopropyltoluene	ND	5.0	116	115	0.9	114	114	0.0	70 - 130	30	
4-Chlorotoluene	ND	5.0	116	115	0.9	112	112	0.0	70 - 130	30	
4-Methyl-2-pentanone	ND	25	99	100	1.0	102	100	2.0	70 - 130	30	
Acetone	ND	10	74	69	7.0	70	74	5.6	70 - 130	30	I
Acrylonitrile	ND	5.0	134	133	0.7	135	131	3.0	70 - 130	30	I,m
Benzene	ND	5.0	105	105	0.0	105	103	1.9	70 - 130	30	
Bromobenzene	ND	5.0	116	117	0.9	115	113	1.8	70 - 130	30	
Bromochloromethane	ND	5.0	99	101	2.0	98	95	3.1	70 - 130	30	
Bromodichloromethane	ND	5.0	104	104	0.0	103	103	0.0	70 - 130	30	
Bromoform	ND	5.0	103	102	1.0	100	105	4.9	70 - 130	30	
Bromomethane	ND	5.0	62	64	3.2	62	58	6.7	70 - 130	30	I,m
Carbon Disulfide	ND	5.0	84	85	1.2	83	81	2.4	70 - 130	30	
Carbon tetrachloride	ND	5.0	95	93	2.1	89	92	3.3	70 - 130	30	
Chlorobenzene	ND	5.0	111	112	0.9	112	109	2.7	70 - 130	30	
Chloroethane	ND	5.0	25	25	0.0	25	23	8.3	70 - 130	30	I,m
Chloroform	ND	5.0	97	97	0.0	97	96	1.0	70 - 130	30	
Chloromethane	ND	5.0	100	97	3.0	91	90	1.1	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	104	101	2.9	100	100	0.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	107	107	0.0	104	104	0.0	70 - 130	30	
Dibromochloromethane	ND	3.0	109	106	2.8	105	108	2.8	70 - 130	30	

QA/QC Data

SDG I.D.: GCJ78139

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Dibromomethane	ND	5.0	109	108	0.9	108	105	2.8	70 - 130	30
Dichlorodifluoromethane	ND	5.0	102	102	0.0	89	86	3.4	70 - 130	30
Ethylbenzene	ND	5.0	113	115	1.8	114	111	2.7	70 - 130	30
Hexachlorobutadiene	ND	5.0	129	126	2.4	121	122	0.8	70 - 130	30
Isopropylbenzene	ND	5.0	115	114	0.9	113	113	0.0	70 - 130	30
m&p-Xylene	ND	5.0	111	112	0.9	112	110	1.8	70 - 130	30
Methyl ethyl ketone	ND	5.0	88	83	5.8	89	87	2.3	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	5.0	93	93	0.0	94	91	3.2	70 - 130	30
Methylene chloride	ND	5.0	88	88	0.0	86	84	2.4	70 - 130	30
Naphthalene	ND	5.0	124	123	0.8	112	118	5.2	70 - 130	30
n-Butylbenzene	ND	5.0	123	123	0.0	118	118	0.0	70 - 130	30
n-Propylbenzene	ND	5.0	117	117	0.0	116	114	1.7	70 - 130	30
o-Xylene	ND	5.0	111	111	0.0	112	110	1.8	70 - 130	30
p-Isopropyltoluene	ND	5.0	119	119	0.0	117	116	0.9	70 - 130	30
sec-Butylbenzene	ND	5.0	114	115	0.9	114	114	0.0	70 - 130	30
Styrene	ND	5.0	112	113	0.9	112	111	0.9	70 - 130	30
tert-Butylbenzene	ND	5.0	116	115	0.9	114	114	0.0	70 - 130	30
Tetrachloroethene	ND	5.0	111	114	2.7	112	109	2.7	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	87	86	1.2	87	86	1.2	70 - 130	30
Toluene	ND	5.0	108	109	0.9	109	106	2.8	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	95	95	0.0	95	92	3.2	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	108	107	0.9	105	105	0.0	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	111	108	2.7	104	106	1.9	70 - 130	30
Trichloroethene	ND	5.0	108	108	0.0	108	107	0.9	70 - 130	30
Trichlorofluoromethane	ND	5.0	21	20	4.9	20	20	0.0	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	88	89	1.1	88	86	2.3	70 - 130	30
Vinyl chloride	ND	5.0	111	110	0.9	104	100	3.9	70 - 130	30
% 1,2-dichlorobenzene-d4	94	%	100	99	1.0	99	100	1.0	70 - 130	30
% Bromofluorobenzene	96	%	98	98	0.0	99	99	0.0	70 - 130	30
% Dibromofluoromethane	95	%	93	91	2.2	92	93	1.1	70 - 130	30
% Toluene-d8	91	%	100	100	0.0	101	101	0.0	70 - 130	30

l,m

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Batch 602076H (ug/kg), QC Sample No: CJ82561 (CJ78140 (50X) )

Volatiles - Soil (High Level)

1,1,1,2-Tetrachloroethane	ND	5.0	108	106	1.9				70 - 130	30
1,1,1-Trichloroethane	ND	5.0	115	111	3.5				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	5.0	101	99	2.0				70 - 130	30
1,1,2-Trichloroethane	ND	5.0	102	99	3.0				70 - 130	30
1,1-Dichloroethane	ND	5.0	112	106	5.5				70 - 130	30
1,1-Dichloroethene	ND	5.0	110	107	2.8				70 - 130	30
1,1-Dichloropropene	ND	5.0	111	109	1.8				70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	108	107	0.9				70 - 130	30
1,2,3-Trichloropropane	ND	5.0	100	98	2.0				70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	106	105	0.9				70 - 130	30
1,2,4-Trimethylbenzene	ND	5.0	106	105	0.9				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	111	108	2.7				70 - 130	30
1,2-Dibromoethane	ND	5.0	102	100	2.0				70 - 130	30
1,2-Dichlorobenzene	ND	5.0	102	102	0.0				70 - 130	30
1,2-Dichloroethane	ND	5.0	106	105	0.9				70 - 130	30
1,2-Dichloropropane	ND	5.0	104	102	1.9				70 - 130	30



QA/QC Data

SDG I.D.: GCJ78139

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
1,3,5-Trimethylbenzene	ND	5.0	107	107	0.0				70 - 130	30
1,3-Dichlorobenzene	ND	5.0	102	101	1.0				70 - 130	30
1,3-Dichloropropane	ND	5.0	103	100	3.0				70 - 130	30
1,4-Dichlorobenzene	ND	5.0	103	102	1.0				70 - 130	30
2,2-Dichloropropane	ND	5.0	114	113	0.9				70 - 130	30
2-Chlorotoluene	ND	5.0	105	104	1.0				70 - 130	30
2-Hexanone	ND	25	91	88	3.4				70 - 130	30
2-Isopropyltoluene	ND	5.0	107	105	1.9				70 - 130	30
4-Chlorotoluene	ND	5.0	105	106	0.9				70 - 130	30
4-Methyl-2-pentanone	ND	25	99	95	4.1				70 - 130	30
Acetone	ND	10	85	77	9.9				70 - 130	30
Acrylonitrile	ND	5.0	104	99	4.9				70 - 130	30
Benzene	ND	5.0	106	104	1.9				70 - 130	30
Bromobenzene	ND	5.0	102	102	0.0				70 - 130	30
Bromochloromethane	ND	5.0	107	105	1.9				70 - 130	30
Bromodichloromethane	ND	5.0	109	107	1.9				70 - 130	30
Bromoform	ND	5.0	106	104	1.9				70 - 130	30
Bromomethane	ND	5.0	89	87	2.3				70 - 130	30
Carbon Disulfide	ND	5.0	104	100	3.9				70 - 130	30
Carbon tetrachloride	ND	5.0	120	114	5.1				70 - 130	30
Chlorobenzene	ND	5.0	103	102	1.0				70 - 130	30
Chloroethane	ND	5.0	26	25	3.9				70 - 130	30
Chloroform	ND	5.0	111	106	4.6				70 - 130	30
Chloromethane	ND	5.0	112	107	4.6				70 - 130	30
cis-1,2-Dichloroethene	ND	5.0	112	108	3.6				70 - 130	30
cis-1,3-Dichloropropene	ND	5.0	104	103	1.0				70 - 130	30
Dibromochloromethane	ND	3.0	110	108	1.8				70 - 130	30
Dibromomethane	ND	5.0	108	107	0.9				70 - 130	30
Dichlorodifluoromethane	ND	5.0	128	125	2.4				70 - 130	30
Ethylbenzene	ND	5.0	104	104	0.0				70 - 130	30
Hexachlorobutadiene	ND	5.0	107	107	0.0				70 - 130	30
Isopropylbenzene	ND	5.0	107	106	0.9				70 - 130	30
m&p-Xylene	ND	5.0	106	104	1.9				70 - 130	30
Methyl ethyl ketone	ND	5.0	100	97	3.0				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	5.0	108	104	3.8				70 - 130	30
Methylene chloride	ND	5.0	95	90	5.4				70 - 130	30
Naphthalene	ND	5.0	107	106	0.9				70 - 130	30
n-Butylbenzene	ND	5.0	116	116	0.0				70 - 130	30
n-Propylbenzene	ND	5.0	108	109	0.9				70 - 130	30
o-Xylene	ND	5.0	104	102	1.9				70 - 130	30
p-Isopropyltoluene	ND	5.0	112	111	0.9				70 - 130	30
sec-Butylbenzene	ND	5.0	110	108	1.8				70 - 130	30
Styrene	ND	5.0	87	85	2.3				70 - 130	30
tert-Butylbenzene	ND	5.0	108	106	1.9				70 - 130	30
Tetrachloroethene	ND	5.0	109	106	2.8				70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	101	96	5.1				70 - 130	30
Toluene	ND	5.0	106	105	0.9				70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	115	108	6.3				70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	107	105	1.9				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	104	102	1.9				70 - 130	30
Trichloroethene	ND	5.0	105	103	1.9				70 - 130	30
Trichlorofluoromethane	ND	5.0	47	46	2.2				70 - 130	30
Trichlorotrifluoroethane	ND	5.0	104	98	5.9				70 - 130	30

## QA/QC Data

SDG I.D.: GCJ78139

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Vinyl chloride	ND	5.0	122	117	4.2				70 - 130	30
% 1,2-dichlorobenzene-d4	97	%	101	101	0.0				70 - 130	30
% Bromofluorobenzene	102	%	102	101	1.0				70 - 130	30
% Dibromofluoromethane	99	%	100	100	0.0				70 - 130	30
% Toluene-d8	97	%	102	102	0.0				70 - 130	30

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

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

Intf - Interference



Phyllis Shiller, Laboratory Director

November 24, 2021

Wednesday, November 24, 2021

Criteria: CT: GBM, RC

State: CT

## Sample Criteria Exceedances Report

### GCJ78139 - TIGHE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CJ78140	\$8100SMR	2-Methylnaphthalene	CT / RSR GB (mg/kg) / APS Organics	22000	2600	5600	5600	ug/Kg
CJ78140	\$8260MAR	1,2-Dibromo-3-chloropropane	CT / RSR DEC RES (mg/kg) / APS Organics	ND	120	90	90	ug/Kg
CJ78140	\$8260MAR	1,2-Dibromoethane	CT / RSR DEC RES (mg/kg) / Volatiles	ND	120	7	7	ug/Kg
CJ78140	\$8260MAR	1,2-Dibromo-3-chloropropane	CT / RSR GB (mg/kg) / APS Organics	ND	120	40	40	ug/Kg
CJ78140	\$8260MAR	trans-1,3-Dichloropropene	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ78140	\$8260MAR	Dibromochloromethane	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ78140	\$8260MAR	cis-1,3-Dichloropropene	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ78140	\$8260MAR	1,2-Dibromoethane	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ78140	\$8260MAR	1,1,2,2-Tetrachloroethane	CT / RSR GB (mg/kg) / Volatiles	ND	120	100	100	ug/Kg
CJ78140	\$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	5800	950	500	500	mg/Kg
CJ78140	\$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR GB (mg/kg) / Pesticides/TPH	5800	950	2500	2500	mg/Kg
CJ78143	\$8260MER	1,2-Dibromo-3-chloropropane	CT / RSR DEC RES (mg/kg) / APS Organics	ND	100	90	90	ug/Kg
CJ78143	\$8260MER	1,2-Dibromoethane	CT / RSR DEC RES (mg/kg) / Volatiles	ND	100	7	7	ug/Kg
CJ78143	\$8260MER	1,2-Dibromo-3-chloropropane	CT / RSR GB (mg/kg) / APS Organics	ND	100	40	40	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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.



## REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

**Laboratory Name:** Phoenix Environmental Labs, Inc.

**Client:** Tighe & Bond

**Project Location:** UNION STATION NHPA

**Project Number:**

**Laboratory Sample ID(s):** CJ78139, CJ78140,  
CJ78142, CJ78143

**Sampling Date(s):** 11/15/2021

**List RCP Methods Used (e.g., 8260, 8270, et cetera)** 6010, 7470/7471, 8081, 8082, 8260, 8270, ETPH

<b>1</b>	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1A</b>	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1B</b>	<u>VPH and EPH methods only:</u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<b>2</b>	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>3</b>	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<b>4</b>	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Sections: ETPH Narration, VOA Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>5</b>	a) Were reporting limits specified or referenced on the chain-of-custody?  b) Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>6</b>	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>7</b>	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

**I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.**

**Authorized Signature:**  **Position:** Assistant Lab Director

**Printed Name:** Greg Lawrence **Date:** Wednesday, November 24, 2021

**Name of Laboratory** Phoenix Environmental Labs, Inc.

**This certification form is to be used for RCP methods only.**



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

November 24, 2021

SDG I.D.: GCJ78139

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### SDG Comments

8270 Semi-volatile Organics: CJ78140

The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

Not all requested reporting levels were achieved due to the presence of target and non target compounds. Please refer to the Sample Criteria Exceedances section of this report.

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### ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 600940 (Samples: CJ78140): -----**

**The LCS/LCSD RPD exceeds the method criteria for one surrogate. All of the other QC is acceptable. No significant bias is suspected. (% COD (surr))**

**Instrument:**

**AU-FID11 11/18/21-1** Jeff Bucko, Chemist 11/18/21

CJ78140 (10X)

The initial calibration (ETPHO11I) RSD for the compound list was less than 30% except for the following compounds: None. As per section 7.2.3, a discrimination check standard was run (N18A003\_1) and contained the following outliers: None. The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

**QC (Batch Specific):**

**Batch 600940 (CJ78166)**

CJ78140

All LCS recoveries were within 60 - 120 with the following exceptions: None.

All LCSD recoveries were within 60 - 120 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: % COD (surr)(34.4%)

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

---

### Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

**Instrument:**

**MERLIN 11/22/21 08:18** Alex Purdue, Chemist 11/22/21

CJ78140

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.



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## Certification Report

November 24, 2021

SDG I.D.: GCJ78139

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### Mercury Narration

#### QC (Batch Specific):

##### Batch 601625 (CJ82377)

CJ78140

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

---

### ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

#### Instrument:

##### ARCOS 11/17/21 08:03

Emily Kolominskaya, Chemist 11/17/21

CJ78140

Additional criteria for CCV and ICSAB:

Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB). The linear range is defined daily by the calibration range.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

#### QC (Batch Specific):

##### Batch 600959 (CJ78733)

CJ78140

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 35% with the following exceptions: None.

Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.

---

### PCB Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

##### AU-ECD8 11/17/21-1

Saadia Chudary, Chemist 11/17/21

CJ78140 (10X)

The initial calibration (PC1025AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC1025BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds: None.

#### QC (Batch Specific):

##### Batch 600954 (CJ78937)

CJ78140



**Environmental Laboratories, Inc.**  
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## RCP Certification Report

November 24, 2021

SDG I.D.: GCJ78139

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### PCB Narration

All LCS recoveries were within 40 - 140 with the following exceptions: None.  
All LCSD recoveries were within 40 - 140 with the following exceptions: None.  
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

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### PEST Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

**AU-ECD4 11/17/21-1** Adam Werner, Chemist 11/17/21

CJ78139 (2X)

The initial calibration (PS1103AI) RSD for the compound list was less than 20% except for the following compounds: None.  
The initial calibration (PS1103BI) RSD for the compound list was less than 20% except for the following compounds: None.  
The Endrin and DDT breakdown does not exceed 15% except for the following compounds: None.  
The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds: None.  
The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CJ78139

Preceding CC N17B019 - b-BHC 21%H (20%)

Succeeding CC N17B032 - None.

#### QC (Batch Specific):

**Batch 600953 (CJ77955)**

CJ78139

All LCS recoveries were within 40 - 140 with the following exceptions: None.  
All LCSD recoveries were within 40 - 140 with the following exceptions: None.  
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

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### SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

**CHEM06 11/17/21-1** Wes Bryon, Chemist 11/17/21

CJ78140 (10X)

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM06/6\_SPLIT\_1020):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM06/1117\_03-6\_SPLIT\_1020):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

November 24, 2021

SDG I.D.: GCJ78139

---

### **SVOA Narration**

The following compounds did not meet % deviation criteria: None.  
The following compounds did not meet maximum % deviations: None.  
The following compounds did not meet recommended response factors: None.  
The following compounds did not meet minimum response factors: None.

**CHEM07 11/16/21-2** Wes Bryon, Chemist 11/16/21

CJ78140 (1X)

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM07/7\_BN\_1111):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM07/1116\_31-7\_BN\_1111):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

### **QC (Batch Specific):**

**Batch 600956 (CJ78432)**

CJ78140

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

---

### **VOA Narration**





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Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

November 24, 2021

SDG I.D.: GCJ78139

---

### VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 601279 (Samples: CJ78142): -----**

**The LCSD recovery is above the upper range for one analyte that was not reported in the sample(s). No significant bias is suspected. (Acrylonitrile)**

**QC Batch 601279H: -----**

**The LCSD recovery is below the lower range. All of the other QC is acceptable, therefore no significant bias is suspected. (Acetone)**

**The QC recoveries for one analyte are below the lower range. A low bias is possible. (Bromomethane)**

**The QC recoveries for one or more analytes is below the method criteria. A low bias is likely. (Chloroethane, Trichlorofluoromethane)**

**The QC recovery for one analyte are above the upper range but was not reported in the sample(s), therefore no significant bias is suspected. (Acrylonitrile)**

**QC Batch 602076H: -----**

**The LCS/LCSD for one or more analytes is below the method criteria. A low bias for these analytes is likely. (Chloroethane, Trichlorofluoromethane)**

#### **Instrument:**

**CHEM14 11/17/21-1** Jane Li, Chemist 11/17/21

CJ78142 (1X), CJ78143 (50X)

Initial Calibration Evaluation (CHEM14/VT111421):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone 21% (20%)

The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.066 (0.1)

The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM14/1117\_01-VT111421):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

98% of target compounds met criteria.

The following compounds did not meet % deviation criteria: Acetone 33%L (30%)

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.044 (0.05)

**CHEM18 11/23/21-1** Jane Li, Chemist 11/23/21

CJ78140 (50X)

Initial Calibration Evaluation (CHEM18/VT-M111521):

98% of target compounds met criteria.

The following compounds had %RSDs >20%: Methylene chloride 21% (20%), Styrene 30% (20%)

The following compounds did not meet Table 4 recommended minimum response factors: None.

The following compounds did not meet the minimum response factor of 0.05: None.



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Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

November 24, 2021

SDG I.D.: GCJ78139

---

### VOA Narration

Continuing Calibration Verification (CHEM18/1123\_02-VT-M111521):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.  
100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet Table 4 recommended minimum response factors: None.

### QC (Batch Specific):

**Batch 601279 (CJ79266)** CHEM14 11/17/2021-1

CJ78142(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: Acrylonitrile(132%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

**Batch 601279H (CJ79266)** CHEM14 11/17/2021-1

CJ78143(50X)

All LCS recoveries were within 70 - 130 with the following exceptions: Acrylonitrile(134%), Bromomethane(62%),

Chloroethane(25%), Trichlorofluoromethane(21%)

All LCSD recoveries were within 70 - 130 with the following exceptions: Acetone(69%), Acrylonitrile(133%), Bromomethane(64%),

Chloroethane(25%), Trichlorofluoromethane(20%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

**Batch 602076H (CJ82561)** CHEM18 11/23/2021-1

CJ78140(50X)

All LCS recoveries were within 70 - 130 with the following exceptions: Chloroethane(26%), Trichlorofluoromethane(47%)

All LCSD recoveries were within 70 - 130 with the following exceptions: Chloroethane(25%), Trichlorofluoromethane(46%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

---

### Temperature Narration

The samples were received at 2.0C with cooling initiated.

(Note acceptance criteria for relevant matrices is above freezing up to 6°C)





Wednesday, December 01, 2021

Attn: James Olsen  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Project ID: UNION STATION NHPA  
SDG ID: GCJ84787  
Sample ID#s: CJ84787 - CJ84788

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. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller  
Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #M-CT007  
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  
UT Lab Registration #CT00007  
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

## Sample Id Cross Reference

December 01, 2021

SDG I.D.: GCJ84787

Project ID: UNION STATION NHPA

---

Client Id	Lab Id	Matrix
MW-1	CJ84787	GROUND WATER
MW-2	CJ84788	GROUND WATER



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 December 01, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: GROUND WATER  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: B  
 Analyzed by: see "By" below

Date                      Time  
 11/23/21                      10:45  
 11/23/21                      16:56

Laboratory Data

SDG ID: GCJ84787  
 Phoenix ID: CJ84787

Project ID: UNION STATION NHPA  
 Client ID: MW-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Extraction	Completed				11/24/21	U/F/F	SW3510C

**Polychlorinated Biphenyls**

PCB-1016	ND	0.50	ug/L	1	11/29/21	SC	SW8082A
PCB-1221	ND	0.50	ug/L	1	11/29/21	SC	SW8082A
PCB-1232	ND	0.50	ug/L	1	11/29/21	SC	SW8082A
PCB-1242	ND	0.50	ug/L	1	11/29/21	SC	SW8082A
PCB-1248	ND	0.50	ug/L	1	11/29/21	SC	SW8082A
PCB-1254	ND	0.50	ug/L	1	11/29/21	SC	SW8082A
PCB-1260	ND	0.50	ug/L	1	11/29/21	SC	SW8082A
PCB-1262	ND	0.50	ug/L	1	11/29/21	SC	SW8082A
PCB-1268	ND	0.50	ug/L	1	11/29/21	SC	SW8082A

**QA/QC Surrogates**

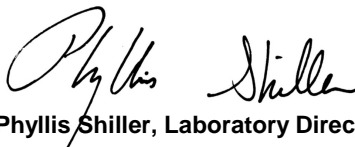
% DCBP	63		%	1	11/29/21	SC	30 - 150 %
% DCBP (Confirmation)	60		%	1	11/29/21	SC	30 - 150 %
% TCMX	69		%	1	11/29/21	SC	30 - 150 %
% TCMX (Confirmation)	68		%	1	11/29/21	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**December 01, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 December 01, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: GROUND WATER  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 23-5002-015A

Custody Information

Collected by:  
 Received by: B  
 Analyzed by: see "By" below

Date      Time

11/23/21      9:45  
 11/23/21      16:56

Laboratory Data

SDG ID: GCJ84787  
 Phoenix ID: CJ84788

Project ID: UNION STATION NHPA  
 Client ID: MW-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB Extraction	Completed				11/24/21	U/F/F	SW3510C
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	25	ug/L	5	11/29/21	SC	SW8082A
PCB-1221	ND	25	ug/L	5	11/29/21	SC	SW8082A
PCB-1232	ND	25	ug/L	5	11/29/21	SC	SW8082A
PCB-1242	ND	25	ug/L	5	11/29/21	SC	SW8082A
PCB-1248	ND	25	ug/L	5	11/29/21	SC	SW8082A
PCB-1254	ND	25	ug/L	5	11/29/21	SC	SW8082A
PCB-1260	99	25	ug/L	5	11/29/21	SC	SW8082A
PCB-1262	ND	25	ug/L	5	11/29/21	SC	SW8082A
PCB-1268	ND	25	ug/L	5	11/29/21	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	Diluted Out		%	5	11/29/21	SC	30 - 150 %
% DCBP (Confirmation)	Diluted Out		%	5	11/29/21	SC	30 - 150 %
% TCMX	Diluted Out		%	5	11/29/21	SC	30 - 150 %
% TCMX (Confirmation)	Diluted Out		%	5	11/29/21	SC	30 - 150 %



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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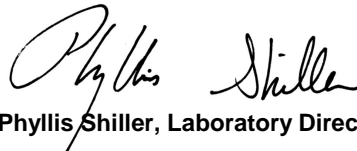
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

PCB Comment:

For PCBs, in order to reach the desired RL, multiple cleanup steps were performed. The extract was cleaned up with a combination of sulfuric acid, potassium permanganate, copper powder and additional florisil.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**December 01, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



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

December 01, 2021

## QA/QC Data

SDG I.D.: GCJ84787


Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 602115 (ug/L), QC Sample No: CJ84356 (CJ84787, CJ84788)										
<b>Polychlorinated Biphenyls - Ground Water</b>										
PCB-1016	ND	0.25	77	77	0.0				40 - 140	20
PCB-1221	ND	0.25							40 - 140	20
PCB-1232	ND	0.25							40 - 140	20
PCB-1242	ND	0.25							40 - 140	20
PCB-1248	ND	0.25							40 - 140	20
PCB-1254	ND	0.25							40 - 140	20
PCB-1260	ND	0.25	86	86	0.0				40 - 140	20
PCB-1262	ND	0.25							40 - 140	20
PCB-1268	ND	0.25							40 - 140	20
% DCBP (Surrogate Rec)	84	%	86	81	6.0				30 - 150	20
% DCBP (Surrogate Rec) (Confirm)	78	%	83	80	3.7				30 - 150	20
% TCMX (Surrogate Rec)	85	%	84	82	2.4				30 - 150	20
% TCMX (Surrogate Rec) (Confirm)	82	%	82	82	0.0				30 - 150	20

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

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
- Intf - Interference

  
 Phyllis Shiller, Laboratory Director  
 December 01, 2021

Wednesday, December 01, 2021

Criteria: CT: GWP, SWP

State: CT

## Sample Criteria Exceedances Report

GCJ84787 - TIGHE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CJ84788	\$PCB_WMR	PCB-1248	CT / RSR GWPC (ug/l) / Pest/PCB/TPH	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1268	CT / RSR GWPC (ug/l) / Pest/PCB/TPH	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1262	CT / RSR GWPC (ug/l) / Pest/PCB/TPH	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1221	CT / RSR GWPC (ug/l) / Pest/PCB/TPH	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1260	CT / RSR GWPC (ug/l) / Pest/PCB/TPH	99	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1254	CT / RSR GWPC (ug/l) / Pest/PCB/TPH	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1232	CT / RSR GWPC (ug/l) / Pest/PCB/TPH	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1016	CT / RSR GWPC (ug/l) / Pest/PCB/TPH	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1242	CT / RSR GWPC (ug/l) / Pest/PCB/TPH	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1016	CT / RSR SWPC (ug/l) / Pest/PCB	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1221	CT / RSR SWPC (ug/l) / Pest/PCB	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1232	CT / RSR SWPC (ug/l) / Pest/PCB	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1248	CT / RSR SWPC (ug/l) / Pest/PCB	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1268	CT / RSR SWPC (ug/l) / Pest/PCB	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1254	CT / RSR SWPC (ug/l) / Pest/PCB	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1260	CT / RSR SWPC (ug/l) / Pest/PCB	99	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1262	CT / RSR SWPC (ug/l) / Pest/PCB	ND	25	0.5	0.5	ug/L
CJ84788	\$PCB_WMR	PCB-1242	CT / RSR SWPC (ug/l) / Pest/PCB	ND	25	0.5	0.5	ug/L

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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.



# REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

**Laboratory Name:** Phoenix Environmental Labs, Inc.

**Client:** Tighe & Bond

**Project Location:** UNION STATION NHPA

**Project Number:**

**Laboratory Sample ID(s):** CJ84787, CJ84788

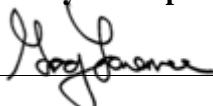
**Sampling Date(s):** 11/23/2021

**List RCP Methods Used (e.g., 8260, 8270, et cetera)** 8082

<b>1</b>	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1A</b>	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1B</b>	<u><b>YPH and EPH methods only:</b></u> Was the YPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<b>2</b>	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>3</b>	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<b>4</b>	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>5</b>	a) Were reporting limits specified or referenced on the chain-of-custody?  b) Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>6</b>	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>7</b>	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

**I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.**

**Authorized Signature:**  **Position:** Assistant Lab Director  
**Printed Name:** Greg Lawrence **Date:** Wednesday, December 01, 2021  
**Name of Laboratory** Phoenix Environmental Labs, Inc.

**This certification form is to be used for RCP methods only.**



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

December 01, 2021

SDG I.D.: GCJ84787

---

### **PCB Narration**

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### **Instrument:**

AU-ECD24 11/29/21-1 Saadia Chudary, Chemist 11/29/21

CJ84787 (1X), CJ84788 (5X)

The initial calibration (PC1001AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC1001BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds: None.

#### **QC (Batch Specific):**

##### Batch 602115 (CJ84356)

CJ84787, CJ84788

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

---

### **Temperature Narration**

The samples were received at 2.7C with cooling initiated.

(Note acceptance criteria for relevant matrices is above freezing up to 6°C)



**CHAIN OF CUSTODY RECORD**

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040  
 Email: info@phoenixlabs.com Fax (860) 645-0823  
**Client Services (860) 645-8726**

Cooler: Yes  No   
 Coolant: IPK  ICE   
 Temp 2.7 °C Pg 1 of 1

Data Delivery/Contact Options:  
 Fax:  
 Phone:  
 Email:

Phone: 860-805-8776  
 Email: JTDisen@phoenixlabs.com

Project P.O.: 23-5002-015A

**This section MUST be completed with Bottle Quantities.**

Project: Union Station DHPA  
 Report to: James Olsen, Cary Wicks, Jill Leiby  
 Invoice to: Tyke A Bond Westfield  
 QUOTE # DAS Pricing

Customer: Tyke A Bond Inc  
 Address: 213 Court Street 1st Floor  
Middletown, CT 06457

**Client Sample - Information - Identification**

Sampler's Signature: [Signature] Date: 11/23/21

Matrix Code: **DW**=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water  
**RW**=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil  
**B**=Bulk **L**=Liquid **X**= (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
84787	MW-1	GW	11/23/21	1045
84788	MW-2	GW	11/23/21	0945

Analysis Request	MS/MSD * GL Amber 8oz w/13PO4 GL Soil container ( ) oz GL Amber 1000ml ( ) as is ( ) HCL GL Amber 1000ml ( ) as is ( ) HCL GL Amber 1000ml ( ) as is ( ) H2SO4 GL Amber 250ml ( ) as is ( ) H2SO4 GL Amber 250ml ( ) as is ( ) HNO3 GL Amber 250ml ( ) as is ( ) MeqH Bacteria Bottle with Bacteria Bottle as is
X	MS/MSD * GL Amber 8oz w/13PO4 GL Soil container ( ) oz GL Amber 1000ml ( ) as is ( ) HCL GL Amber 1000ml ( ) as is ( ) HCL GL Amber 1000ml ( ) as is ( ) H2SO4 GL Amber 250ml ( ) as is ( ) H2SO4 GL Amber 250ml ( ) as is ( ) HNO3 GL Amber 250ml ( ) as is ( ) MeqH Bacteria Bottle with Bacteria Bottle as is

Relinquished by: [Signature] Date: 11/23/21  
 Accepted by: Tyke A Bond Fudge Date: 11/23/21  
 Turnaround Time:  
 1 Day\*  
 2 Days\*  
 3 Days\*  
 Standard  
 Other

RI  (Residential) Direct Exposure  
 (Comm/Industrial) Direct Exposure  
 GA Leachability  
 GB Leachability  
 GA-GW Objectives  
 GB-GW Objectives

CT  RCP Cert  
 GW Protection  
 SW Protection  
 GA Mobility  
 GB Mobility  
 Residential DEC  
 I/C DEC  
 Other

MA  MCP Certification  
 GW-1  
 GW-2  
 GW-3  
 S-1 GW-1  
 S-1 GW-2  
 S-1 GW-3  
 S-2 GW-1  
 S-2 GW-2  
 S-2 GW-3  
 S-3 GW-1  
 S-3 GW-2  
 S-3 GW-3  
 SW Protection

Data Format  
 Excel  
 PDF  
 GIS/Key  
 EQUIS  
 Other Davis & DeWitt

Data Package  
 Tier II Checklist  
 Full Data Package\*  
 Phoenix Std Report  
 Other

\* SURCHARGE APPLIES

\*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

State where samples were collected: CT  
 \* SURCHARGE APPLIES



Wednesday, December 08, 2021

Attn: James Olsen  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Project ID: UNION STATION NHPA  
SDG ID: GCJ88897  
Sample ID#s: CJ88897 - CJ88898

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. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller  
Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #M-CT007  
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  
UT Lab Registration #CT00007  
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



## SDG Comments

December 08, 2021

SDG I.D.: GCJ88897

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Volatile 8260 analysis:

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane do not meet GWP criteria, these compounds are analyzed by GC/ECD to achieve this criteria.





Environmental Laboratories, Inc.  
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Tel. (860) 645-1102 Fax (860) 645-0823

## Sample Id Cross Reference

December 08, 2021

SDG I.D.: GCJ88897

Project ID: UNION STATION NHPA

---

Client Id	Lab Id	Matrix
MW-3	CJ88897	GROUND WATER
TB120221	CJ88898	GROUND WATER



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 December 08, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: GROUND WATER  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 235002015A

Custody Information

Collected by:  
 Received by: CP  
 Analyzed by: see "By" below

Date      Time

12/02/21      9:00  
 12/02/21      14:01

Laboratory Data

SDG ID: GCJ88897  
 Phoenix ID: CJ88897

Project ID: UNION STATION NHPA  
 Client ID: MW-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction of ETPH	Completed				12/02/21	J/D	SW3510C/SW3520C
Semi-Volatile Extraction	Completed				12/02/21	J/D	SW3520C

**TPH by GC (Extractable Products)**

Ext. Petroleum H.C. (C9-C36)	15	0.13	mg/L	2	12/07/21	JRB	CTETPH 8015D
Identification	**		mg/L	2	12/07/21	JRB	CTETPH 8015D

**QA/QC Surrogates**

% Terphenyl (surr)	Interference		%	2	12/07/21	JRB	50 - 150 %
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**Volatiles**

1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	12/04/21	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	12/04/21	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	12/04/21	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	12/04/21	MH	SW8260C
1,1-Dichloroethane	ND	20	ug/L	20	12/04/21	MH	SW8260C
1,1-Dichloroethene	ND	10	ug/L	20	12/04/21	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	12/04/21	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
1,2,3-Trichloropropane	ND	20	ug/L	20	12/04/21	MH	SW8260C
1,2,4-Trichlorobenzene	ND	10	ug/L	20	12/04/21	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	12/04/21	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	12/04/21	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	12/04/21	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	12/04/21	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichlorobenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	12/04/21	MH	SW8260C
1,4-Dichlorobenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	12/04/21	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	12/04/21	MH	SW8260C
2-Hexanone	ND	100	ug/L	20	12/04/21	MH	SW8260C
2-Isopropyltoluene	ND	20	ug/L	20	12/04/21	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	12/04/21	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	12/04/21	MH	SW8260C
Acetone	ND	500	ug/L	20	12/04/21	MH	SW8260C
Acrylonitrile	ND	5.0	ug/L	20	12/04/21	MH	SW8260C
Benzene	ND	10	ug/L	20	12/04/21	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	12/04/21	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	12/04/21	MH	SW8260C
Bromoform	ND	10	ug/L	20	12/04/21	MH	SW8260C
Bromomethane	ND	10	ug/L	20	12/04/21	MH	SW8260C
Carbon Disulfide	ND	40	ug/L	20	12/04/21	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	12/04/21	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
Chloroethane	ND	10	ug/L	20	12/04/21	MH	SW8260C
Chloroform	ND	10	ug/L	20	12/04/21	MH	SW8260C
Chloromethane	ND	18	ug/L	20	12/04/21	MH	SW8260C
cis-1,2-Dichloroethene	ND	20	ug/L	20	12/04/21	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	12/04/21	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	12/04/21	MH	SW8260C
Dibromomethane	ND	20	ug/L	20	12/04/21	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	12/04/21	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	12/04/21	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	12/04/21	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	20	12/04/21	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	12/04/21	MH	SW8260C
Methylene chloride	ND	20	ug/L	20	12/04/21	MH	SW8260C
Naphthalene	ND	20	ug/L	20	12/04/21	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
o-Xylene	ND	20	ug/L	20	12/04/21	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	12/04/21	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
Styrene	ND	20	ug/L	20	12/04/21	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	12/04/21	MH	SW8260C
Tetrachloroethene	ND	10	ug/L	20	12/04/21	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	12/04/21	MH	SW8260C
Toluene	ND	20	ug/L	20	12/04/21	MH	SW8260C
Total Xylenes	ND	20	ug/L	20	12/04/21	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	12/04/21	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	12/04/21	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
trans-1,4-dichloro-2-butene	ND	100	ug/L	20	12/04/21	MH	SW8260C
Trichloroethene	ND	10	ug/L	20	12/04/21	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	12/04/21	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	12/04/21	MH	SW8260C
Vinyl chloride	ND	10	ug/L	20	12/04/21	MH	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4 (20x)	99		%	20	12/04/21	MH	70 - 130 %
% Bromofluorobenzene (20x)	98		%	20	12/04/21	MH	70 - 130 %
% Dibromofluoromethane (20x)	109		%	20	12/04/21	MH	70 - 130 %
% Toluene-d8 (20x)	99		%	20	12/04/21	MH	70 - 130 %

**Semivolatiles by SIM, PAH**

2-Methylnaphthalene	4.0	0.49	ug/L	1	12/06/21	WB	SW8270D (SIM)
Acenaphthene	1.6	0.49	ug/L	1	12/06/21	WB	SW8270D (SIM)
Acenaphthylene	ND	0.29	ug/L	1	12/06/21	WB	SW8270D (SIM)
Anthracene	ND	0.49	ug/L	1	12/06/21	WB	SW8270D (SIM)
Benzo(a)anthracene	ND	0.05	ug/L	1	12/06/21	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.20	ug/L	1	12/06/21	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.07	ug/L	1	12/06/21	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.47	ug/L	1	12/06/21	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.29	ug/L	1	12/06/21	WB	SW8270D (SIM)
Chrysene	ND	0.49	ug/L	1	12/06/21	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.10	ug/L	1	12/06/21	WB	SW8270D (SIM)
Fluoranthene	ND	0.49	ug/L	1	12/06/21	WB	SW8270D (SIM)
Fluorene	1.2	0.49	ug/L	1	12/06/21	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	12/06/21	WB	SW8270D (SIM)
Naphthalene	0.87	0.49	ug/L	1	12/06/21	WB	SW8270D (SIM)
Phenanthrene	1.4	0.06	ug/L	1	12/06/21	WB	SW8270D (SIM)
Pyrene	ND	0.49	ug/L	1	12/06/21	WB	SW8270D (SIM)
<b><u>QA/QC Surrogates</u></b>							
% 2-Fluorobiphenyl	39		%	1	12/06/21	WB	30 - 130 %
% Nitrobenzene-d5	57		%	1	12/06/21	WB	30 - 130 %
% Terphenyl-d14	33		%	1	12/06/21	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
-----------	--------	------------	-------	----------	-----------	----	-----------

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

Volatile Comment:

Elevated reporting limits due to the foamy nature of the sample.

TPH Comment:

\*\*Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**December 08, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 December 08, 2021

FOR: Attn: James Olsen  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: GROUND WATER  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 235002015A

Custody Information

Collected by:  
 Received by: CP  
 Analyzed by: see "By" below

Date Time

12/02/21  
 12/02/21 14:01

Laboratory Data

SDG ID: GCJ88897  
 Phoenix ID: CJ88898

Project ID: UNION STATION NHPA  
 Client ID: TB120221

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	12/04/21	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	12/04/21	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	12/04/21	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	12/04/21	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	12/04/21	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	12/04/21	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	25	ug/L	1	12/04/21	MH	SW8260C
Acrylonitrile	ND	0.50	ug/L	1	12/04/21	MH	SW8260C
Benzene	ND	0.70	ug/L	1	12/04/21	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	12/04/21	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	12/04/21	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	12/04/21	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	12/04/21	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	12/04/21	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	12/04/21	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Styrene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	12/04/21	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	12/04/21	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	12/04/21	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	12/04/21	MH	SW8260C
<b>QA/QC Surrogates</b>							
% 1,2-dichlorobenzene-d4	101		%	1	12/04/21	MH	70 - 130 %
% Bromofluorobenzene	97		%	1	12/04/21	MH	70 - 130 %
% Dibromofluoromethane	109		%	1	12/04/21	MH	70 - 130 %

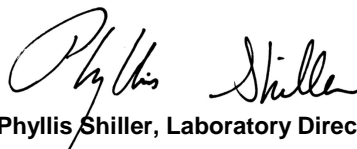
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	100		%	1	12/04/21	MH	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TRIP BLANK INCLUDED.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**December 08, 2021**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





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

December 08, 2021

## QA/QC Data

SDG I.D.: GCJ88897

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 602853 (mg/L), QC Sample No: CJ87387 (CJ88897)

### TPH by GC (Extractable Products) - Ground Water

Ext. Petroleum H.C. (C9-C36)	ND	0.10	95	78	19.7				60 - 120	30
% Terphenyl (surr)	81	%	88	82	7.1				50 - 150	20

Comment:

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

QA/QC Batch 602881 (ug/L), QC Sample No: CJ87602 (CJ88897)

### Semivolatiles by SIM, PAH - Ground Water

2-Methylnaphthalene	ND	0.50	61	62	1.6	60	66	9.5	30 - 130	20
Acenaphthene	ND	0.50	66	66	0.0	63	67	6.2	30 - 130	20
Acenaphthylene	ND	0.10	58	58	0.0	53	56	5.5	30 - 130	20
Anthracene	ND	0.10	67	67	0.0	64	66	3.1	30 - 130	20
Benz(a)anthracene	ND	0.02	66	66	0.0	55	58	5.3	30 - 130	20
Benzo(a)pyrene	ND	0.02	57	57	0.0	42	45	6.9	30 - 130	20
Benzo(b)fluoranthene	ND	0.02	64	62	3.2	48	51	6.1	30 - 130	20
Benzo(ghi)perylene	ND	0.02	67	67	0.0	46	50	8.3	30 - 130	20
Benzo(k)fluoranthene	ND	0.02	62	63	1.6	49	49	0.0	30 - 130	20
Chrysene	ND	0.02	70	71	1.4	58	61	5.0	30 - 130	20
Dibenz(a,h)anthracene	ND	0.02	74	74	0.0	50	56	11.3	30 - 130	20
Fluoranthene	ND	0.50	60	60	0.0	57	59	3.4	30 - 130	20
Fluorene	ND	0.10	62	61	1.6	58	61	5.0	30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	0.02	74	74	0.0	52	57	9.2	30 - 130	20
Naphthalene	ND	0.50	55	55	0.0	53	57	7.3	30 - 130	20
Phenanthrene	ND	0.06	62	63	1.6	61	63	3.2	30 - 130	20
Pyrene	ND	0.07	60	61	1.7	59	60	1.7	30 - 130	20
% 2-Fluorobiphenyl	70	%	70	71	1.4	63	68	7.6	30 - 130	20
% Nitrobenzene-d5	71	%	71	72	1.4	68	73	7.1	30 - 130	20
% Terphenyl-d14	60	%	64	65	1.6	54	57	5.4	30 - 130	20

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 603292 (ug/L), QC Sample No: CJ87969 (CJ88897 (20X) , CJ88898)

### Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	102	102	0.0				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	99	100	1.0				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	97	95	2.1				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	98	95	3.1				70 - 130	30
1,1-Dichloroethane	ND	1.0	95	96	1.0				70 - 130	30
1,1-Dichloroethene	ND	1.0	99	100	1.0				70 - 130	30
1,1-Dichloropropene	ND	1.0	102	100	2.0				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	102	99	3.0				70 - 130	30

## QA/QC Data

SDG I.D.: GCJ88897

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	%	%
									Rec Limits	RPD Limits
1,2,3-Trichloropropane	ND	1.0	102	99	3.0				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	99	95	4.1				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	103	100	3.0				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	101	97	4.0				70 - 130	30
1,2-Dibromoethane	ND	1.0	98	101	3.0				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	99	96	3.1				70 - 130	30
1,2-Dichloroethane	ND	1.0	101	98	3.0				70 - 130	30
1,2-Dichloropropane	ND	1.0	97	93	4.2				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	103	99	4.0				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	99	97	2.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	97	97	0.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	98	95	3.1				70 - 130	30
2,2-Dichloropropane	ND	1.0	101	100	1.0				70 - 130	30
2-Chlorotoluene	ND	1.0	101	96	5.1				70 - 130	30
2-Hexanone	ND	5.0	89	90	1.1				70 - 130	30
2-Isopropyltoluene	ND	1.0	103	100	3.0				70 - 130	30
4-Chlorotoluene	ND	1.0	99	96	3.1				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	89	90	1.1				70 - 130	30
Acetone	ND	5.0	96	99	3.1				70 - 130	30
Acrylonitrile	ND	5.0	93	90	3.3				70 - 130	30
Benzene	ND	0.70	97	96	1.0				70 - 130	30
Bromobenzene	ND	1.0	102	97	5.0				70 - 130	30
Bromochloromethane	ND	1.0	94	97	3.1				70 - 130	30
Bromodichloromethane	ND	0.50	99	98	1.0				70 - 130	30
Bromoform	ND	1.0	103	101	2.0				70 - 130	30
Bromomethane	ND	1.0	97	97	0.0				70 - 130	30
Carbon Disulfide	ND	1.0	92	93	1.1				70 - 130	30
Carbon tetrachloride	ND	1.0	118	118	0.0				70 - 130	30
Chlorobenzene	ND	1.0	97	97	0.0				70 - 130	30
Chloroethane	ND	1.0	102	103	1.0				70 - 130	30
Chloroform	ND	1.0	98	95	3.1				70 - 130	30
Chloromethane	ND	1.0	96	96	0.0				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	94	93	1.1				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	94	95	1.1				70 - 130	30
Dibromochloromethane	ND	0.50	98	100	2.0				70 - 130	30
Dibromomethane	ND	1.0	98	100	2.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	114	115	0.9				70 - 130	30
Ethylbenzene	ND	1.0	101	100	1.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	105	99	5.9				70 - 130	30
Isopropylbenzene	ND	1.0	105	104	1.0				70 - 130	30
m&p-Xylene	ND	1.0	100	103	3.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	88	90	2.2				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	98	98	0.0				70 - 130	30
Methylene chloride	ND	1.0	92	93	1.1				70 - 130	30
Naphthalene	ND	1.0	104	99	4.9				70 - 130	30
n-Butylbenzene	ND	1.0	108	104	3.8				70 - 130	30
n-Propylbenzene	ND	1.0	101	97	4.0				70 - 130	30
o-Xylene	ND	1.0	98	99	1.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	106	103	2.9				70 - 130	30
sec-Butylbenzene	ND	1.0	107	103	3.8				70 - 130	30
Styrene	ND	1.0	100	100	0.0				70 - 130	30
tert-Butylbenzene	ND	1.0	103	100	3.0				70 - 130	30
Tetrachloroethene	ND	1.0	103	99	4.0				70 - 130	30

## QA/QC Data

SDG I.D.: GCJ88897

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	%	%
									Rec Limits	RPD Limits
Tetrahydrofuran (THF)	ND	2.5	88	86	2.3				70 - 130	30
Toluene	ND	1.0	99	97	2.0				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	94	92	2.2				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	100	98	2.0				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	102	95	7.1				70 - 130	30
Trichloroethene	ND	1.0	94	94	0.0				70 - 130	30
Trichlorofluoromethane	ND	1.0	110	111	0.9				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	98	96	2.1				70 - 130	30
Vinyl chloride	ND	1.0	99	100	1.0				70 - 130	30
% 1,2-dichlorobenzene-d4	97	%	99	97	2.0				70 - 130	30
% Bromofluorobenzene	97	%	102	102	0.0				70 - 130	30
% Dibromofluoromethane	103	%	102	104	1.9				70 - 130	30
% Toluene-d8	99	%	100	101	1.0				70 - 130	30


**Comment:**

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

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
- Intf - Interference

  
 Phyllis Shiller, Laboratory Director  
 December 08, 2021

Wednesday, December 08, 2021

Criteria: CT: GWP, SWP

State: CT

## Sample Criteria Exceedances Report

**GCJ88897 - TIGHE-DAS**

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CJ88897	\$8260GWR	Tetrahydrofuran (THF)	CT / RSR GWPC (ug/l) / APS Organics	ND	50	4	4	ug/L
CJ88897	\$8260GWR	Chloroethane	CT / RSR GWPC (ug/l) / APS Organics	ND	10	7.4	7.4	ug/L
CJ88897	\$8260GWR	Bromodichloromethane	CT / RSR GWPC (ug/l) / APS Organics	ND	10	1	1	ug/L
CJ88897	\$8260GWR	Hexachlorobutadiene	CT / RSR GWPC (ug/l) / APS Organics	ND	10	7.4	7.4	ug/L
CJ88897	\$8260GWR	2-Hexanone	CT / RSR GWPC (ug/l) / APS Organics	ND	100	35	35	ug/L
CJ88897	\$8260GWR	Bromomethane	CT / RSR GWPC (ug/l) / APS Organics	ND	10	3.5	3.5	ug/L
CJ88897	\$8260GWR	1,2-Dibromo-3-chloropropane	CT / RSR GWPC (ug/l) / APS Organics	ND	10	0.2	0.2	ug/L
CJ88897	\$8260GWR	1,2-Dichloroethane	CT / RSR GWPC (ug/l) / Volatiles	ND	10	1	1	ug/L
CJ88897	\$8260GWR	1,2-Dibromoethane	CT / RSR GWPC (ug/l) / Volatiles	ND	10	0.05	0.05	ug/L
CJ88897	\$8260GWR	1,1,1,2-Tetrachloroethane	CT / RSR GWPC (ug/l) / Volatiles	ND	10	1	1	ug/L
CJ88897	\$8260GWR	1,1-Dichloroethene	CT / RSR GWPC (ug/l) / Volatiles	ND	10	7	7	ug/L
CJ88897	\$8260GWR	Acrylonitrile	CT / RSR GWPC (ug/l) / Volatiles	ND	5.0	0.5	0.5	ug/L
CJ88897	\$8260GWR	Benzene	CT / RSR GWPC (ug/l) / Volatiles	ND	10	1	1	ug/L
CJ88897	\$8260GWR	1,1,2-Trichloroethane	CT / RSR GWPC (ug/l) / Volatiles	ND	10	5	5	ug/L
CJ88897	\$8260GWR	1,1,2,2-Tetrachloroethane	CT / RSR GWPC (ug/l) / Volatiles	ND	10	0.5	0.5	ug/L
CJ88897	\$8260GWR	1,2-Dichloropropane	CT / RSR GWPC (ug/l) / Volatiles	ND	10	5	5	ug/L
CJ88897	\$8260GWR	trans-1,3-Dichloropropene	CT / RSR GWPC (ug/l) / Volatiles	ND	10	0.5	0.5	ug/L
CJ88897	\$8260GWR	Vinyl chloride	CT / RSR GWPC (ug/l) / Volatiles	ND	10	2	2	ug/L
CJ88897	\$8260GWR	Bromoform	CT / RSR GWPC (ug/l) / Volatiles	ND	10	4	4	ug/L
CJ88897	\$8260GWR	Trichloroethene	CT / RSR GWPC (ug/l) / Volatiles	ND	10	5	5	ug/L
CJ88897	\$8260GWR	Carbon tetrachloride	CT / RSR GWPC (ug/l) / Volatiles	ND	10	5	5	ug/L
CJ88897	\$8260GWR	Tetrachloroethene	CT / RSR GWPC (ug/l) / Volatiles	ND	10	5	5	ug/L
CJ88897	\$8260GWR	Methylene chloride	CT / RSR GWPC (ug/l) / Volatiles	ND	20	5	5	ug/L
CJ88897	\$8260GWR	Dibromochloromethane	CT / RSR GWPC (ug/l) / Volatiles	ND	10	0.5	0.5	ug/L
CJ88897	\$8260GWR	cis-1,3-Dichloropropene	CT / RSR GWPC (ug/l) / Volatiles	ND	10	0.5	0.5	ug/L
CJ88897	\$8260GWR	Chloroform	CT / RSR GWPC (ug/l) / Volatiles	ND	10	6	6	ug/L
CJ88897	\$8260GWR	1,2,4-Trichlorobenzene	CT / RSR SWPC (ug/l) / APS Organics	ND	10	9.6	9.6	ug/L
CJ88897	\$8260GWR	1,2-Dibromo-3-chloropropane	CT / RSR SWPC (ug/l) / APS Organics	ND	10	1.1	1.1	ug/L
CJ88897	\$ETPH_WMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR GWPC (ug/l) / Pest/PCB/TPH	15	0.13	0.25	0.25	mg/L
CJ88897	\$ETPH_WMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR SWPC (ug/l) / APS Organics	15	0.13	0.25	0.25	mg/L
CJ88898	\$8260GWR	1,2-Dibromo-3-chloropropane	CT / RSR GWPC (ug/l) / APS Organics	ND	0.50	0.2	0.2	ug/L
CJ88898	\$8260GWR	1,2-Dibromoethane	CT / RSR GWPC (ug/l) / Volatiles	ND	0.50	0.05	0.05	ug/L

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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.



## REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

**Laboratory Name:** Phoenix Environmental Labs, Inc.

**Client:** Tighe & Bond

**Project Location:** UNION STATION NHPA

**Project Number:**

**Laboratory Sample ID(s):** CJ88897, CJ88898

**Sampling Date(s):** 12/2/2021

**List RCP Methods Used (e.g., 8260, 8270, et cetera)** 8260, 8270, ETPH

<b>1</b>	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1A</b>	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>1B</b>	<u><i>YPH and EPH methods only:</i></u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<b>2</b>	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>3</b>	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<b>4</b>	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>5</b>	a) Were reporting limits specified or referenced on the chain-of-custody?  b) Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>6</b>	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>7</b>	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

**I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.**

**Authorized Signature:**  **Position:** Assistant Lab Director

**Printed Name:** Greg Lawrence **Date:** Wednesday, December 08, 2021

**Name of Laboratory** Phoenix Environmental Labs, Inc.

**This certification form is to be used for RCP methods only.**



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

December 08, 2021

SDG I.D.: GCJ88897

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### SDG Comments

Volatile 8260 analysis:

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane do not meet the GWP these compounds are analyzed by GC/ECD to achieve this criteria.

Not all requested reporting levels were achieved due to the presence of target and non target compounds. Please refer to the Sample Criteria Exceedances section of this report.

8270 Semi-volatile Organics: CJ88897

Only the PAH constituents are reported as requested on the chain-of-custody. In order to achieve the requested reporting levels for the target compounds, the sample was extracted and analyzed via 8270 selective ion monitoring (SIM).

---

### ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

**AU-XL1 12/06/21-1**

Jeff Bucko, Chemist 12/06/21

CJ88897 (2X)

The initial calibration (ETPHO11I) RSD for the compound list was less than 30% except for the following compounds: None. As per section 7.2.3, a discrimination check standard was run (D06A003) and contained the following outliers: None. The continuing calibration %D for the compound list was less than 30% except for the following compounds: None.

#### QC (Batch Specific):

**Batch 602853 (CJ87387)**

CJ88897

All LCS recoveries were within 60 - 120 with the following exceptions: None.

All LCSD recoveries were within 60 - 120 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

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### SVOASIM Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

**CHEM25 12/05/21-1**

Matt Richard, Chemist 12/05/21

CJ88897 (1X)

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM25/25\_BNSIM18\_1104):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM25/1205\_03-25\_BNSIM18\_1104):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

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**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

December 08, 2021

SDG I.D.: GCJ88897

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### SVOASIM Narration

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

#### QC (Batch Specific):

##### Batch 602881 (CJ87602)

CJ88897

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

---

### VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

##### CHEM23 12/04/21-1

Michael Hahn, Chemist 12/04/21

CJ88897 (20X), CJ88898 (1X)

Initial Calibration Evaluation (CHEM23/VOA23\_113021):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Bromomethane 21% (20%)

The following compounds did not meet Table 4 recommended minimum response factors: None.

The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM23/1204\_03-VOA23\_113021):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet Table 4 recommended minimum response factors: None.

#### QC (Batch Specific):

##### Batch 603292 (CJ87969)

CHEM23 12/4/2021-1

CJ88897(20X), CJ88898(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

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### Temperature Narration



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## RCP Certification Report

December 08, 2021

SDG I.D.: GCJ88897

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The samples were received at 1.1C with cooling initiated.  
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)



