
Supplemental TASK 210 Subsurface Site Investigation

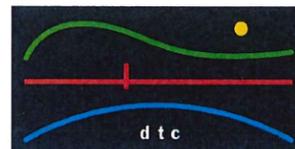


Route 4 Improvements From Garden Street to Mountain Spring Road Farmington, CT

Prepared for:
Division of Environmental Compliance
Connecticut Department of Transportation
2800 Berlin Turnpike
Newington, CT 06111

May 2012

ON CALL ENVIRONMENTAL SERVICES
Conn DOT Project No. 51-260
Assignment No. 302-3340
DTC Project No. 09-188-56E



DIVERSIFIED TECHNOLOGY CONSULTANTS, INC.
HAMDEN, CT ANDOVER, MA

SIGNATURE PAGE

SUPPLEMENTAL TASK 210 SUBSURFACE SITE INVESTIGATION

ROUTE 4 IMPROVEMENTS FROM
GARDEN STREET TO MOUNTAIN SPRING ROAD
FARMINGTON, CONNECTICUT



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1.0 INTRODUCTION

Diversified Technology Consultants, Inc. (DTC) was retained by the State of Connecticut Department of Transportation (ConnDOT) to conduct a Supplemental Task 210 Subsurface Site Investigation (SSI) in support of ConnDOT Project No. 51-260, Route 4 Improvements from Garden Street to Mountain Spring Road in Farmington, Connecticut. This report provides a brief description and history of the project corridor, a discussion of the local environment and receptors, the investigation rationale, a summary of the data obtained during the investigation, an interpretation of the results with respect to the appropriate regulatory criteria, and recommendations.

1.1 Background and Purpose

The project corridor is located along Route 4 (Farmington Avenue) from Garden Street to Mountain Spring Road including intersections with Route 4, Route 10 (Main Street and Waterville Road), and High Street in Farmington, Connecticut. The project will involve new road construction, relocation/reconstruction of existing roadways, drainage improvements, utility relocations, and excavations in excess of three feet in depth. The site's location and pertinent features are depicted on Figures 1 through 3.

The purpose of this Supplemental Task 210 SSI is to collect and review on-site soil data in order to characterize the project corridor with respect to subsurface contamination and to evaluate whether the proposed construction activities may require management of contaminated soil within the proposed Backage Road, Schultz Driveway Relocation, and the Farmington Avenue road cut adjacent to the Schultz Property. A previous Task 210 was completed in 2009, evaluating the majority of the corridor.

The potential exists for soil within the above mentioned areas in the project corridor to be impacted with extractable petroleum hydrocarbons (ETPH), chlorinated pesticides, and lead. These constituents of concern (COCs) were selected for analysis as part of this Supplemental Task 210 SSI because they are common contaminants associated with the historic use of the Schultz property as an orchard, and the presence of urban fill material within the vicinity of portions of the proposed Backage Road.

1.2 Scope of Work

DTC completed this Supplemental Task 210 SSI pursuant to our task assignment recommendation, dated July 8, 2010, which was approved by ConnDOT. DTC designed the Supplemental Task 210 SSI activities based on a review of the previous environmental reports described above, a site walkover, and a review of preliminary project plans.

The scope of work for this Supplemental Task 210 SSI included the following tasks:

- Pre-drilling activities, including: (1) marking proposed drilling locations, (2) contacting Call-Before-You-Dig to request mark outs of subsurface utilities, and (3) meeting on-site to discuss proposed drilling locations with current property owners/representatives;
- Completion of 2 soil borings to a maximum depth of 8 feet below grade using a truck-mounted Geoprobe direct-push rig;
- Completion of seven soil borings to depths of 2.5 feet below grade using a hand auger.

- Recording lithology and field screening soil samples with a photoionization detector (PID);
- Collection and laboratory analysis of 11 soil samples for one or more of the following:
 - ETPH by Connecticut Department of Public Health (DPH) method;
 - Total lead by EPA Method 6010B;
 - Leachable lead by Synthetic Precipitation Leaching Procedure (SPLP);
 - Chlorinated pesticides by EPA Method 8081; and
 - Leachable chlorinated pesticides by SPLP.

1.3 Previous Environmental Reports

Prior to the preparation of this Supplemental Task 210 SSI, DTC was retained by ConnDOT to conduct a Task 110 for the Route 4 Improvements Project. DTC also performed a Task 120 Preliminary Site Evaluation (PSE) and two Task 210 SSIs for an individual parcel, identified as 750 Farmington Avenue, which was acquired by ConnDOT in April 2009 as part of the project. The findings of these reports are briefly summarized below.

Task 110 Corridor Land Use Evaluation, Route 4 Improvements from Garden Street to Mountain Spring Road, DTC, dated July 2006

The objective of the Task 110 was to assess the relative environmental risk associated with current and former land uses within the project corridor and vicinity; to evaluate whether the project activities may encounter hazardous wastes, contaminated materials, or other regulated substances; and to evaluate whether further investigation of the project corridor was warranted.

The Task 110 included the evaluation of a total of 33 parcels, of which six were assigned a “moderate risk” and seven were assigned a “high risk” designation. Based upon these findings, DTC recommended that a Task 210 SSI be performed in areas of anticipated intrusive construction activities and/or right-of-way acquisitions adjacent to the moderate and high risk parcels. These parcels are discussed in more detail in Section 3.0.

Task 120 Preliminary Site Evaluation (PSE), Former Parsons Chevrolet, DTC, dated May 2008

DTC completed a Task 120 PSE on behalf of ConnDOT for the former Parsons Chevrolet property located at 750 Farmington Avenue. Based on the findings of the Task 120 PSE, 26 on-site Potential Release Areas (PRAs) were identified throughout the property. A total of 20 PRAs were located entirely or partially within the taking area and slope easement limits associated with the proposed roadway to be constructed within the western portion of the parcel. No off-site PRAs were identified. The PRAs are discussed in detail in the above report.

Based on the findings of the Task 120 PSE, the site met the definition of an Establishment due to the operation of an auto body repair facility and the generation of more than 100 kilograms of hazardous waste in any one month.

DTC recommended that a Task 210 SSI be performed within the proposed taking area and slope easement limits.

Task 210 Subsurface Site Investigation, Former Parsons Chevrolet, DTC, dated June 2008

DTC completed a Task 210 SSI on behalf of ConnDOT, the purpose of which was to collect soil and groundwater samples from within the limits of the taking area and slope easement limits of the

proposed roadway to evaluate whether soil and/or groundwater contained regulated compounds at concentrations exceeding the soil and/or groundwater clean-up criteria in the Remediation Standard Regulations (RSRs).

The Task 210 SSI activities completed by DTC in April and May 2008 included a ground penetrating radar (GPR) survey/subsurface utility and product line mark out, completion of 14 borings (four within the on-site buildings), installation of two monitoring wells, and the collection and analysis of 38 soil and five groundwater samples.

Based on the results of the GPR survey, the 1,000-gallon heating oil, motor oil, and waste oil underground storage tanks (USTs) were confirmed to exist at the site. Also, it was confirmed that a former 1,000-gallon heating oil UST (identified as C-1), two 2,000-gallon motor oil USTs (identified as B-1 and B-2), 1,000-gallon transmission fluid UST (identified as C-1), and two 2,000-gallon waste oil USTs (identified as D-1 and E-1) had been removed.

Three potential USTs, located to the east of the garage/clean-up shop building, were also detected during the GPR survey.

Based on the findings of the Task 210 SSI, PAHs, ETPH, and lead were detected in soil at concentrations exceeding the RSR criteria. Groundwater did not contain detectable concentrations of PAHs, ETPH, or polychlorinated biphenyl (PCBs). Very low concentrations of volatile organic compounds (VOCs) and metals were detected in one or more of the groundwater samples.

Task 210 Subsurface Site Investigation, Former Parsons Chevrolet, DTC, dated October 2008

DTC completed a second Task 210 SSI on behalf of ConnDOT, the purpose of which was to collect soil and groundwater samples from outside of the taking area and slope easement limits of the proposed roadway.

The Task 210 SSI activities completed by DTC in September and October 2008 included completion of 25 borings (six within the on-site buildings), installation of two monitoring wells, and the collection and analysis of 53 soil and two groundwater samples.

The findings of the second Task 210 SSI indicated the following:

1. ETPH was detected at concentrations exceeding the Residential Direct Exposure Criteria (RES DEC), the Industrial/Commercial (I/C) DEC, and the GA Pollutant Mobility Criteria (PMC) in one or more soil samples.
2. PAHs were detected at concentrations exceeding the RES and I/C DEC in three soil samples.
3. Lead was detected at one boring location at concentrations exceeding the GA PMC.
4. Tetrachoroethylene (PCE) was detected in one groundwater sample at concentrations less than the RSR criteria.
5. PAHs, ETPH, and PCBs were not detected in any of the groundwater samples.
6. Metals were detected at background concentrations in the groundwater samples.

Task 210 Subsurface Site Investigation, Route 4 Improvements From Garden Street to Mountain Spring Road, DTC, dated August 2009

DTC completed a corridor Task 210 SSI on behalf of ConnDOT, the purpose of which was to collect soil and groundwater samples from the areas of new road construction, relocation/

reconstruction of existing roadways, drainage improvements, utility relocations, and excavations in excess of three feet in depth.

The Task 210 SSI activities completed by DTC in July 7 and 8, 2009 included completion of 32 borings, installation of two temporary monitoring wells, and the collection and analysis of 44 soil and two groundwater samples (from the two temporary wells).

The findings of the corridor Task 210 SSI indicated the following:

1. ETPH was detected at concentrations exceeding the RES DEC and the GA PMC in one of 35 soil samples.
2. PAHs were not detected above method detection limits in the 11 soil samples collected.
3. Metals were not detected at concentrations exceeding the RES DEC. Lead was detected above typical background concentrations.
4. Leachable lead was detected above the GA PMC three soil samples.
5. PCBs were not detected above method detection limits in the two soil samples collected.
6. Chlorinated pesticides were detected above the method detection limits in two soil sample, but below the REC DEC. Leachable pesticides were not detected above the method detection limits.
7. Total VOCs were detected at a concentration exceeding the Surface Water Discharge maximum contaminant level (MCL).
8. ETPH was not detected in any of the groundwater samples.

2.0 LOCAL ENVIRONMENT AND RECEPTORS

2.1 Surficial Geology

According to the "Surficial Materials Map of Connecticut", dated 1992, surficial materials of the project corridor consist of kame terrace deposits, which are described as reddish-brown sand and gravel with stones generally less than six inches in diameter.

Based on soil samples observed during the boring advancement activities, surficial materials consist of both native and non-native materials (fill). Fill materials consisting of light to dark, fine to medium brown, sand with traces of gravel observed to overly native till material consisting of reddish and orange brown, sand with silt, gravel, and cobbles. Boring logs are included as Appendix A.

2.2 Bedrock Geology

According to the "Bedrock Geology Map of the New Britain Quadrangle", the project corridor is underlain by New Haven Arkose, which is described as pale reddish-brown to grayish-red, coarse to fine grained, sandstone, siltstone, and silty shale. Geoprobe refusal was not encountered at the maximum depth of 9.5 feet below grade that was investigated. No bedrock outcrops were observed throughout the corridor or within the immediate vicinity.

2.3 Groundwater

Based on a review of the Water Quality Classifications Map of the Connecticut River and Southcentral Coastal Basins, adopted 1993, Department of Energy and Environmental Protection (DEEP) has designated groundwater beneath the project corridor and surrounding area as "GA" quality. Groundwater of this classification is defined by the DEEP as groundwater within the area of existing private water supply wells or an area with the potential to provide water to public or private water supply wells. The DEEP presumes that groundwater in such an area is, at a minimum, suitable for drinking or other domestic uses without treatment.

During this Task 210 SSI, groundwater was not encountered. Based on groundwater depth measurements obtained during DTC's October 6, 2008 Task 210 SSI for 750 Farmington Avenue, groundwater appears to flow in a south southwesterly direction, toward the Farmington River. The presence of subsurface structures, impervious surfaces, and the character of the subsurface stratigraphy may also locally influence the direction of groundwater movement.

2.4 Surface Water

The Farmington River is located directly to the west of the project corridor. According the above referenced DEEP map, the Farmington River is classified as a "B" surface water body. The Class "B" designation indicates an inland water body known or presumed to meet water quality criteria for fish and wildlife habitat, industrial and agricultural supply, and other legitimate uses including navigation.

3.0 PARCELS OF POTENTIAL ENVIRONMENTAL CONCERN

As indicated in Section 1.2, DTC performed a Task 110 Corridor Land Use Evaluation for the project corridor. The Task 110 included the evaluation of 33 parcels, of which seven were assigned a “high risk” designation and six were assigned a “moderate risk” designation. During this Supplemental Task 210, two “moderate risk” parcels from the Task 110 were involved in the investigation. The two “moderate risk” parcels are summarized below.

Moderate Risk Parcels

Parcel 2 – 729 Farmington Avenue – This residential parcel was assigned a moderate risk due to a reported leaking heating oil UST in 2001 and the use of a portion of the parcel as an orchard. The UST and petroleum contaminated soil were reportedly removed. Low concentrations of chlorinated pesticides were detected in the surficial soil during DTC’s Task 210, within the footprint of the proposed relocated driveway.

Parcel 15 – 790 Farmington Avenue – This commercial parcel was assigned a moderate risk due to its use as a commercial office building. Urban fill containing SPLP lead above the GA PMC was detected on Parcel 14 immediately to the west of Parcel 15.

4.0 FIELD INVESTIGATION AND SAMPLING METHODS

This Supplemental Task 210 SSI included the advancement of two borings, seven hand augers, and collection and laboratory analysis of 10 soil samples.

DTC subcontracted Logical Environmental Solutions, Inc. (LES) of Tolland, Connecticut to advance the deep borings using a Geoprobe direct-push rig.

The soil borings and hand auger locations are depicted on Figures 2 and 3. Table 1 provides a summary of the sampling rationale and the laboratory analyses requested for each soil sample.

4.1 Soil Boring Advancement and Sampling

The borings, identified as SB-1, SB-2, and HA-6 through HA-12 were advanced to depths ranging from 2.5 to 8 feet below grade on March 2, 2012. Soil samples were obtained continuously during advancement of the borings using a stainless-steel, four-foot long sampling device, lined with a dedicated acetate sample tube. The tube was opened on its horizontal axis to allow inspection, description of lithology, and sampling of the material.

A representative portion of each 4-foot long soil core was immediately collected by the DTC field scientist and placed within a clean polyethylene zip-lock bag for field screening with a PID. The PID was equipped with a 10.6 eV bulb and was calibrated to isobutylene standard gas (100 parts per million). The results of the PID screening are provided on the boring logs, which are included as Appendix A.

Following lithology description, soil samples were collected at approximately two foot intervals from each boring. Soil samples from the borings were selected for laboratory analysis based upon the current/historic use of the nearby parcels, visual appearance of the soil, the results of the field screening, and the anticipated construction activities. The samples were submitted to Spectrum Analytical, Inc. (Spectrum) of Agawam, MA, a State of Connecticut Department of Public Health certified environmental testing laboratory, using proper preservation techniques and chain of custody control.

5.0 REGULATORY CRITERIA

The soil analytical results were compared to the numeric criteria listed in the Connecticut DEEP Remediation Standard Regulations (RSRs), sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies, dated January 1996, and to numeric criteria in the DEEP Comprehensive List of Approved Additional Polluting Substances Criteria and Alternative Criteria, dated October 24, 2005. The RSRs were developed by the DEEP to define the remediation performance standards for soil.

The RSRs apply specifically to sites at which remedial actions are required by the DEEP under Chapters 445 or 446k of the Connecticut General Statutes (CGS) such as under an administrative order, subsequent to a transfer of an establishment under CGS Section 22a-134a, and to sites that are enrolled in a Voluntary Remediation Program under CGS Sections 22a-133x or 22a-133y.

The majority of the project corridor is not currently regulated under any of these State statutes. However, DTC used the numeric criteria in the RSRs as guidelines to evaluate the data and to make conclusions regarding concentrations of regulated compounds detected in soil and groundwater. The following summarizes the soil criteria utilized during this Supplemental Task 210 SSI.

5.1 Soil Criteria

Direct Exposure Criteria (DEC)

The DEC are designed to protect human health from risks associated with exposure to pollutants in contaminated soil within 15 feet of the ground surface.

The RSRs provide two sets of DEC, one for residential land use (RES DEC) and another for industrial/commercial land use (I/C DEC). Remediation to the RES DEC is required unless an ELUR has been recorded that restricts residential use. For this project, DTC compared the soil analytical results to the RES DEC.

Pollutant Mobility Criteria (PMC)

The PMC are designed to protect groundwater quality by reducing or eliminating the potential for migration of pollutants to groundwater from contaminated soil. The RSRs provide two sets of PMC based on the groundwater classification of the site, as designated by DEEP. In a "GA" groundwater classification area, the GA PMC apply to soil located from the ground surface to the depth of the seasonal low water table. As the project area is in a "GA" area, DTC compared the soil analytical results to the GA PMC.

6.0 SUMMARY AND EVALUATION OF ANALYTICAL DATA

6.1 Soil Sample Analytical Results

Soil analytical results for this Supplemental Task 210 are summarized in Table 2, along with the regulatory criteria, and are discussed below. The soil analytical laboratory reports are included in Appendix B.

ETPH

A total of three soil samples were analyzed for ETPH. ETPH was not detected above the method detection limits in the soil samples obtained during this Supplemental Task 210 SSI.

Metals

A total of four soil samples were analyzed for total lead. As summarized in Table 2, lead was detected in all four soil samples, but at concentration below the RES DEC. Lead was detected at concentrations above typical background concentrations in soil samples obtained from boring SB-1 (0-2') and (2-4').

Soil samples containing elevated concentrations of lead were additionally analyzed for leachable lead by SPLP for comparison to the GA PMC. Leachable lead was detected in samples SB-1 (0-2') at 0.035 mg/l and SB-1 (2-4') at 0.0347 mg/l concentrations exceeding the GA PMC of 0.015 mg/l.

Chlorinated Pesticides

A total of seven soil samples were analyzed for chlorinated pesticides by EPA Method 8081. One or more of the pesticides chlordane, 4,4-DDE, and 4,4-DDT were detected above the method detection limits in the soil samples identified as HA-6 (0-2.5'), HA-7 (0-2.5'), HA-8 (0-2.5'), HA-9 (0-2.5'), and HA-11 (0-2.5'). Pesticides were not detected in any soil samples at concentrations exceeding the RES DEC.

Soil sample HA-6 (0-2.5') was additionally analyzed for leachable chlorinated pesticides by SPLP for comparison to the GA PMC. Leachable pesticides were detected in the sample above the method detection limit, but below the GA PMC.

6.2 Quality Assurance (QA)/Quality Control (QC) Results

One duplicate soil sample was obtained from a randomly selected soil sample to evaluate the accuracy of the laboratory analytical data. Sample "Duplicate" was obtained from sample HA-12 (0-2.5') and was analyzed for pesticides only.

Chlorinated pesticides were not detected in the original sample HA-12 (0-2.5') or its duplicate, indicating an acceptable level of precision.

All analyses were performed per the DEEP Reasonable Confidence Protocol (RCP) and meet the RCP requirements. Therefore, all of the soil analytical data meet the requirements for Reasonable Confidence as defined by the DEEP.

DTC also thoroughly reviewed the QA/QC report included with the laboratory analytical report to evaluate the reliability of the analytical data. Please refer to the analytical report for a detailed narrative discussion of the reliability of the data.

7.0 POTENTIAL SOURCES OF CONTAMINATION AND IDENTIFIED PRELIMINARY AREAS OF ENVIRONMENTAL CONCERN

The following provides a summary of the potential sources of soil contamination identified during completion of this Supplemental Task 210 SSI and the identification of preliminary Areas of Environmental Concern (AOECs) and Low-level Areas of Environmental Concern (LLAOECs) within the project corridor. The identified preliminary AOECs and LLAOECs are depicted in Figures 2 and 3.

AOEC 1 – Contaminated Soil in the Vicinity of Boring SB-1

Leachable lead at concentrations exceeding the GA PMC was detected in soil samples obtained from boring SB-1 at depths ranging from 0 to 4 feet below grade. The boring was completed on the commercial property located at 784-788 Farmington Avenue. The source of the lead may be from fill material.

As previously discussed, the project will involve new road construction, relocation/reconstruction of existing roadways, drainage improvements, utility relocations, and excavations in excess of three feet in depth. Any soil excavated from this area should be handled as controlled material.

LLAOEC “A” – Low Level Soil in the Vicinity of Borings HA-6, HA-7, HA-8, and HA-9

Low-level chlorinated pesticides (at concentrations not exceeding the applicable RSR criteria) were detected in soil samples obtained from borings HA-6, HA-7, HA-8, and HA-9 at a depth of 0 to 2.5 feet below grade. These borings were located along the south side of Farmington Avenue, in an area where a significant cut is proposed.

The source of the pesticide impacted soil appears to be related to the orchard located at 729 Farmington Avenue.

LLAOEC “B” – Low Level Soil in the Vicinity of Boring HA-11

Low-level chlorinated pesticides (at concentrations not exceeding the applicable RSR criteria) were detected in the soil sample obtained from boring HA-11 at a depth of 0 to 2.5 feet below grade. This boring is located within the footprint of the currently proposed driveway.

The source of the pesticide impacted soil appears to be related to the orchard located on the property.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analytical data collected by DTC, one preliminary AOEC and two preliminary LLAOECs were identified within the project corridor, as summarized below:

- Soil within AOEC 1 contains leachable lead at concentrations exceeding the GA PMC and must be handled as controlled material.
- Soil within LLAOEC "A" contains low-level chlorinated pesticides.
- Soil within LLAOEC "B" contains low-level chlorinated pesticides.

Based on the results of this Supplemental Task 210 SSI, DTC recommends that a Task 310 – Plans, Specifications, and Estimates be assigned to prepare plans and specifications for the proper management and disposal of contaminated materials that may be excavated, handled, transported, or disposed during construction activities and for the establishment of appropriate worker health and safety protocols.

9.0 LIMITATIONS

All work product and reports provided in connection with the performance of this Supplemental Task 210 SSI are subject to the following limitations:

This investigation and report were conducted and prepared on behalf of, and for the exclusive use of, ConnDOT.

The observations, findings, and conclusions provided in this report were based on DTC's observations of the site conditions at the time of the investigation.

The conclusions summarized herein are based on the observations and investigations described within this report. Future events at the site or surrounding properties may alter these findings. This Supplemental Task 210 SSI was designed specifically to evaluate soil conditions within the project corridor and did not involve sampling and laboratory analysis of soil vapor, surface water, or sediment. Subsurface conditions beyond the project corridor were not evaluated as part of this Supplemental Task 210 SSI.

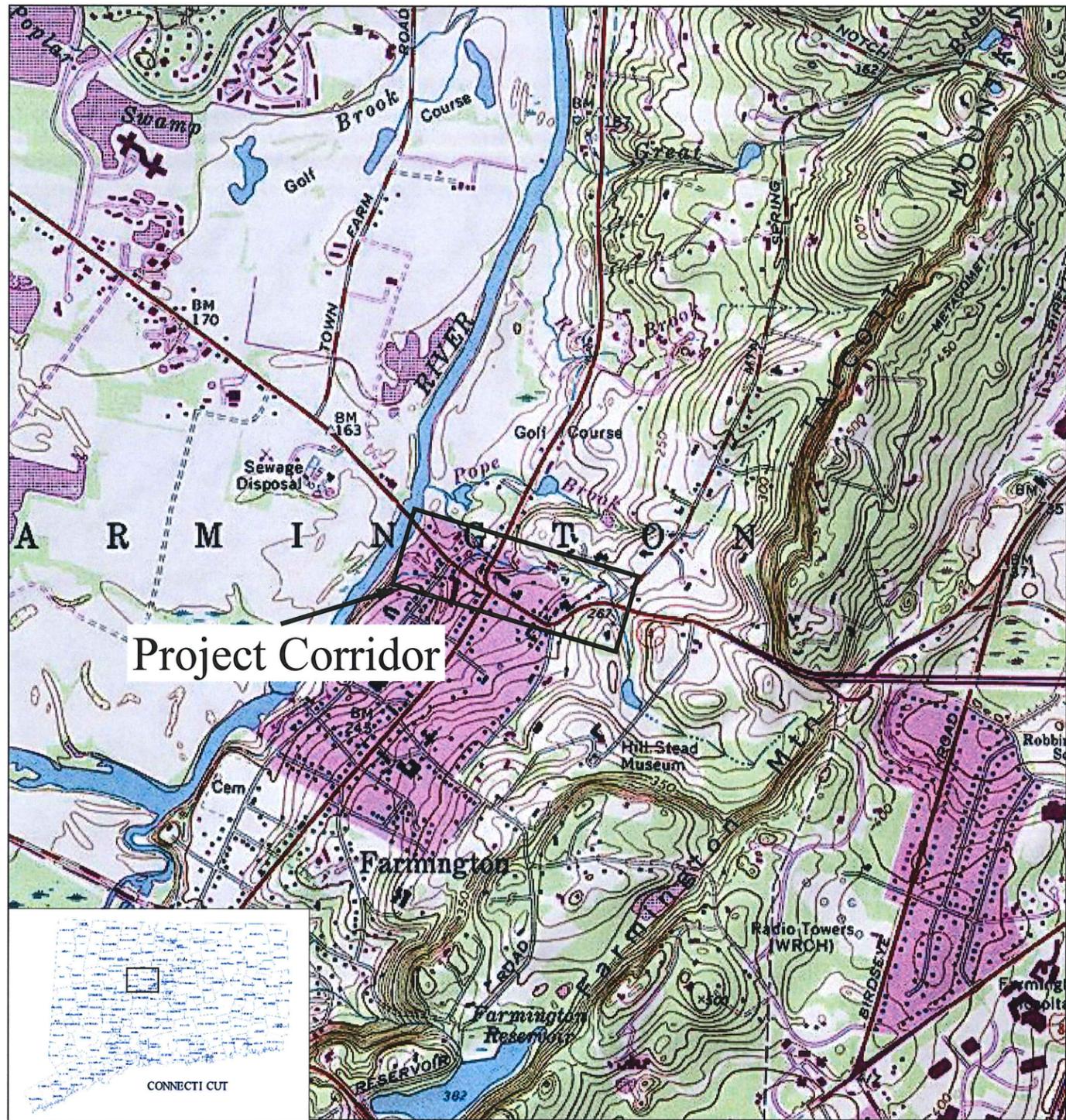
In completing this Supplemental Task 210 SSI, DTC relied upon information provided by subcontractors (i.e. laboratories and drilling contractors). DTC has relied upon this information carefully; however, DTC provides no warranty regarding the accuracy and completeness of the information provided.

DTC has performed this study in a professional manner using a degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. The conclusions provided by DTC are based solely on the scope of work conducted and on observations and limited explorations described within this report at the time these services were conducted. No other warranty, expressed or implied, is made as to the professional opinions included by DTC in this report.

10.0 REFERENCES

1. "Task 110 Corridor Land Use Evaluation", DTC, dated July 17, 2006.
2. "Task 120 Preliminary Site Evaluation", DTC, dated May 2008.
3. "Task 210 Subsurface Site Investigation", DTC, dated June 2008.
4. "Task 210 Subsurface Site Investigation", DTC, dated October 2008.
5. "Task 210 Subsurface Site Investigation", DTC, dated August 2009.
6. State of Connecticut Department of Energy and Environmental Protection (DEEP), Remediation Standard Regulations, Sections 22a-133k-1 through -3 of the Regulations of Connecticut State Agencies, effective January 30, 1996.
7. CTDEEP, "Comprehensive List of Approved Additional Polluting Substances Criteria and Alternative Criteria", dated October 24, 2005.
8. CTDEEP, "Water Quality Classifications Map of the Connecticut and Southcentral Coastal Basins", adopted 1993.
9. State of Connecticut Department of Transportation, Division of Environmental Compliance, "On-Call Contaminated Soil/Groundwater Scopes" manual, dated 2010.
10. Stone, J., USGS, "Surficial Materials Map of Connecticut", dated 1992.
11. Talcott Mountain Science Center for Student Involvement, "Bedrock Geology Map of the New Britain Quadrangle" State Geological and Natural History Survey of Connecticut (on-line version).

FIGURES



USGS Quadrangle, New Britain
1 inch = 2,000 feet

Site Location Map
Route 4 Improvements from Garden Street to Mountain Spring Road
Farmington, Connecticut



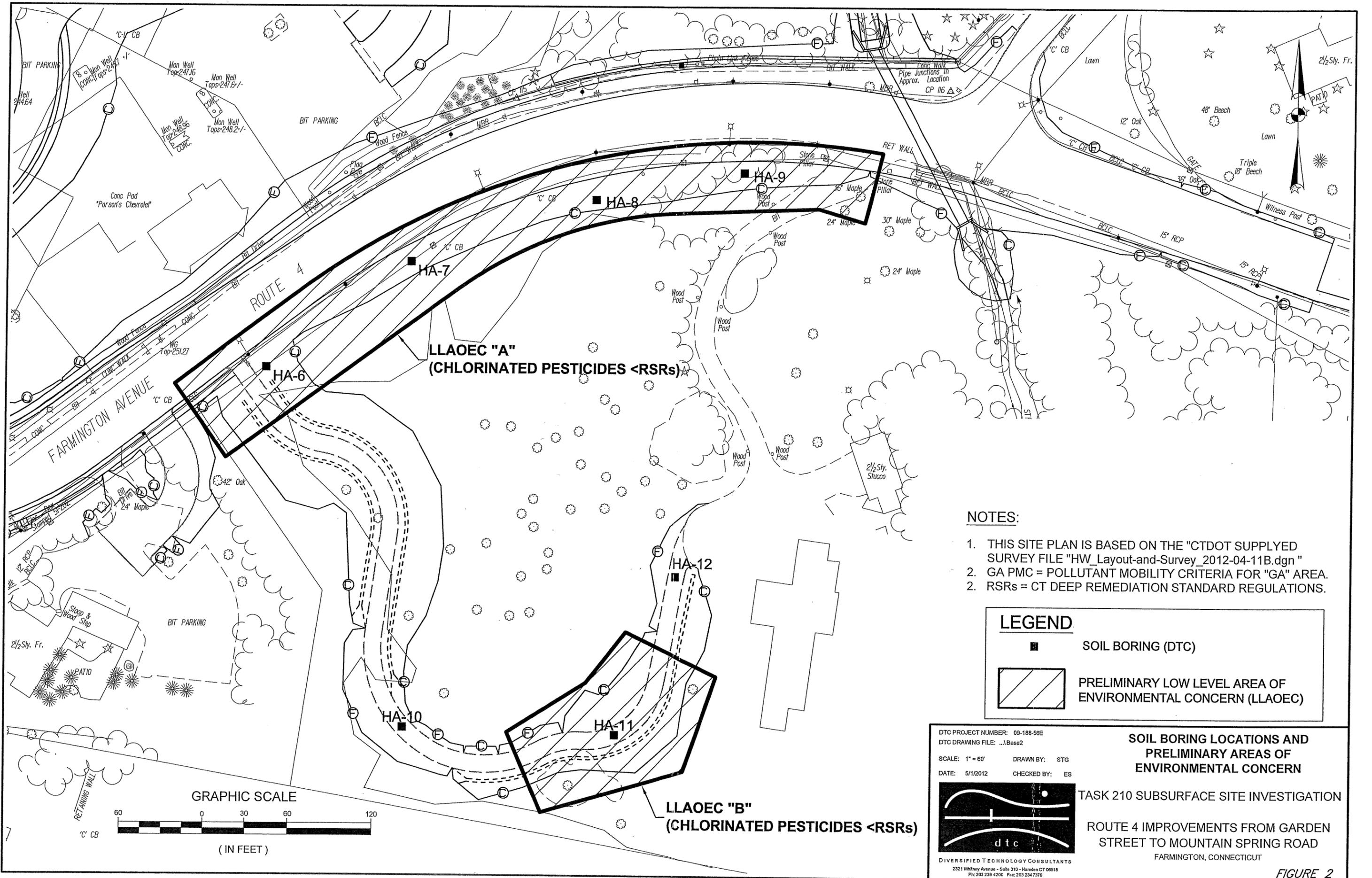
DTC Project No. 09-188-56E

May 2012

Figure 1



Diversified Technology Consultants, Inc.
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NOTES:

1. THIS SITE PLAN IS BASED ON THE "CTDOT SUPPLIED SURVEY FILE "HW_Layout-and-Survey_2012-04-11B.dgn"
2. GA PMC = POLLUTANT MOBILITY CRITERIA FOR "GA" AREA.
2. RSRs = CT DEEP REMEDIATION STANDARD REGULATIONS.

LEGEND

- SOIL BORING (DTC)
- ▨ PRELIMINARY LOW LEVEL AREA OF ENVIRONMENTAL CONCERN (LLAOEC)

DTC PROJECT NUMBER: 09-188-56E
 DTC DRAWING FILE: ...Base2
 SCALE: 1" = 60' DRAWN BY: STG
 DATE: 5/1/2012 CHECKED BY: ES



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SOIL BORING LOCATIONS AND PRELIMINARY AREAS OF ENVIRONMENTAL CONCERN

TASK 210 SUBSURFACE SITE INVESTIGATION

ROUTE 4 IMPROVEMENTS FROM GARDEN STREET TO MOUNTAIN SPRING ROAD

FARMINGTON, CONNECTICUT

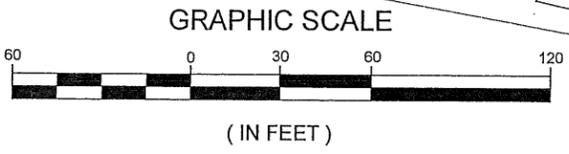


FIGURE 2

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TABLES

TABLE 1

Sample Location Rationale and Selected Analyses
Supplemental Task 210 – Subsurface Site Investigation
Route 4 Improvements from Garden Street to Mountain Spring Road
Farmington, Connecticut

Sample Identification	Sample Interval (feet)	Location Rationale	ETPH	Pesticides	Lead
SB-1	0-2	Within proposed Backage Road	X		X*
	2-4		X		X*
	5-7.5				X*
SB-2	0-2.5	Within proposed Backage Road	X		X
HA-6	0-2.5	Within proposed Schultz driveway location		X*	
HA-7	0-2.5	Within proposed Schultz driveway location		X	
HA-8	0-2.5	Within proposed Schultz driveway location		X	
HA-9	0-2.5	Within proposed Schultz driveway location		X	
HA-10	0-2.5	Within proposed Schultz driveway location		X	
HA-11	0-2.5	Within proposed Schultz driveway location		X	
HA-12	0-2.5	Within proposed Schultz driveway location		X	

Notes:

* Sample also analyzed by SPLP.

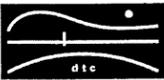
TABLE 2
Soil Sample Analytical Results
 Supplemental Task 210 - Subsurface Site Investigation
 Route 4 Improvements from Garden Street to Mountain Spring Road
 Farmington, Connecticut

Parameters	Remediation Standard Regulations				sample #	SB-1	SB-1	SB-1	SB-2	HA-6	HA-7	HA-8	HA-9	HA-10	HA-11	HA-12	Duplicate
	RES DEC	I/C DEC	GA PMC	GWPC (ug/l)		0-2'	2-4'	5-7.5'	0-2.5'	0-2.5'	0-2.5'	0-2.5'	0-2.5'	0-2.5'	0-2.5'	0-2.5'	(HA-12)
						3/2/12	3/2/12	3/2/12	3/2/12	3/2/12	3/2/12	3/2/12	3/2/12	3/2/12	3/2/12	3/2/12	3/2/12
ETPH per DPH method (mg/kg)	500	2,500	500	NA		--	--	NA	--	NA							
Total Lead per EPA 6010 (mg/kg)																	
Lead	500	1,000	NA	NA		193	132	42.1	16.5	NA							
SPLP Lead per EPA 6010 (mg/l)																	
Lead	NA	NA	0.015	NA		0.035	0.0347	--	NA								
Chlorinated Pesticides per EPA 8081 (mg/kg)																	
Chlordane	0.49	2.2	0.066	NA		NA	NA	NA	NA	0.0251	--	--	--	--	--	--	--
4,4' - DDE	1.8	17	NE	NA						0.0077	--	--	--	0.0149	--	--	--
4,4' - DDT	1.8	17	NE	NA						0.133	0.0312	0.033	0.0381	--	--	--	--
SPLP Chlorinated Pesticides per EPA 8081 (ug/l)																	
Chlordane	NA	NA	NA	0.3		NA	NA	NA	NA	0.011	NA						
4,4' - DDE	NA	NA	NA	0.1						--							
4,4' - DDT	NA	NA	NA	0.1						0.005							

Notes:
 RES DEC = Residential Direct Exposure Criteria.
 I/C DEC = Industrial/Commercial Direct Exposure Criteria.
 GA PMC = GA Pollutant Mobility Criteria.
 SPLP = Synthetic Precipitation Leaching Procedure.
 GWPC = Groundwater Protection Criteria.
 mg/kg = milligrams per kilogram.
 mg/l = milligrams per liter.
 -- = not detected, see laboratory reports for specific detection limits.
 NA = not applicable / not analyzed for this compound.
 NE = Criteria not established.
 Bold values indicate an exceedance of the RES DEC.
 Shaded values indicate an exceedance of the GA PMC.

APPENDIX A

Soil Boring Logs

		Subsurface Log	Sheet 1 of 1	Date started: 3/2/12 Date Completed: 3/2/12	BORING No. HA-6			
Project: DOT Route 4 Farmington Task 210		Location: Farmington, CT		Method of investigation: Hand Auger				
Project No.: 09-188-56E		Drilling Co.: DTC		Drill Rig: Hand Auger	Weather: sunny, 50s			
P. Manager: Chris Koelle		Geologist: Ethan Stewart		Field Analytical Readings	Groundwater and Other Observations			
Depth (ft.)	Sample				Recovery (in.)	Sample Description	Field Analytical Readings	Groundwater and Other Observations
	No.	Depth (ft.)	Blows per 6"	"N"				
0-2.5	0-2.5				2.5	0-1' Dark brown SILT and topsoil, with medium sand. 1-2.5' Brown/red SILT, some gravel, little medium sand.	0.0	Groundwater not observed
Sample Types: S=Split Spoon: _____ T= Shelby Tube: _____ R= Rock Core: _____ O = Other: _____ N = ASTM D1586						Comments:		

		Subsurface Log	Sheet 1 of 1	Date started: 3/2/12 Date Completed: 3/2/12	BORING No. HA-7			
DIVERSIFIED TECHNOLOGY CONSULTANTS		Project: DOT Route 4 Farmington Task 210		Method of investigation: Hand Auger				
Project No.: 09-188-56E		Location: Farmington, CT		Drill Rig: Hand Auger				
P. Manager: Chris Koelle		Drilling Co.: DTC		Weather: sunny, 50s				
		Geologist: Ethan Stewart						
Depth (ft.)	Sample				Recovery (in.)	Sample Description	Field Analytical Readings	Groundwater and Other Observations
	No.	Depth (ft.)	Blows per 6"	"N"				
0-2.5	0-2.5				2.5	0-1' Dark brown SILT and topsoil, with medium sand. 1-2.5' Brown/red SILT, some gravel, little medium sand.	0.0	Groundwater not observed
Sample Types: S=Split Spoon: _____ T= Shelby Tube: _____ R= Rock Core: _____ O = Other: _____ N = ASTM D1586						Comments:		

		Subsurface Log	Sheet 1 of 1	<i>Date started:</i> 3/2/12 <i>Date Completed:</i> 3/2/12	BORING No. HA-8			
DIVERSIFIED TECHNOLOGY CONSULTANTS		Project: DOT Route 4 Farmington Task 210 Location: Farmington, CT			Method of investigation: Hand Auger			
Project No.: 09-188-56E P. Manager: Chris Koelle		Drilling Co.: DTC Geologist: Ethan Stewart			Drill Rig: Hand Auger Weather: sunny, 50s			
Depth (ft.)	Sample				Recovery (in.)	Sample Description	Field Analytical Readings	Groundwater and Other Observations
	No.	Depth (ft.)	Blows per 6"	"N"				
0-2.5	0-2.5				2.5	0-1' Dark brown SILT and topsoil, with medium sand. 1-2.5' Brown/red SILT, some gravel, little medium sand.	0.0	Groundwater not observed
Sample Types: S=Split Spoon: _____ T= Shelby Tube: _____ R= Rock Core: _____ O = Other: _____ N = ASTM D1586						Comments:		

		Subsurface Log	Sheet 1 of 1	<i>Date started:</i> 3/2/12 <i>Date Completed:</i> 3/2/12	BORING No. HA-9				
		Project: DOT Route 4 Farmington Task 210 Location: Farmington, CT			Method of investigation: Hand Auger				
Project No.: 09-188-56E P. Manager: Chris Koelle		Drilling Co.: DTC Geologist: Ethan Stewart			Drill Rig: Hand Auger Weather: sunny, 50s				
Depth (ft.)	Sample				Field Analytical Readings	Groundwater and Other Observations			
	No.	Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description			
0-2.5	0-2.5				2.5	0-1' Dark brown SILT and topsoil, with medium sand. 1-2.5' Brown/red SILT, some gravel, little medium sand.	0.0	Groundwater not observed	
Sample Types: S=Split Spoon: _____ T= Shelby Tube: _____ R= Rock Core: _____ O = Other: _____ N = ASTM D1586						Comments:			

		Subsurface Log	Sheet 1 of 1	<i>Date started:</i> 3/2/12 <i>Date Completed:</i> 3/2/12	BORING No. HA-10		
		Project: DOT Route 4 Farmington Task 210 Location: Farmington, CT			Method of investigation: Hand Auger		
Project No.: 09-188-56E P. Manager: Chris Koelle		Drilling Co.: DTC Geologist: Ethan Stewart			Drill Rig: Hand Auger Weather: sunny, 50s		
Depth (ft.)	Sample				Field Analytical Readings	Groundwater and Other Observations	
No.	Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description		
0-2.5	0-2.5			2.5	0-3" Topsoil and red SILT/clay. 3"-2.5' Red SILT/clay.	0.0	Groundwater not observed
Sample Types: S=Split Spoon: _____ T= Shelby Tube: _____ R= Rock Core: _____ O = Other: _____ N = ASTM D1586					Comments:		

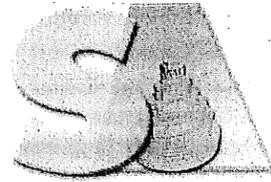
		Subsurface Log	Sheet 1 of 1	Date started: 3/2/12 Date Completed: 3/2/12	BORING No. HA-11			
DIVERSIFIED TECHNOLOGY CONSULTANTS		Project: DOT Route 4 Farmington Task 210 Location: Farmington, CT		Method of investigation: Hand Auger				
Project No.: 09-188-56E P. Manager: Chris Koelle		Drilling Co.: DTC Geologist: Ethan Stewart		Drill Rig: Hand Auger	Weather: sunny, 50s			
Depth (ft.)	Sample				Recovery (in.)	Sample Description	Field Analytical Readings	Groundwater and Other Observations
	No.	Depth (ft.)	Blows per 6"	"N"				
0-2.5	0-2.5				2.5	0-3" Topsoil and red SILT/clay. 3"-2.5' Red SILT/clay.	0.0	Groundwater not observed
Sample Types: S=Split Spoon: _____ T= Shelby Tube: _____ R= Rock Core: _____ O = Other: _____ N = ASTM D1586						Comments:		

				Subsurface Log		Sheet 1 of 1	Date started: 3/2/12 Date Completed: 3/2/12	BORING No. HA-12	
Project: DOT Route 4 Farmington Task 210				Method of investigation: Hand Auger					
Location: Farmington, CT									
Project No.: 09-188-56E		Drilling Co.: DTC		Drill Rig: Hand Auger		Weather: sunny, 50s			
P. Manager: Chris Koelle		Geologist: Ethan Stewart							
Depth (ft.)	Sample				Recovery (in.)	Sample Description	Field Analytical Readings	Groundwater and Other Observations	
	No.	Depth (ft.)	Blows per 6"	"N"					
0-2.5	0-2.5				2.5	0-3" Topsoil and red SILT/clay. 3"-2.5' Red SILT/clay.	0.0	Groundwater not observed	
Sample Types: S=Split Spoon: _____ T= Shelby Tube: _____ R= Rock Core: _____ O = Other: _____ N = ASTM D1586						Comments:			

APPENDIX B

Soil Analytical Laboratory Reports

Report Date:
28-Mar-12 17:19



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Laboratory Report

- Final Report
 Re-Issued Report
 Revised Report

Diversified Technology Consultants
2321 Whitney Ave., Hamden Center II
Hamden, CT 06518
Attn: Ethan Stewart

Project: Rt. 4 - Farmington, CT
Project #: 09-188-56E

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB44791-01	SB-1 0-2'	Soil	02-Mar-12 09:30	05-Mar-12 15:55
SB44791-02	SB-1 2-4'	Soil	02-Mar-12 09:40	05-Mar-12 15:55
SB44791-03	SB-2 0-2.5'	Soil	02-Mar-12 10:00	05-Mar-12 15:55
SB44791-04	HA-6 0-2.5'	Soil	02-Mar-12 10:30	05-Mar-12 15:55
SB44791-05	HA-7 0-2.5'	Soil	02-Mar-12 10:45	05-Mar-12 15:55
SB44791-06	HA-8 0-2.5'	Soil	02-Mar-12 11:00	05-Mar-12 15:55
SB44791-07	HA-9 0-2.5'	Soil	02-Mar-12 11:15	05-Mar-12 15:55
SB44791-08	HA-10 0-2.5'	Soil	02-Mar-12 11:30	05-Mar-12 15:55
SB44791-09	HA-11 0-2.5'	Soil	02-Mar-12 11:45	05-Mar-12 15:55
SB44791-10	HA-12 0-2.5'	Soil	02-Mar-12 12:00	05-Mar-12 15:55
SB44791-11	Duplicate	Soil	02-Mar-12 00:00	05-Mar-12 15:55
SB44791-12	SB-1 5-7.5'	Soil	02-Mar-12 00:00	05-Mar-12 15:55

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435



Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes.
Please note that this report contains 32 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

**Reasonable Confidence Protocols
Laboratory Analysis
QA/QC Certification Form**

Laboratory Name: Spectrum Analytical, Inc.

Client: Diversified Technology Consultants

Project Location: Rt. 4 - Farmington, CT

Project Number: 09-188-56E

Sampling Date(s):

3/2/2012

Laboratory Sample ID(s):

SB44791-01 through SB44791-12

RCP Methods Used:

CT ETPH

SW846 1312

SW846 1312/6010C

SW846 1312/8081B

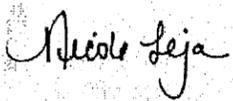
SW846 6010C

SW846 8081B

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?	✓ Yes	No
1A	Were the method specified preservation and holding time requirements met?	✓ Yes	No
1B	<i>VPH and EPH methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes	No
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	✓ Yes	No
3	Were samples received at an appropriate temperature?	✓ Yes	No
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved?	✓ Yes	No
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes Yes	✓ No No
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?	Yes	✓ No
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	✓ Yes	No

Note: 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."

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 obtaining the information contained in this analytical report, such information is accurate and complete.


 Nicole Leja
 Laboratory Director
 Date: 3/28/2012

CASE NARRATIVE:

The samples were received 3.7 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

Required site-specific Matrix Spike/Matrix Spike Duplicate (MS/MSD) must be requested by the client and sufficient sample must be submitted for the additional analyses. Samples submitted with insufficient volume/weight will not be analyzed for site specific MS/MSD, however a batch MS/MSD may be analyzed from a non-site specific sample.

CTDEP has published a list of analytical methods which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of decisions being made utilizing the Reasonable Confidence Protocol (RCP). "Reasonable Confidence" can be established only for those methods published by the CTDEP in the RCP guidelines. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

The CTDEP RCP requests that "all non-detects and all results below the reporting limit are reported as ND (Not Detected at the Specified Reporting Limit)". All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

If no reporting limits were specified or referenced on the chain-of-custody the laboratory's practical quantitation limits were applied.

Tetrachloro-m-xylene is recommended as a surrogate by the CTDEP RCP for the following SW846 Methods 8081, 8082 and 8151. Spectrum Analytical, Inc. uses Tetrachloro-m-xylene as the Internal Standard for these methods and Dibromooctafluorobiphenyl as the surrogate.

For this work order, the reporting limits have not been referenced or specified.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

CT ETPH

Samples:

S202608-CCV1

Analyte percent difference is outside individual acceptance criteria (30), but within overall method allowances.

n-Hexatriacontane (37.7%)

This affected the following samples:

1205252-BLK1

S202608-CCV2

Analyte percent difference is outside individual acceptance criteria (30), but within overall method allowances.

n-Hexatriacontane (35.5%)

This affected the following samples:

1205252-BLK1

S202608-CCV3

Analyte percent difference is outside individual acceptance criteria (30), but within overall method allowances.

n-Hexatriacontane (48.1%)

This affected the following samples:

1205252-BLK1

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SW846 8081B

Samples:

SB44791-07 HA-9 0-2.5'

Difference between the two GC columns is greater than 40%.

4,4'-DDD (p,p')

SB44791-08 HA-10 0-2.5'

Difference between the two GC columns is greater than 40%.

gamma-Chlordane [2C]

Sample Identification

SB-1 0-2' Client Project # 09-188-56E Matrix Soil Collection Date/Time 02-Mar-12 09:30 Received 05-Mar-12
 SB44791-01

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
<u>Extractable Total Petroleum Hydrocarbons</u>													
Prepared by method SW846 3545A													
8006-61-9	Gasoline	< 32.9		mg/kg dry	32.9	1.6	1	CT ETPH	09-Mar-12	10-Mar-12	SEW	1205252	
68476-30-2	Fuel Oil #2	< 32.9		mg/kg dry	32.9	3.3	1	"	"	"	"	"	
68476-31-3	Fuel Oil #4	< 32.9		mg/kg dry	32.9	3.3	1	"	"	"	"	"	
68553-00-4	Fuel Oil #6	< 32.9		mg/kg dry	32.9	8.2	1	"	"	"	"	"	
M09800000	Motor Oil	< 32.9		mg/kg dry	32.9	3.3	1	"	"	"	"	"	
J00100000	Aviation Fuel	< 32.9		mg/kg dry	32.9	8.2	1	"	"	"	"	"	
	Unidentified	< 32.9		mg/kg dry	32.9	8.2	1	"	"	"	"	"	
	Other Oil	< 32.9		mg/kg dry	32.9	3.3	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	< 32.9		mg/kg dry	32.9	3.3	1	"	"	"	"	"	
	C9-C36 Aliphatic Hydrocarbons	< 32.9		mg/kg dry	32.9	2.6	1	"	"	"	"	"	
<i>Surrogate recoveries:</i>													
3386-33-2	1-Chlorooctadecane	81			50-150 %			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
7439-92-1	Lead	193		mg/kg dry	1.82	0.215	1	SW846 6010C	07-Mar-12	07-Mar-12	AMT/A	1205014	X
SPLP Metals by EPA 1312 & 6000/7000 Series Methods													
	SPLP Extraction	Completed		N/A			1	SW846 1312	14-Mar-12	15-Mar-12	KK	1205756	X
7439-92-1	Lead	0.0350		mg/l	0.0150	0.0048	1	SW846 1312/6010C	15-Mar-12	15-Mar-12	AMT	1205852	X
General Chemistry Parameters													
	% Solids	78.1		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204909	

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Sample Identification

SB-1 2-4' Client Project # 09-188-56E Matrix Soil Collection Date/Time 02-Mar-12 09:40 Received 05-Mar-12
 SB44791-02

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Extractable Petroleum Hydrocarbons

Extractable Total Petroleum Hydrocarbons

Prepared by method SW846 3545A

8006-61-9	Gasoline	< 34.5		mg/kg dry	34.5	1.7	1	CT ETPH	09-Mar-12	10-Mar-12	SEW	1205252	
68476-30-2	Fuel Oil #2	< 34.5		mg/kg dry	34.5	3.4	1	"	"	"	"	"	
68476-31-3	Fuel Oil #4	< 34.5		mg/kg dry	34.5	3.4	1	"	"	"	"	"	
68553-00-4	Fuel Oil #6	< 34.5		mg/kg dry	34.5	8.6	1	"	"	"	"	"	
M09800000	Motor Oil	< 34.5		mg/kg dry	34.5	3.4	1	"	"	"	"	"	
J00100000	Aviation Fuel	< 34.5		mg/kg dry	34.5	8.6	1	"	"	"	"	"	
	Unidentified	< 34.5		mg/kg dry	34.5	8.6	1	"	"	"	"	"	
	Other Oil	< 34.5		mg/kg dry	34.5	3.4	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	< 34.5		mg/kg dry	34.5	3.4	1	"	"	"	"	"	
	C9-C36 Aliphatic Hydrocarbons	< 34.5		mg/kg dry	34.5	2.7	1	"	"	"	"	"	

Surrogate recoveries:

3386-33-2	1-Chlorooctadecane	88				50-150 %		"	"	"	"	"	
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Total Metals by EPA 6000/7000 Series Methods

7439-92-1	Lead	132		mg/kg dry	1.74	0.207	1	SW846 6010C	07-Mar-12	07-Mar-12	AMT/A	1205014	X
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SPLP Metals by EPA 1312 & 6000/7000 Series Methods

	SPLP Extraction	Completed		N/A			1	SW846 1312	14-Mar-12	15-Mar-12	KK	1205756	X
7439-92-1	Lead	0.0347		mg/l	0.0150	0.0048	1	SW846 1312/6010C	15-Mar-12	15-Mar-12	AMT	1205852	X

General Chemistry Parameters

	% Solids	76.8		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204909	
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This laboratory report is not valid without an authorized signature on the cover page.

<u>Sample Identification</u>	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SB-2 0-2.5'	09-188-56E	Soil	02-Mar-12 10:00	05-Mar-12
SB44791-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
<u>Extractable Total Petroleum Hydrocarbons</u>													
Prepared by method SW846 3545A													
8006-61-9	Gasoline	< 31.5		mg/kg dry	31.5	1.6	1	CT ETPH	09-Mar-12	10-Mar-12	SEW	1205252	
68476-30-2	Fuel Oil #2	< 31.5		mg/kg dry	31.5	3.2	1	"	"	"	"	"	
68476-31-3	Fuel Oil #4	< 31.5		mg/kg dry	31.5	3.2	1	"	"	"	"	"	
68553-00-4	Fuel Oil #6	< 31.5		mg/kg dry	31.5	7.9	1	"	"	"	"	"	
M09800000	Motor Oil	< 31.5		mg/kg dry	31.5	3.2	1	"	"	"	"	"	
J00100000	Aviation Fuel	< 31.5		mg/kg dry	31.5	7.9	1	"	"	"	"	"	
	Unidentified	< 31.5		mg/kg dry	31.5	7.9	1	"	"	"	"	"	
	Other Oil	< 31.5		mg/kg dry	31.5	3.2	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	< 31.5		mg/kg dry	31.5	3.2	1	"	"	"	"	"	
	C9-C36 Aliphatic Hydrocarbons	< 31.5		mg/kg dry	31.5	2.5	1	"	"	"	"	"	

Surrogate recoveries:

3386-33-2	1-Chlorooctadecane	87			50-150 %			"	"	"	"	"	
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Total Metals by EPA 6000/7000 Series Methods

7439-92-1	Lead	16.5		mg/kg dry	1.57	0.186	1	SW846 6010C	07-Mar-12	07-Mar-12	AMT/A	1205014	X
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General Chemistry Parameters

	% Solids	82.0		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204909	
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Sample Identification

HA-6 0-2.5' Client Project # 09-188-56E Matrix Soil Collection Date/Time 02-Mar-12 10:30 Received 05-Mar-12
 SB44791-04

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Semivolatile Organic Compounds by GCMS

	SPLP Extraction	Completed		N/A			1	SW846 1312	14-Mar-12	15-Mar-12	KK	1205765	X
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Semivolatile Organic Compounds by GC

SPLP Pesticides

Prepared by method SW846 3535

319-84-6	alpha-BHC	< 0.002		µg/l	0.002	0.001	1	SW846 1312/8081B	15-Mar-12	17-Mar-12	DS	1205816	X
319-85-7	beta-BHC	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
319-86-8	delta-BHC	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
58-89-9	gamma-BHC (Lindane)	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
76-44-8	Heptachlor	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
309-00-2	Aldrin	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
1024-57-3	Heptachlor epoxide	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
959-98-8	Endosulfan I	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
60-57-1	Dieldrin	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
72-55-9	4,4'-DDE (p,p')	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
72-20-8	Endrin	< 0.002		µg/l	0.002	0.002	1	"	"	"	"	"	X
33213-65-9	Endosulfan II	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
72-54-8	4,4'-DDD (p,p')	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
1031-07-8	Endosulfan sulfate	< 0.002		µg/l	0.002	0.002	1	"	"	"	"	"	X
50-29-3	4,4'-DDT (p,p')	0.005		µg/l	0.002	0.002	1	"	"	"	"	"	X
72-43-5	Methoxychlor	< 0.002		µg/l	0.002	0.002	1	"	"	"	"	"	X
53494-70-5	Endrin ketone	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
7421-93-4	Endrin aldehyde	< 0.002		µg/l	0.002	0.002	1	"	"	"	"	"	X
5103-71-9	alpha-Chlordane	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
5566-34-7	gamma-Chlordane	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X
8001-35-2	Toxaphene	< 0.025		µg/l	0.025	0.020	1	"	"	"	"	"	X
57-74-9	Chlordane	0.011		µg/l	0.005	0.004	1	"	"	"	"	"	X
15972-60-8	Alachlor	< 0.002		µg/l	0.002	0.001	1	"	"	"	"	"	X

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	61			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	76			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	52			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	60			30-150 %			"	"	"	"	"	

Organochlorine Pesticides

Prepared by method SW846 3545A

319-84-6	alpha-BHC	< 5.85		µg/kg dry	5.85	2.49	1	SW846 8081B	08-Mar-12	09-Mar-12	TG	1205115	X
319-85-7	beta-BHC	< 5.85		µg/kg dry	5.85	2.33	1	"	"	"	"	"	X
319-86-8	delta-BHC	< 5.85		µg/kg dry	5.85	2.72	1	"	"	"	"	"	X
58-89-9	gamma-BHC (Lindane)	< 5.85		µg/kg dry	5.85	2.42	1	"	"	"	"	"	X
76-44-8	Heptachlor	< 5.85		µg/kg dry	5.85	2.39	1	"	"	"	"	"	X
309-00-2	Aldrin	< 5.85		µg/kg dry	5.85	5.74	1	"	"	"	"	"	X
1024-57-3	Heptachlor epoxide	< 5.85		µg/kg dry	5.85	2.22	1	"	"	"	"	"	X
959-98-8	Endosulfan I	< 5.85		µg/kg dry	5.85	2.84	1	"	"	"	"	"	X
60-57-1	Dieldrin	< 5.85		µg/kg dry	5.85	1.86	1	"	"	"	"	"	X
72-55-9	4,4'-DDE (p,p')	7.70		µg/kg dry	5.85	2.54	1	"	"	"	"	"	X

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<u>Sample Identification</u>	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
HA-6 0-2.5'	09-188-56E	Soil	02-Mar-12 10:30	05-Mar-12
SB44791-04				

<u>CAS No.</u>	<u>Analyte(s)</u>	<u>Result</u>	<u>Flag</u>	<u>Units</u>	<u>*RDL</u>	<u>MDL</u>	<u>Dilution</u>	<u>Method Ref.</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Analyst</u>	<u>Batch</u>	<u>Cert.</u>
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Semivolatile Organic Compounds by GC

Organochlorine Pesticides

Prepared by method SW846 3545A

72-20-8	Endrin	< 9.35		µg/kg dry	9.35	3.78	1	SW846 8081B	08-Mar-12	09-Mar-12	TG	1205115	X
33213-65-9	Endosulfan II	< 9.35		µg/kg dry	9.35	4.33	1	"	"	"	"	"	X
72-54-8	4,4'-DDD (p,p')	< 9.35		µg/kg dry	9.35	2.82	1	"	"	"	"	"	X
1031-07-8	Endosulfan sulfate	< 9.35		µg/kg dry	9.35	2.48	1	"	"	"	"	"	X
50-29-3	4,4'-DDT (p,p')	133		µg/kg dry	9.35	2.42	1	"	"	"	"	"	X
72-43-5	Methoxychlor	< 9.35		µg/kg dry	9.35	2.89	1	"	"	"	"	"	X
53494-70-5	Endrin ketone	< 9.35		µg/kg dry	9.35	2.83	1	"	"	"	"	"	X
7421-93-4	Endrin aldehyde	< 9.35		µg/kg dry	9.35	2.74	1	"	"	"	"	"	X
5103-71-9	alpha-Chlordane	< 5.85		µg/kg dry	5.85	2.64	1	"	"	"	"	"	X
5566-34-7	gamma-Chlordane	< 5.85		µg/kg dry	5.85	2.35	1	"	"	"	"	"	X
8001-35-2	Toxaphene	< 117		µg/kg dry	117	110	1	"	"	"	"	"	X
57-74-9	Chlordane	25.1		µg/kg dry	23.4	20.7	1	"	"	"	"	"	X
15972-60-8	Alachlor	< 5.85		µg/kg dry	5.85	3.46	1	"	"	"	"	"	

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	86			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	71			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	84			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	142			30-150 %			"	"	"	"	"	

General Chemistry Parameters

% Solids	82.9	%					1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204909	
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Sample Identification

HA-7 0-2.5' Client Project # 09-188-56E Matrix Soil Collection Date/Time 02-Mar-12 10:45 Received 05-Mar-12
 SB44791-05

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Semivolatile Organic Compounds by GC

Organochlorine Pesticides
 Prepared by method SW846 3545A

319-84-6	alpha-BHC	< 7.13		µg/kg dry	7.13	3.04	1	SW846 8081B	08-Mar-12	09-Mar-12	TG	1205115	X
319-85-7	beta-BHC	< 7.13		µg/kg dry	7.13	2.84	1	"	"	"	"	"	X
319-86-8	delta-BHC	< 7.13		µg/kg dry	7.13	3.32	1	"	"	"	"	"	X
58-89-9	gamma-BHC (Lindane)	< 7.13		µg/kg dry	7.13	2.95	1	"	"	"	"	"	X
76-44-8	Heptachlor	< 7.13		µg/kg dry	7.13	2.91	1	"	"	"	"	"	X
309-00-2	Aldrin	< 7.13		µg/kg dry	7.13	7.00	1	"	"	"	"	"	X
1024-57-3	Heptachlor epoxide	< 7.13		µg/kg dry	7.13	2.71	1	"	"	"	"	"	X
959-98-8	Endosulfan I	< 7.13		µg/kg dry	7.13	3.47	1	"	"	"	"	"	X
60-57-1	Dieldrin	< 7.13		µg/kg dry	7.13	2.27	1	"	"	"	"	"	X
72-55-9	4,4'-DDE (p,p')	< 7.13		µg/kg dry	7.13	3.10	1	"	"	"	"	"	X
72-20-8	Endrin	< 11.4		µg/kg dry	11.4	4.61	1	"	"	"	"	"	X
33213-65-9	Endosulfan II	< 11.4		µg/kg dry	11.4	5.28	1	"	"	"	"	"	X
72-54-8	4,4'-DDD (p,p')	< 11.4		µg/kg dry	11.4	3.44	1	"	"	"	"	"	X
1031-07-8	Endosulfan sulfate	< 11.4		µg/kg dry	11.4	3.02	1	"	"	"	"	"	X
50-29-3	4,4'-DDT (p,p')	31.2		µg/kg dry	11.4	4.24	1	"	"	"	"	"	X
72-43-5	Methoxychlor	< 11.4		µg/kg dry	11.4	3.52	1	"	"	"	"	"	X
53494-70-5	Endrin ketone	< 11.4		µg/kg dry	11.4	3.45	1	"	"	"	"	"	X
7421-93-4	Endrin aldehyde	< 11.4		µg/kg dry	11.4	3.34	1	"	"	"	"	"	X
5103-71-9	alpha-Chlordane	< 7.13		µg/kg dry	7.13	3.22	1	"	"	"	"	"	X
5566-34-7	gamma-Chlordane	< 7.13		µg/kg dry	7.13	3.21	1	"	"	"	"	"	X
8001-35-2	Toxaphene	< 143		µg/kg dry	143	134	1	"	"	"	"	"	X
57-74-9	Chlordane	< 28.5		µg/kg dry	28.5	25.3	1	"	"	"	"	"	X
15972-60-8	Alachlor	< 7.13		µg/kg dry	7.13	4.22	1	"	"	"	"	"	X

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	79			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	70			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	80			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	105			30-150 %			"	"	"	"	"	

General Chemistry Parameters

% Solids	68.9		%				1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204909	
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<u>Sample Identification</u>	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
HA-8 0-2.5'	09-188-56E	Soil	02-Mar-12 11:00	05-Mar-12
SB44791-06				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Semivolatile Organic Compounds by GC

Organochlorine Pesticides

Prepared by method SW846 3545A

319-84-6	alpha-BHC	< 5.97		µg/kg dry	5.97	2.54	1	SW846 8081B	08-Mar-12	09-Mar-12	TG	1205115	X
319-85-7	beta-BHC	< 5.97		µg/kg dry	5.97	2.38	1	"	"	"	"	"	X
319-86-8	delta-BHC	< 5.97		µg/kg dry	5.97	2.78	1	"	"	"	"	"	X
58-89-9	gamma-BHC (Lindane)	< 5.97		µg/kg dry	5.97	2.47	1	"	"	"	"	"	X
76-44-8	Heptachlor	< 5.97		µg/kg dry	5.97	2.44	1	"	"	"	"	"	X
309-00-2	Aldrin	< 5.97		µg/kg dry	5.97	5.86	1	"	"	"	"	"	X
1024-57-3	Heptachlor epoxide	< 5.97		µg/kg dry	5.97	2.27	1	"	"	"	"	"	X
959-98-8	Endosulfan I	< 5.97		µg/kg dry	5.97	2.90	1	"	"	"	"	"	X
60-57-1	Dieldrin	< 5.97		µg/kg dry	5.97	1.90	1	"	"	"	"	"	X
72-55-9	4,4'-DDE (p,p')	< 5.97		µg/kg dry	5.97	2.59	1	"	"	"	"	"	X
72-20-8	Endrin	< 9.55		µg/kg dry	9.55	3.86	1	"	"	"	"	"	X
33213-65-9	Endosulfan II	< 9.55		µg/kg dry	9.55	4.42	1	"	"	"	"	"	X
72-54-8	4,4'-DDD (p,p')	< 9.55		µg/kg dry	9.55	1.79	1	"	"	"	"	"	X
1031-07-8	Endosulfan sulfate	< 9.55		µg/kg dry	9.55	2.53	1	"	"	"	"	"	X
50-29-3	4,4'-DDT (p,p')	33.0		µg/kg dry	9.55	3.55	1	"	"	"	"	"	X
72-43-5	Methoxychlor	< 9.55		µg/kg dry	9.55	2.95	1	"	"	"	"	"	X
53494-70-5	Endrin ketone	< 9.55		µg/kg dry	9.55	2.89	1	"	"	"	"	"	X
7421-93-4	Endrin aldehyde	< 9.55		µg/kg dry	9.55	2.79	1	"	"	"	"	"	X
5103-71-9	alpha-Chlordane	< 5.97		µg/kg dry	5.97	2.70	1	"	"	"	"	"	X
5566-34-7	gamma-Chlordane	< 5.97		µg/kg dry	5.97	2.69	1	"	"	"	"	"	X
8001-35-2	Toxaphene	< 119		µg/kg dry	119	112	1	"	"	"	"	"	X
57-74-9	Chlordane	< 23.9		µg/kg dry	23.9	21.5	1	"	"	"	"	"	X
15972-60-8	Alachlor	< 5.97		µg/kg dry	5.97	3.53	1	"	"	"	"	"	

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	64			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	66			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	71			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	106			30-150 %			"	"	"	"	"	

General Chemistry Parameters

% Solids	81.2			%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204909	
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Sample Identification

HA-9 0-2.5' Client Project # 09-188-56E Matrix Soil Collection Date/Time 02-Mar-12 11:15 Received 05-Mar-12
 SB44791-07

CAS No. Analyte(s) Result Flag Units *RDL MDL Dilution Method Ref. Prepared Analyzed Analyst Batch Cert.

Semivolatile Organic Compounds by GC

Organochlorine Pesticides

Prepared by method SW846 3545A

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
319-84-6	alpha-BHC	< 6.29		µg/kg dry	6.29	2.68	1	SW846 8081B	08-Mar-12	09-Mar-12	TG	1205115	X
319-85-7	beta-BHC	< 6.29		µg/kg dry	6.29	2.50	1	"	"	"	"	"	X
319-86-8	delta-BHC	< 6.29		µg/kg dry	6.29	2.93	1	"	"	"	"	"	X
58-89-9	gamma-BHC (Lindane)	< 6.29		µg/kg dry	6.29	2.60	1	"	"	"	"	"	X
76-44-8	Heptachlor	< 6.29		µg/kg dry	6.29	2.56	1	"	"	"	"	"	X
309-00-2	Aldrin	< 6.29		µg/kg dry	6.29	6.17	1	"	"	"	"	"	X
1024-57-3	Heptachlor epoxide	< 6.29		µg/kg dry	6.29	2.39	1	"	"	"	"	"	X
959-98-8	Endosulfan I	< 6.29		µg/kg dry	6.29	3.06	1	"	"	"	"	"	X
60-57-1	Dieldrin	< 6.29		µg/kg dry	6.29	2.00	1	"	"	"	"	"	X
72-55-9	4,4'-DDE (p,p')	< 6.29		µg/kg dry	6.29	2.73	1	"	"	"	"	"	X
72-20-8	Endrin	< 10.1		µg/kg dry	10.1	4.06	1	"	"	"	"	"	X
33213-65-9	Endosulfan II	< 10.1		µg/kg dry	10.1	4.65	1	"	"	"	"	"	X
72-54-8	4,4'-DDD (p,p')	< 10.1	P	µg/kg dry	10.1	3.03	1	"	"	"	"	"	X
1031-07-8	Endosulfan sulfate	< 10.1		µg/kg dry	10.1	2.67	1	"	"	"	"	"	X
50-29-3	4,4'-DDT (p,p')	38.1		µg/kg dry	10.1	2.60	1	"	"	"	"	"	X
72-43-5	Methoxychlor	< 10.1		µg/kg dry	10.1	3.11	1	"	"	"	"	"	X
53494-70-5	Endrin ketone	< 10.1		µg/kg dry	10.1	3.04	1	"	"	"	"	"	X
7421-93-4	Endrin aldehyde	< 10.1		µg/kg dry	10.1	2.94	1	"	"	"	"	"	X
5103-71-9	alpha-Chlordane	< 6.29		µg/kg dry	6.29	4.55	1	"	"	"	"	"	X
5566-34-7	gamma-Chlordane	< 6.29		µg/kg dry	6.29	2.83	1	"	"	"	"	"	X
8001-35-2	Toxaphene	< 126		µg/kg dry	126	118	1	"	"	"	"	"	X
57-74-9	Chlordane	< 25.1		µg/kg dry	25.1	22.3	1	"	"	"	"	"	X
15972-60-8	Alachlor	< 6.29		µg/kg dry	6.29	3.72	1	"	"	"	"	"	

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	79			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	74			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	53			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	142			30-150 %			"	"	"	"	"	

General Chemistry Parameters

% Solids	79.3			%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204909	
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Sample Identification

HA-10 0-2.5' Client Project # 09-188-56E Matrix Soil Collection Date/Time 02-Mar-12 11:30 Received 05-Mar-12
 SB44791-08

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Semivolatile Organic Compounds by GC

Organochlorine Pesticides

Prepared by method SW846 3545A

319-84-6	alpha-BHC	< 6.35		µg/kg dry	6.35	2.70	1	SW846 8081B	08-Mar-12	09-Mar-12	TG	1205115	X
319-85-7	beta-BHC	< 6.35		µg/kg dry	6.35	2.53	1	"	"	"	"	"	X
319-86-8	delta-BHC	< 6.35		µg/kg dry	6.35	2.96	1	"	"	"	"	"	X
58-89-9	gamma-BHC (Lindane)	< 6.35		µg/kg dry	6.35	2.63	1	"	"	"	"	"	X
76-44-8	Heptachlor	< 6.35		µg/kg dry	6.35	2.59	1	"	"	"	"	"	X
309-00-2	Aldrin	< 6.35		µg/kg dry	6.35	6.23	1	"	"	"	"	"	X
1024-57-3	Heptachlor epoxide	< 6.35		µg/kg dry	6.35	2.41	1	"	"	"	"	"	X
959-98-8	Endosulfan I	< 6.35		µg/kg dry	6.35	3.08	1	"	"	"	"	"	X
60-57-1	Dieldrin	< 6.35		µg/kg dry	6.35	2.02	1	"	"	"	"	"	X
72-55-9	4,4'-DDE (p,p')	< 6.35		µg/kg dry	6.35	2.44	1	"	"	"	"	"	X
72-20-8	Endrin	< 10.2		µg/kg dry	10.2	4.10	1	"	"	"	"	"	X
33213-65-9	Endosulfan II	< 10.2		µg/kg dry	10.2	4.70	1	"	"	"	"	"	X
72-54-8	4,4'-DDD (p,p')	< 10.2		µg/kg dry	10.2	3.06	1	"	"	"	"	"	X
1031-07-8	Endosulfan sulfate	< 10.2		µg/kg dry	10.2	2.69	1	"	"	"	"	"	X
50-29-3	4,4'-DDT (p,p')	< 10.2		µg/kg dry	10.2	2.63	1	"	"	"	"	"	X
72-43-5	Methoxychlor	< 10.2		µg/kg dry	10.2	3.13	1	"	"	"	"	"	X
53494-70-5	Endrin ketone	< 10.2		µg/kg dry	10.2	3.07	1	"	"	"	"	"	X
7421-93-4	Endrin aldehyde	< 10.2		µg/kg dry	10.2	2.97	1	"	"	"	"	"	X
5103-71-9	alpha-Chlordane	< 6.35		µg/kg dry	6.35	4.59	1	"	"	"	"	"	X
5566-34-7	gamma-Chlordane	< 6.35	P	µg/kg dry	6.35	2.86	1	"	"	"	"	"	X
8001-35-2	Toxaphene	< 127		µg/kg dry	127	119	1	"	"	"	"	"	X
57-74-9	Chlordane	< 25.4		µg/kg dry	25.4	22.9	1	"	"	"	"	"	X
15972-60-8	Alachlor	< 6.35		µg/kg dry	6.35	3.76	1	"	"	"	"	"	

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	86			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	72			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	110			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	72			30-150 %			"	"	"	"	"	

General Chemistry Parameters

% Solids	76.9			%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204909	
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Sample Identification

HA-11 0-2.5' Client Project # 09-188-56E Matrix Soil Collection Date/Time 02-Mar-12 11:45 Received 05-Mar-12
 SB44791-09

CAS No.	Analyte(s)	Result	Flng	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Semivolatile Organic Compounds by GC

Organochlorine Pesticides

Prepared by method SW846 3545A

319-84-6	alpha-BHC	< 6.44		µg/kg dry	6.44	2.74	1	SW846 8081B	08-Mar-12	09-Mar-12	TG	1205115	X
319-85-7	beta-BHC	< 6.44		µg/kg dry	6.44	2.56	1	"	"	"	"	"	X
319-86-8	delta-BHC	< 6.44		µg/kg dry	6.44	3.00	1	"	"	"	"	"	X
58-89-9	gamma-BHC (Lindane)	< 6.44		µg/kg dry	6.44	2.66	1	"	"	"	"	"	X
76-44-8	Heptachlor	< 6.44		µg/kg dry	6.44	2.63	1	"	"	"	"	"	X
309-00-2	Aldrin	< 6.44		µg/kg dry	6.44	6.32	1	"	"	"	"	"	X
1024-57-3	Heptachlor epoxide	< 6.44		µg/kg dry	6.44	2.45	1	"	"	"	"	"	X
959-98-8	Endosulfan I	< 6.44		µg/kg dry	6.44	3.13	1	"	"	"	"	"	X
60-57-1	Dieldrin	< 6.44		µg/kg dry	6.44	2.05	1	"	"	"	"	"	X
72-55-9	4,4'-DDE (p,p')	14.9		µg/kg dry	6.44	2.47	1	"	"	"	"	"	X
72-20-8	Endrin	< 10.3		µg/kg dry	10.3	4.16	1	"	"	"	"	"	X
33213-65-9	Endosulfan II	< 10.3		µg/kg dry	10.3	4.76	1	"	"	"	"	"	X
72-54-8	4,4'-DDD (p,p')	< 10.3		µg/kg dry	10.3	3.10	1	"	"	"	"	"	X
1031-07-8	Endosulfan sulfate	< 10.3		µg/kg dry	10.3	2.73	1	"	"	"	"	"	X
50-29-3	4,4'-DDT (p,p')	< 10.3		µg/kg dry	10.3	2.66	1	"	"	"	"	"	X
72-43-5	Methoxychlor	< 10.3		µg/kg dry	10.3	3.18	1	"	"	"	"	"	X
53494-70-5	Endrin ketone	< 10.3		µg/kg dry	10.3	3.11	1	"	"	"	"	"	X
7421-93-4	Endrin aldehyde	< 10.3		µg/kg dry	10.3	3.01	1	"	"	"	"	"	X
5103-71-9	alpha-Chlordane	< 6.44		µg/kg dry	6.44	2.91	1	"	"	"	"	"	X
5566-34-7	gamma-Chlordane	< 6.44		µg/kg dry	6.44	2.90	1	"	"	"	"	"	X
8001-35-2	Toxaphene	< 129		µg/kg dry	129	121	1	"	"	"	"	"	X
57-74-9	Chlordane	< 25.7		µg/kg dry	25.7	22.8	1	"	"	"	"	"	X
15972-60-8	Alachlor	< 6.44		µg/kg dry	6.44	3.81	1	"	"	"	"	"	X

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	67			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	54			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	112			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	54			30-150 %			"	"	"	"	"	

General Chemistry Parameters

% Solids		74.9		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204909	
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Sample Identification

HA-12 0-2.5'
SB44791-10

Client Project #
09-188-56E

Matrix
Soil

Collection Date/Time
02-Mar-12 12:00

Received
05-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Semivolatile Organic Compounds by GC

Organochlorine Pesticides

Prepared by method SW846 3545A

319-84-6	alpha-BHC	< 6.43		µg/kg dry	6.43	2.74	1	SW846 8081B	08-Mar-12	09-Mar-12	TG	1205115	X
319-85-7	beta-BHC	< 6.43		µg/kg dry	6.43	2.56	1	"	"	"	"	"	X
319-86-8	delta-BHC	< 6.43		µg/kg dry	6.43	3.00	1	"	"	"	"	"	X
58-89-9	gamma-BHC (Lindane)	< 6.43		µg/kg dry	6.43	2.66	1	"	"	"	"	"	X
76-44-8	Heptachlor	< 6.43		µg/kg dry	6.43	2.62	1	"	"	"	"	"	X
309-00-2	Aldrin	< 6.43		µg/kg dry	6.43	6.31	1	"	"	"	"	"	X
1024-57-3	Heptachlor epoxide	< 6.43		µg/kg dry	6.43	2.44	1	"	"	"	"	"	X
959-98-8	Endosulfan I	< 6.43		µg/kg dry	6.43	3.12	1	"	"	"	"	"	X
60-57-1	Dieldrin	< 6.43		µg/kg dry	6.43	2.04	1	"	"	"	"	"	X
72-55-9	4,4'-DDE (p,p')	< 6.43		µg/kg dry	6.43	2.47	1	"	"	"	"	"	X
72-20-8	Endrin	< 10.3		µg/kg dry	10.3	4.15	1	"	"	"	"	"	X
33213-65-9	Endosulfan II	< 10.3		µg/kg dry	10.3	4.76	1	"	"	"	"	"	X
72-54-8	4,4'-DDD (p,p')	< 10.3		µg/kg dry	10.3	1.93	1	"	"	"	"	"	X
1031-07-8	Endosulfan sulfate	< 10.3		µg/kg dry	10.3	2.73	1	"	"	"	"	"	X
50-29-3	4,4'-DDT (p,p')	< 10.3		µg/kg dry	10.3	2.66	1	"	"	"	"	"	X
72-43-5	Methoxychlor	< 10.3		µg/kg dry	10.3	3.18	1	"	"	"	"	"	X
53494-70-5	Endrin ketone	< 10.3		µg/kg dry	10.3	3.11	1	"	"	"	"	"	X
7421-93-4	Endrin aldehyde	< 10.3		µg/kg dry	10.3	3.01	1	"	"	"	"	"	X
5103-71-9	alpha-Chlordane	< 6.43		µg/kg dry	6.43	2.91	1	"	"	"	"	"	X
5566-34-7	gamma-Chlordane	< 6.43		µg/kg dry	6.43	2.89	1	"	"	"	"	"	X
8001-35-2	Toxaphene	< 129		µg/kg dry	129	120	1	"	"	"	"	"	X
57-74-9	Chlordane	< 25.7		µg/kg dry	25.7	22.8	1	"	"	"	"	"	X
15972-60-8	Alachlor	< 6.43		µg/kg dry	6.43	3.81	1	"	"	"	"	"	

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	69			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	71			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	78			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	67			30-150 %			"	"	"	"	"	

General Chemistry Parameters

% Solids	75.9	%					1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204909	
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Sample Identification

Duplicate Client Project # Matrix Collection Date/Time Received
 SB44791-11 09-188-56E Soil 02-Mar-12 00:00 05-Mar-12

CAS No. Analyte(s) Result Flag Units *RDL MDL Dilution Method Ref. Prepared Analyzed Analyst Batch Cert.

Semivolatile Organic Compounds by GC

Organochlorine Pesticides

Prepared by method SW846 3545A

319-84-6	alpha-BHC	< 6.46		µg/kg dry	6.46	2.75	1	SW846 8081B	08-Mar-12	09-Mar-12	TG	1205115	X
319-85-7	beta-BHC	< 6.46		µg/kg dry	6.46	2.57	1	"	"	"	"	"	X
319-86-8	delta-BHC	< 6.46		µg/kg dry	6.46	3.01	1	"	"	"	"	"	X
58-89-9	gamma-BHC (Lindane)	< 6.46		µg/kg dry	6.46	2.67	1	"	"	"	"	"	X
76-44-8	Heptachlor	< 6.46		µg/kg dry	6.46	2.64	1	"	"	"	"	"	X
309-00-2	Aldrin	< 6.46		µg/kg dry	6.46	6.34	1	"	"	"	"	"	X
1024-57-3	Heptachlor epoxide	< 6.46		µg/kg dry	6.46	2.45	1	"	"	"	"	"	X
959-98-8	Endosulfan I	< 6.46		µg/kg dry	6.46	3.14	1	"	"	"	"	"	X
60-57-1	Dieldrin	< 6.46		µg/kg dry	6.46	2.05	1	"	"	"	"	"	X
72-55-9	4,4'-DDE (p,p')	< 6.46		µg/kg dry	6.46	2.80	1	"	"	"	"	"	X
72-20-8	Endrin	< 10.3		µg/kg dry	10.3	4.17	1	"	"	"	"	"	X
33213-65-9	Endosulfan II	< 10.3		µg/kg dry	10.3	4.78	1	"	"	"	"	"	X
72-54-8	4,4'-DDD (p,p')	< 10.3		µg/kg dry	10.3	1.94	1	"	"	"	"	"	X
1031-07-8	Endosulfan sulfate	< 10.3		µg/kg dry	10.3	2.74	1	"	"	"	"	"	X
50-29-3	4,4'-DDT (p,p')	< 10.3		µg/kg dry	10.3	2.67	1	"	"	"	"	"	X
72-43-5	Methoxychlor	< 10.3		µg/kg dry	10.3	3.19	1	"	"	"	"	"	X
53494-70-5	Endrin ketone	< 10.3		µg/kg dry	10.3	3.13	1	"	"	"	"	"	X
7421-93-4	Endrin aldehyde	< 10.3		µg/kg dry	10.3	3.02	1	"	"	"	"	"	X
5103-71-9	alpha-Chlordane	< 6.46		µg/kg dry	6.46	4.68	1	"	"	"	"	"	X
5566-34-7	gamma-Chlordane	< 6.46		µg/kg dry	6.46	2.91	1	"	"	"	"	"	X
8001-35-2	Toxaphene	< 129		µg/kg dry	129	121	1	"	"	"	"	"	X
57-74-9	Chlordane	< 25.8		µg/kg dry	25.8	22.9	1	"	"	"	"	"	X
15972-60-8	Alachlor	< 6.46		µg/kg dry	6.46	3.82	1	"	"	"	"	"	

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	84			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	150			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	97			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	49			30-150 %			"	"	"	"	"	

General Chemistry Parameters

% Solids	75.2		%				1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204909	
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<u>Sample Identification</u>		<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SB-1 5-7.5'		09-188-56E	Soil	02-Mar-12 00:00	05-Mar-12
SB44791-12					

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
7439-92-1	Lead	42.1		mg/kg dry	1.88	0.224	1	SW846 6010C	22-Mar-12	23-Mar-12	AMT	1206512	X
SPLP Metals by EPA 1312 & 6000/7000 Series Methods													
	SPLP Extraction	Completed		N/A			1	SW846 1312	22-Mar-12	23-Mar-12	CMB	1206524	X
7439-92-1	Lead	< 0.0150		mg/l	0.0150	0.0048	1	SW846 1312/6010C	23-Mar-12	24-Mar-12	EDT	1206584	X
General Chemistry Parameters													
	% Solids	78.7		%			1	SM2540 G Mod.	22-Mar-12	22-Mar-12	DT	1206473	

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Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205115 - SW846 3545A										
<u>Blank (1205115-BLK1)</u>					<u>Prepared & Analyzed: 08-Mar-12</u>					
alpha-BHC	< 5.00		µg/kg wet	5.00						
alpha-BHC [2C]	< 5.00		µg/kg wet	5.00						
beta-BHC	< 5.00		µg/kg wet	5.00						
beta-BHC [2C]	< 5.00		µg/kg wet	5.00						
delta-BHC	< 5.00		µg/kg wet	5.00						
delta-BHC [2C]	< 5.00		µg/kg wet	5.00						
gamma-BHC (Lindane)	< 5.00		µg/kg wet	5.00						
gamma-BHC (Lindane) [2C]	< 5.00		µg/kg wet	5.00						
Heptachlor	< 5.00		µg/kg wet	5.00						
Heptachlor [2C]	< 5.00		µg/kg wet	5.00						
Aldrin	< 5.00		µg/kg wet	5.00						
Aldrin [2C]	< 5.00		µg/kg wet	5.00						
Heptachlor epoxide	< 5.00		µg/kg wet	5.00						
Heptachlor epoxide [2C]	< 5.00		µg/kg wet	5.00						
Endosulfan I	< 5.00		µg/kg wet	5.00						
Endosulfan I [2C]	< 5.00		µg/kg wet	5.00						
Dieldrin	< 5.00		µg/kg wet	5.00						
Dieldrin [2C]	< 5.00		µg/kg wet	5.00						
4,4'-DDE (p,p')	< 5.00		µg/kg wet	5.00						
4,4'-DDE (p,p') [2C]	< 5.00		µg/kg wet	5.00						
Endrin	< 8.00		µg/kg wet	8.00						
Endrin [2C]	< 8.00		µg/kg wet	8.00						
Endosulfan II	< 8.00		µg/kg wet	8.00						
Endosulfan II [2C]	< 8.00		µg/kg wet	8.00						
4,4'-DDD (p,p')	< 8.00		µg/kg wet	8.00						
4,4'-DDD (p,p') [2C]	< 8.00		µg/kg wet	8.00						
Endosulfan sulfate	< 8.00		µg/kg wet	8.00						
Endosulfan sulfate [2C]	< 8.00		µg/kg wet	8.00						
4,4'-DDT (p,p')	< 8.00		µg/kg wet	8.00						
4,4'-DDT (p,p') [2C]	< 8.00		µg/kg wet	8.00						
Methoxychlor	< 8.00		µg/kg wet	8.00						
Methoxychlor [2C]	< 8.00		µg/kg wet	8.00						
Endrin ketone	< 8.00		µg/kg wet	8.00						
Endrin ketone [2C]	< 8.00		µg/kg wet	8.00						
Endrin aldehyde	< 8.00		µg/kg wet	8.00						
Endrin aldehyde [2C]	< 8.00		µg/kg wet	8.00						
alpha-Chlordane	< 5.00		µg/kg wet	5.00						
alpha-Chlordane [2C]	< 5.00		µg/kg wet	5.00						
gamma-Chlordane	< 5.00		µg/kg wet	5.00						
gamma-Chlordane [2C]	< 5.00		µg/kg wet	5.00						
Toxaphene	< 100		µg/kg wet	100						
Toxaphene [2C]	< 100		µg/kg wet	100						
Chlordane	< 20.0		µg/kg wet	20.0						
Chlordane [2C]	< 20.0		µg/kg wet	20.0						
Alachlor	< 5.00		µg/kg wet	5.00						
Alachlor [2C]	< 5.00		µg/kg wet	5.00						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	8.91		µg/kg wet	10.0		89		30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	8.38		µg/kg wet	10.0		84		30-150		
Surrogate: Decachlorobiphenyl (Sr)	13.8		µg/kg wet	10.0		138		30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	13.2		µg/kg wet	10.0		132		30-150		

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Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205115 - SW846 3545A										
<u>LCS (1205115-BS1)</u>				<u>Prepared & Analyzed: 08-Mar-12</u>						
alpha-BHC	20.3		µg/kg wet	5.00	25.0		81	40-140		
alpha-BHC [2C]	19.5		µg/kg wet	5.00	25.0		78	40-140		
beta-BHC	18.6		µg/kg wet	5.00	25.0		74	40-140		
beta-BHC [2C]	18.7		µg/kg wet	5.00	25.0		75	40-140		
delta-BHC	23.3		µg/kg wet	5.00	25.0		93	40-140		
delta-BHC [2C]	22.4		µg/kg wet	5.00	25.0		90	40-140		
gamma-BHC (Lindane)	19.7		µg/kg wet	5.00	25.0		79	50-120		
gamma-BHC (Lindane) [2C]	19.0		µg/kg wet	5.00	25.0		76	50-120		
Heptachlor	19.2		µg/kg wet	5.00	25.0		77	40-140		
Heptachlor [2C]	18.4		µg/kg wet	5.00	25.0		74	40-140		
Aldrin	20.6		µg/kg wet	5.00	25.0		82	40-140		
Aldrin [2C]	19.8		µg/kg wet	5.00	25.0		79	40-140		
Heptachlor epoxide	19.3		µg/kg wet	5.00	25.0		77	50-140		
Heptachlor epoxide [2C]	18.8		µg/kg wet	5.00	25.0		75	50-140		
Endosulfan I	19.3		µg/kg wet	5.00	25.0		77	40-140		
Endosulfan I [2C]	18.7		µg/kg wet	5.00	25.0		75	40-140		
Dieldrin	18.9		µg/kg wet	5.00	25.0		76	40-130		
Dieldrin [2C]	18.1		µg/kg wet	5.00	25.0		73	40-130		
4,4'-DDE (p,p')	19.7		µg/kg wet	5.00	25.0		79	50-140		
4,4'-DDE (p,p') [2C]	18.5		µg/kg wet	5.00	25.0		74	50-140		
Endrin	19.8		µg/kg wet	8.00	25.0		79	50-120		
Endrin [2C]	19.1		µg/kg wet	8.00	25.0		76	50-120		
Endosulfan II	19.5		µg/kg wet	8.00	25.0		78	40-140		
Endosulfan II [2C]	18.3		µg/kg wet	8.00	25.0		73	40-140		
4,4'-DDD (p,p')	19.7		µg/kg wet	8.00	25.0		79	40-140		
4,4'-DDD (p,p') [2C]	18.6		µg/kg wet	8.00	25.0		74	40-140		
Endosulfan sulfate	21.0		µg/kg wet	8.00	25.0		84	50-120		
Endosulfan sulfate [2C]	20.2		µg/kg wet	8.00	25.0		81	50-120		
4,4'-DDT (p,p')	20.5		µg/kg wet	8.00	25.0		82	40-140		
4,4'-DDT (p,p') [2C]	19.5		µg/kg wet	8.00	25.0		78	40-140		
Methoxychlor	21.9		µg/kg wet	8.00	25.0		88	40-140		
Methoxychlor [2C]	20.5		µg/kg wet	8.00	25.0		82	40-140		
Endrin ketone	19.9		µg/kg wet	8.00	25.0		79	40-140		
Endrin ketone [2C]	18.6		µg/kg wet	8.00	25.0		74	40-140		
Endrin aldehyde	27.9		µg/kg wet	8.00	25.0		112	40-140		
Endrin aldehyde [2C]	29.3		µg/kg wet	8.00	25.0		117	40-140		
alpha-Chlordane	20.4		µg/kg wet	5.00	25.0		82	40-140		
alpha-Chlordane [2C]	19.8		µg/kg wet	5.00	25.0		79	40-140		
gamma-Chlordane	20.5		µg/kg wet	5.00	25.0		82	40-130		
gamma-Chlordane [2C]	20.0		µg/kg wet	5.00	25.0		80	40-130		
Alachlor	20.7		µg/kg wet	5.00	25.0		83	40-140		
Alachlor [2C]	18.1		µg/kg wet	5.00	25.0		73	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	8.12		µg/kg wet		10.0		81	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	7.87		µg/kg wet		10.0		79	30-150		
Surrogate: Decachlorobiphenyl (Sr)	12.4		µg/kg wet		10.0		124	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	12.3		µg/kg wet		10.0		123	30-150		
<u>LCS Dup (1205115-BSD1)</u>				<u>Prepared & Analyzed: 08-Mar-12</u>						
alpha-BHC	20.5		µg/kg wet	5.00	25.0		82	40-140	1	30
alpha-BHC [2C]	19.6		µg/kg wet	5.00	25.0		78	40-140	0.6	30
beta-BHC	19.3		µg/kg wet	5.00	25.0		77	40-140	4	30

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Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205816 - SW846 3535										
<u>LCS (1205816-BS1)</u>										
Prepared: 15-Mar-12 Analyzed: 17-Mar-12										
delta-BHC	0.408		µg/l	0.020	0.500		82	40-140		
delta-BHC [2C]	0.363		µg/l	0.020	0.500		73	40-140		
gamma-BHC (Lindane)	0.350		µg/l	0.020	0.500		70	50-120		
gamma-BHC (Lindane) [2C]	0.315		µg/l	0.020	0.500		63	50-120		
Heptachlor	0.332		µg/l	0.020	0.500		66	40-140		
Heptachlor [2C]	0.302		µg/l	0.020	0.500		60	40-140		
Aldrin	0.368		µg/l	0.020	0.500		74	40-140		
Aldrin [2C]	0.328		µg/l	0.020	0.500		66	40-140		
Heptachlor epoxide	0.345		µg/l	0.020	0.500		69	50-140		
Heptachlor epoxide [2C]	0.303		µg/l	0.020	0.500		61	50-140		
Endosulfan I	0.344		µg/l	0.020	0.500		69	40-140		
Endosulfan I [2C]	0.303		µg/l	0.020	0.500		61	40-140		
Dieldrin	0.332		µg/l	0.020	0.500		66	40-130		
Dieldrin [2C]	0.291		µg/l	0.020	0.500		58	40-130		
4,4'-DDE (p,p')	0.362		µg/l	0.020	0.500		72	50-140		
4,4'-DDE (p,p') [2C]	0.302		µg/l	0.020	0.500		60	50-140		
Endrin	0.350		µg/l	0.020	0.500		70	50-120		
Endrin [2C]	0.304		µg/l	0.020	0.500		61	50-120		
Endosulfan II	0.339		µg/l	0.020	0.500		68	40-140		
Endosulfan II [2C]	0.287		µg/l	0.020	0.500		57	40-140		
4,4'-DDD (p,p')	0.359		µg/l	0.020	0.500		72	40-140		
4,4'-DDD (p,p') [2C]	0.319		µg/l	0.020	0.500		64	40-140		
Endosulfan sulfate	0.352		µg/l	0.020	0.500		70	50-120		
Endosulfan sulfate [2C]	0.304		µg/l	0.020	0.500		61	50-120		
4,4'-DDT (p,p')	0.337		µg/l	0.020	0.500		67	40-140		
4,4'-DDT (p,p') [2C]	0.274		µg/l	0.020	0.500		55	40-140		
Methoxychlor	0.340		µg/l	0.020	0.500		68	40-140		
Methoxychlor [2C]	0.277		µg/l	0.020	0.500		55	40-140		
Endrin ketone	0.331		µg/l	0.020	0.500		66	40-140		
Endrin ketone [2C]	0.280		µg/l	0.020	0.500		56	40-140		
Endrin aldehyde	0.488		µg/l	0.020	0.500		98	40-140		
Endrin aldehyde [2C]	0.461		µg/l	0.020	0.500		92	40-140		
alpha-Chlordane	0.368		µg/l	0.020	0.500		74	40-140		
alpha-Chlordane [2C]	0.322		µg/l	0.020	0.500		64	40-140		
gamma-Chlordane	0.367		µg/l	0.020	0.500		73	40-130		
gamma-Chlordane [2C]	0.328		µg/l	0.020	0.500		66	40-130		
Alachlor	0.317		µg/l	0.020	0.500		63	40-140		
Alachlor [2C]	0.239		µg/l	0.020	0.500		48	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.154		µg/l		0.200		77	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.138		µg/l		0.200		69	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.145		µg/l		0.200		73	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.124		µg/l		0.200		62	30-150		
<u>LCS Dup (1205816-BSD1)</u>										
Prepared: 15-Mar-12 Analyzed: 17-Mar-12										
alpha-BHC	0.331		µg/l	0.020	0.500		66	40-140	7	20
alpha-BHC [2C]	0.322		µg/l	0.020	0.500		64	40-140	0.9	20
beta-BHC	0.310		µg/l	0.020	0.500		62	40-140	7	20
beta-BHC [2C]	0.314		µg/l	0.020	0.500		63	40-140	0.6	20
delta-BHC	0.374		µg/l	0.020	0.500		75	40-140	9	20
delta-BHC [2C]	0.363		µg/l	0.020	0.500		73	40-140	0.1	20
gamma-BHC (Lindane)	0.325		µg/l	0.020	0.500		65	50-120	7	20

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Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205816 - SW846 3535										
<u>LCS Dup (1205816-BSD1)</u>										
					Prepared: 15-Mar-12 Analyzed: 17-Mar-12					
gamma-BHC (Lindane) [2C]	0.312		µg/l	0.020	0.500		62	50-120	0.8	20
Heptachlor	0.301		µg/l	0.020	0.500		60	40-140	10	20
Heptachlor [2C]	0.304		µg/l	0.020	0.500		61	40-140	0.8	20
Aldrin	0.340		µg/l	0.020	0.500		68	40-140	8	20
Aldrin [2C]	0.327		µg/l	0.020	0.500		65	40-140	0.4	20
Heptachlor epoxide	0.309		µg/l	0.020	0.500		62	50-140	11	20
Heptachlor epoxide [2C]	0.304		µg/l	0.020	0.500		61	50-140	0.04	20
Endosulfan I	0.313		µg/l	0.020	0.500		63	40-140	9	20
Endosulfan I [2C]	0.306		µg/l	0.020	0.500		61	40-140	0.9	20
Dieldrin	0.304		µg/l	0.020	0.500		61	40-130	9	20
Dieldrin [2C]	0.290		µg/l	0.020	0.500		58	40-130	0.2	20
4,4'-DDE (p,p')	0.324		µg/l	0.020	0.500		65	50-140	11	20
4,4'-DDE (p,p') [2C]	0.306		µg/l	0.020	0.500		61	50-140	1	20
Endrin	0.330		µg/l	0.020	0.500		66	50-120	6	20
Endrin [2C]	0.304		µg/l	0.020	0.500		61	50-120	0.02	20
Endosulfan II	0.310		µg/l	0.020	0.500		62	40-140	9	20
Endosulfan II [2C]	0.288		µg/l	0.020	0.500		58	40-140	0.5	20
4,4'-DDD (p,p')	0.331		µg/l	0.020	0.500		66	40-140	8	20
4,4'-DDD (p,p') [2C]	0.320		µg/l	0.020	0.500		64	40-140	0.04	20
Endosulfan sulfate	0.320		µg/l	0.020	0.500		64	50-120	10	20
Endosulfan sulfate [2C]	0.306		µg/l	0.020	0.500		61	50-120	0.7	20
4,4'-DDT (p,p')	0.303		µg/l	0.020	0.500		61	40-140	11	20
4,4'-DDT (p,p') [2C]	0.263		µg/l	0.020	0.500		53	40-140	4	20
Methoxychlor	0.297		µg/l	0.020	0.500		59	40-140	13	20
Methoxychlor [2C]	0.277		µg/l	0.020	0.500		55	40-140	0.004	20
Endrin ketone	0.303		µg/l	0.020	0.500		61	40-140	9	20
Endrin ketone [2C]	0.279		µg/l	0.020	0.500		56	40-140	0.4	20
Endrin aldehyde	0.444		µg/l	0.020	0.500		89	40-140	9	20
Endrin aldehyde [2C]	0.470		µg/l	0.020	0.500		94	40-140	2	20
alpha-Chlordane	0.321		µg/l	0.020	0.500		64	40-140	14	20
alpha-Chlordane [2C]	0.323		µg/l	0.020	0.500		65	40-140	0.4	20
gamma-Chlordane	0.337		µg/l	0.020	0.500		67	40-130	9	20
gamma-Chlordane [2C]	0.321		µg/l	0.020	0.500		64	40-130	2	20
Alachlor	0.310		µg/l	0.020	0.500		62	40-140	2	20
Alachlor [2C]	0.254		µg/l	0.020	0.500		51	40-140	6	20
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.143		µg/l		0.200		72	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.137		µg/l		0.200		68	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.127		µg/l		0.200		63	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.124		µg/l		0.200		62	30-150		

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Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205252 - SW846 3545A										
<u>Blank (1205252-BLK1)</u>				<u>Prepared & Analyzed: 09-Mar-12</u>						
Gasoline	< 13.3		mg/kg wet	13.3						
Fuel Oil #2	< 13.3		mg/kg wet	13.3						
Fuel Oil #4	< 13.3		mg/kg wet	13.3						
Fuel Oil #6	< 13.3		mg/kg wet	13.3						
Motor Oil	< 13.3		mg/kg wet	13.3						
Aviation Fuel	< 13.3		mg/kg wet	13.3						
Unidentified	< 13.3		mg/kg wet	13.3						
Other Oil	< 13.3		mg/kg wet	13.3						
Total Petroleum Hydrocarbons	< 13.3		mg/kg wet	13.3						
C9-C36 Aliphatic Hydrocarbons	< 13.3		mg/kg wet	13.3						
n-Nonadecane	< 0.002		mg/kg wet	0.002						
n-Nonane	< 0.002		mg/kg wet	0.002						
n-Decane	< 0.002		mg/kg wet	0.002						
n-Dodecane	< 0.002		mg/kg wet	0.002						
n-Tetradecane	< 0.002		mg/kg wet	0.002						
n-Hexadecane	< 0.002		mg/kg wet	0.002						
n-Octadecane	< 0.002		mg/kg wet	0.002						
n-Eicosane	< 0.002		mg/kg wet	0.002						
n-Docosane	< 0.002		mg/kg wet	0.002						
n-Tetracosane	< 0.002		mg/kg wet	0.002						
n-Hexacosane	< 0.002		mg/kg wet	0.002						
n-Octacosane	< 0.002		mg/kg wet	0.002						
n-Triacontane	< 0.002		mg/kg wet	0.002						
n-Hexatriacontane	< 0.002		mg/kg wet	0.002						
<i>Surrogate: 1-Chlorooctadecane</i>	2.30		mg/kg wet		3.33		69	50-150		
<u>LCS (1205252-BS1)</u>				<u>Prepared & Analyzed: 09-Mar-12</u>						
C9-C36 Aliphatic Hydrocarbons	56.1		mg/kg wet	13.3	93.3		60	60-120		
<i>Surrogate: 1-Chlorooctadecane</i>	2.28		mg/kg wet		3.33		68	50-150		

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205014 - SW846 3051										
<u>Blank (1205014-BLK1)</u>					<u>Prepared & Analyzed: 07-Mar-12</u>					
Lead	< 1.32		mg/kg wet	1.32						
<u>Reference (1205014-SRM1)</u>					<u>Prepared & Analyzed: 07-Mar-12</u>					
Lead	42.2		mg/kg wet	1.50	46.8		90	82-118		
<u>Reference (1205014-SRM2)</u>					<u>Prepared & Analyzed: 07-Mar-12</u>					
Lead	43.8		mg/kg wet	1.50	47.1		93	82-118		
Batch 1206512 - SW846 3050B										
<u>Blank (1206512-BLK1)</u>					<u>Prepared: 22-Mar-12 Analyzed: 23-Mar-12</u>					
Lead	< 1.33		mg/kg wet	1.33						
<u>Reference (1206512-SRM1)</u>					<u>Prepared: 22-Mar-12 Analyzed: 23-Mar-12</u>					
Lead	43.1		mg/kg wet	1.50	46.2		93	82-118		
<u>Reference (1206512-SRM2)</u>					<u>Prepared: 22-Mar-12 Analyzed: 23-Mar-12</u>					
Lead	38.1		mg/kg wet	1.50	46.1		83	82-118		

SPLP Metals by EPA 1312 & 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205852 - SW846 3010A										
<u>Blank (1205852-BLK1)</u>										
Lead	< 0.0150		mg/l	0.0150						
<u>Prepared & Analyzed: 15-Mar-12</u>										
<u>LCS (1205852-BS1)</u>										
Lead	2.42		mg/l	0.0150	2.50		97	85-115		
<u>Prepared & Analyzed: 15-Mar-12</u>										
<u>LCS Dup (1205852-BSD1)</u>										
Lead	2.41		mg/l	0.0150	2.50		96	85-115	0.7	20
<u>Prepared & Analyzed: 15-Mar-12</u>										
Batch 1206584 - SW846 3010A										
<u>Blank (1206584-BLK1)</u>										
Lead	< 0.0150		mg/l	0.0150						
<u>Prepared: 23-Mar-12 Analyzed: 24-Mar-12</u>										
<u>LCS (1206584-BS1)</u>										
Lead	2.52		mg/l	0.0150	2.50		101	85-115		
<u>Prepared: 23-Mar-12 Analyzed: 24-Mar-12</u>										
<u>LCS Dup (1206584-BSD1)</u>										
Lead	2.45		mg/l	0.0150	2.50		98	85-115	3	20
<u>Prepared: 23-Mar-12 Analyzed: 24-Mar-12</u>										
<u>Duplicate (1206584-DUP1)</u>										
Lead	< 0.0150		mg/l	0.0150						20
<u>Source: SB44791-12</u>										
<u>Prepared: 23-Mar-12 Analyzed: 24-Mar-12</u>										
<u>Matrix Spike (1206584-MS1)</u>										
Lead	2.45		mg/l	0.0150	2.50	BRL	98	75-125		
<u>Prepared: 23-Mar-12 Analyzed: 24-Mar-12</u>										
<u>Matrix Spike Dup (1206584-MSD1)</u>										
Lead	2.40		mg/l	0.0150	2.50	BRL	96	75-125	2	20
<u>Prepared: 23-Mar-12 Analyzed: 24-Mar-12</u>										
<u>Post Spike (1206584-PS1)</u>										
Lead	2.52		mg/l	0.0150	2.50	BRL	101	75-125		
<u>Source: SB44791-12</u>										
<u>Prepared: 23-Mar-12 Analyzed: 24-Mar-12</u>										

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Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S202608				
<u>Calibration Check (S202608-CCV1)</u>				
C9-C36 Aliphatic Hydrocarbons	6.423842E+08	3.585352E+08	-12.2	30
n-Nonadecane	3.521995E+08	3.296576E+08	-6.4	30
n-Nonane	3.074149E+08	2.882795E+08	-6.2	30
n-Decane	3.144111E+08	2.915002E+08	-7.3	30
n-Dodecane	3.25739E+08	2.968645E+08	-8.9	30
n-Tetradecane	3.362267E+08	3.179856E+08	-5.4	30
n-Hexadecane	3.458793E+08	3.247462E+08	-6.1	30
n-Octadecane	3.478515E+08	3.271198E+08	-6.0	30
n-Eicosane	3.507501E+08	3.287001E+08	-6.3	30
n-Docosane	3.523412E+08	3.327332E+08	-5.6	30
n-Tetracosane	3.44163E+08	3.271695E+08	-4.9	30
n-Hexacosane	3.416689E+08	3.29424E+08	-3.6	30
n-Octacosane	3.329311E+08	3.265555E+08	-1.9	30
n-Triacontane	3.214128E+08	3.272458E+08	1.8	30
n-Hexatriacontane	2.292601E+08	3.157592E+08	37.7	# 30

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S202608				
<u>Calibration Check (S202608-CCV2)</u>				
C9-C36 Aliphatic Hydrocarbons	6.423842E+08	3.522354E+08	-14.3	30
n-Nonadecane	3.521995E+08	3.248582E+08	-7.8	30
n-Nonane	3.074149E+08	2.906127E+08	-5.5	30
n-Decane	3.144111E+08	2.856919E+08	-9.1	30
n-Dodecane	3.25739E+08	2.957919E+08	-9.2	30
n-Tetradecane	3.362267E+08	3.126251E+08	-7.0	30
n-Hexadecane	3.458793E+08	3.20782E+08	-7.3	30
n-Octadecane	3.478515E+08	3.231932E+08	-7.1	30
n-Eicosane	3.507501E+08	3.241543E+08	-7.6	30
n-Docosane	3.523412E+08	3.272914E+08	-7.1	30
n-Tetracosane	3.44163E+08	3.224647E+08	-6.3	30
n-Hexacosane	3.416689E+08	3.248607E+08	-4.9	30
n-Octacosane	3.329311E+08	3.226292E+08	-3.1	30
n-Triacontane	3.214128E+08	3.231294E+08	0.5	30
n-Hexatriacontane	2.292601E+08	3.105453E+08	35.5	# 30

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Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S202608				
<u>Calibration Check (S202608-CCV3)</u>				
C9-C36 Aliphatic Hydrocarbons	6.423842E+08	4.048826E+08	2.7	30
n-Nonadecane	3.521995E+08	3.536603E+08	0.4	30
n-Nonane	3.074149E+08	3.034664E+08	-1.3	30
n-Decane	3.144111E+08	3.109784E+08	-1.1	30
n-Dodecane	3.25739E+08	3.2209E+08	-1.1	30
n-Tetradecane	3.362267E+08	3.393897E+08	0.9	30
n-Hexadecane	3.458793E+08	3.474457E+08	0.5	30
n-Octadecane	3.478515E+08	3.519655E+08	1.2	30
n-Eicosane	3.507501E+08	3.535533E+08	0.8	30
n-Docosane	3.523412E+08	3.576269E+08	1.5	30
n-Tetracosane	3.44163E+08	3.520603E+08	2.3	30
n-Hexacosane	3.416689E+08	3.543433E+08	3.7	30
n-Octacosane	3.329311E+08	3.50919E+08	5.4	30
n-Triacontane	3.214128E+08	3.506286E+08	9.1	30
n-Hexatriacontane	2.292601E+08	3.394568E+08	48.1	# 30

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Semivolatile Organic Compounds by GC - Pesticide Breakdown Report

Analyte(s)	Column	% Breakdown	Limit
Batch S203004			
<u>Performance Mix (S203004-PEM1)</u>			
4,4'-DDT (p,p')	1	8.9	15.0
Endrin	1	3.6	15.0
4,4'-DDT (p,p')	2	7.0	15.0
Endrin	2	3.7	15.0
<u>Performance Mix (S203004-PEM2)</u>			
4,4'-DDT (p,p')	1	4.0	15.0
Endrin	1	3.6	15.0
4,4'-DDT (p,p')	2	5.6	15.0
Endrin	2	3.1	15.0

Semivolatile Organic Compounds by GC - Pesticide Breakdown Report

Analyte(s)	Column	% Breakdown	Limit
Batch S202542			
<u>Performance Mix (S202542-PEM1)</u>			
4,4'-DDT (p,p')	1	0.9	15.0
Endrin	1	6.0	15.0
4,4'-DDT (p,p')	2	0.9	15.0
Endrin	2	4.7	15.0
<u>Performance Mix (S202542-PEM2)</u>			
4,4'-DDT (p,p')	1	0.6	15.0
Endrin	1	4.4	15.0
4,4'-DDT (p,p')	2	0.7	15.0
Endrin	2	3.7	15.0
Batch S202620			
<u>Performance Mix (S202620-PEM1)</u>			
4,4'-DDT (p,p')	1	1.0	15.0
Endrin	1	3.1	15.0
4,4'-DDT (p,p')	2	0.8	15.0
Endrin	2	3.8	15.0
<u>Performance Mix (S202620-PEM2)</u>			
4,4'-DDT (p,p')	1	1.5	15.0
Endrin	1	3.2	15.0
4,4'-DDT (p,p')	2	2.0	15.0
Endrin	2	4.6	15.0
Batch S202740			
<u>Performance Mix (S202740-PEM1)</u>			
4,4'-DDT (p,p')	1	1.3	15.0
Endrin	1	5.1	15.0
4,4'-DDT (p,p')	2	2.3	15.0
Endrin	2	6.6	15.0
<u>Performance Mix (S202740-PEM2)</u>			
4,4'-DDT (p,p')	1	1.7	15.0
Endrin	1	5.9	15.0
4,4'-DDT (p,p')	2	2.3	15.0
Endrin	2	8.1	15.0

Notes and Definitions

P	Difference between the two GC columns is greater than 40%.
Z-2	The second source Chlordane has a slightly different chromatogram than the primary source resulting in some different peak responses.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

- Gasoline - includes regular, unleaded, premium, etc.
- Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
- Fuel Oil #4 - includes #4 fuel oil
- Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
- Motor Oil - includes virgin and waste automobile oil
- Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
- Aviation Fuel - includes kerosene, Jet A and JP-4
- Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as Calculated as.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
June O'Connor
Nicole Leja
Rebecca Merz

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500P Lead 10-011-02
 316
 ADDED
 ANALYSIS

SB 44791
 Special Handling: Safety
 Standard TAT - 7 to 10 business days
 Rush TAT - Date Needed: _____
 All TATs subject to laboratory approval.
 Min. 24-hour notification needed for rushes.
 Samples disposed of after 60 days unless otherwise instructed.

CHAIN OF CUSTODY RECORD

Page 1 of 12

Report To: Diversified Technology Consultants
2321 Wharvey Ave
Hamelton, CT 06518
 Telephone #: 863-279-4200
 Project Mgr. _____

Invoice To: DTIC/DOI
 Project No.: 09-188-56E
 Site Name: Farmington Bt. 4
 Location: Farmington State: CT
 P.O. No.: _____ RQN: 7181
 Sampler(s): ES/JV

1=Na₂SO₄ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid 7=CH₃OH
 8=NaHSO₄ 9=Deionized Water 10=Ice 11=_____
 DW=Drinking Water GW=Groundwater WW=Wastewater
 O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
 X1=_____ X2=_____ X3=_____

QA/QC Reporting Notes:
 * additional charges may apply.
 MA DEP MCP CAM Report: Yes No
 CT DPH RCP Report: Yes No
 QA/QC Reporting Method:
 Standard NY ASP A* NY ASP B*
 NJ Residual* NJ Rule*
 TIER II* TIER V*
 Other: _____
 State-specific reporting standards:
 X tested SPUP lead - 01-02-11/13/14/15
 X tested SPUP pesticides 10-04-11/13/14/15

Lab Id.	Sample Id.	Date	Time	Type	Matrix	Containers:			Temp °C	Notes
						# of VOA Vials	# of Amber Class	# of Clear Class		
01	SB-1 0-2'	3/8/12	9:30 am	G	SO	1				
02	SB-1 2-4'		9:40 am							
03	SB-2 0-2.5'		10:20 am							
04	HA-6 0-2.5'		10:45 am							
05	HA-7 0-2.5'		11:00 am							
06	HA-8 0-2.5'		11:15 am							
07	HA-9 0-2.5'		11:30 am							
08	HA-10 0-2.5'		11:45 am							
09	HA-12 0-2.5'		12:00 pm							
Duplicate										
Relinquished by: <u>[Signature]</u> Received by: <u>[Signature]</u> Date: <u>3/5/12</u> Time: <u>12:55p</u>										
Date: <u>3-5-12</u> Time: <u>15:55</u> 3.7										

MA DEP MCP CAM Report: Yes No
 CT DPH RCP Report: Yes No
 QA/QC Reporting Method:
 Standard NY ASP A* NY ASP B*
 NJ Residual* NJ Rule*
 TIER II* TIER V*
 Other: _____
 State-specific reporting standards:
 X tested SPUP lead - 01-02-11/13/14/15
 X tested SPUP pesticides 10-04-11/13/14/15

EDD Format: E-mail to ethen.st.went@teamedt.com

Revised July 2010

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