

## **SUMMARY OF RECLAMATION YARD INSPECTION**

Week No.: 10                    Inspection Date: November 29, 2016

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Logical Environmental Solutions, LLC (LES) visited the Reclamation Yard operated by Julian Enterprises located at the end of Richard White Way in Fairfield for the tenth weekly inspection on November 29, 2016. Two soil samples (S-9 and S-10) were collected for laboratory analyses during this inspection and a site sketch is provided to depict their approximate locations. The field inspection noted that Julian made significant progress removing a large quantity of material from the southern face of the pile. The flat area on the top of the main pile was smaller and there appeared to be newer material added to the previously observed mounds of soil and asphalt that formed a u-shaped ring.

The S-9 soil sample was collected from the southern side of the u-shaped ring from material that appeared to be newly placed. This soil did not contain any odors or elevated volatile organic compound (VOC) readings detected by the photoionization detector (PID), but was darker in color and appeared to contain more organic material versus the typical “road-construction” soil and debris that formed the adjacent smaller piles.

In addition, at the time of the inspection, two Julian Enterprises triaxle dump trucks (one blue and one white truck) were observed bringing in soil and dumping it along the northeastern side of the main pile. The November 10, 2016 inspection also noted newly placed soil in this area and LES previously collected a soil sample (S-8) for laboratory analyses. Since November 10, 2016, additional larger slabs of asphalt and concrete had been added to this area. The soil being placed onsite on November 29, 2016 appeared to be dark brown to dark gray and did not look like soil from a road-way construction project. The soil contained low detectable VOC readings when screened with the PID and sample S-10 was collected for laboratory analyses. The S-9 and S-10 soil samples were analyzed at Phoenix Environmental Laboratories, Inc. for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), petroleum hydrocarbons, polychlorinated biphenyls (PCBs), pesticides, and leachable (via the Toxicity Characteristic Leaching Procedure [TCLP]) CTDEEP 15 metals. The table on the following page summarizes the results of the S-9 and S-10 sample analyses and a copy of the laboratory report is included at the end of this memorandum.

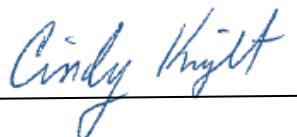
The S-9 soil sample did not contain detectable concentrations of VOCs, PCBs, and pesticides. However the sample did contain elevated concentrations of petroleum hydrocarbons (760 milligrams per kilogram [mg/kg]) and several petroleum-based and plasticizer SVOCs that exceed their respective CTDEEP Pollutant Mobility Criteria (PMC) for a GB groundwater area, Residential Direct Exposure Criteria (DEC), and Commercial/Industrial DEC. The S-9 soil sample also contained a slightly elevated concentration of leachable lead (0.2 milligrams per liter [mg/L]) that exceeds its CTDEEP PMC of 0.15 mg/L.

The S-10 soil sample contained petroleum-based VOCs at low concentrations that do not exceed any CTDEEP numerical criteria. The sample did not contain detectable concentrations of petroleum hydrocarbons or pesticides, but the laboratory detection limits for several individual pesticides exceeded their respective CTDEEP numerical criteria. Therefore, it is possible that these compounds may be present at elevated concentrations exceeding their respective CTDEEP PMC and Residential DEC. Several phthalates (plasticizers) and petroleum-based SVOCs were detected in the soil sample at low to moderate concentrations that exceed the CTDEEP PMC, Residential DEC, and Commercial/Industrial DEC. The sample also contained PCBs at an elevated concentration of 6.8 mg/kg, which exceeds the CTDEEP's Residential DEC of 1 mg/kg but not the Commercial/Industrial DEC of 10 mg/kg. The S-10 soil sample also contained leachable lead (10.6 mg/L) and cadmium (0.051 mg/L) at elevated concentrations that exceed their respective CTDEEP PMC of 0.15 mg/L and 0.05 mg/L. The leachable lead concentration also exceeds the Environmental Protection Agency's (EPA) Resource Conservation and Recovery Act (RCRA) hazardous waste concentration of 5.0 mg/L. No other leachable metals were detected at elevated concentrations exceeding any CTDEEP or EPA numerical criteria.

Based upon the detections of elevated concentrations of PCBs in the S-10 soil sample collected from the northeastern side of the main pile, the EPA's Toxic Substances Control Act (TSCA) regulations under 40 CFR Part 761 would likely apply. Julian personnel with knowledge of the source of this contaminated fill should also be interviewed so that the potential quantity and PCB-source can be identified to assist in determining how much material was placed on the Town property. It is recommended that additional sampling be conducted to determine the extent and degree of the PCB-impacted soil in this area so it can be properly managed in accordance with the applicable TSCA and State regulations.

In addition, based upon the elevated concentrations of leachable lead detected in the S-10 soil sample, the soil would be considered a hazardous waste. Special provisions for worker health and safety, transportation, and disposal of this soil will be required to comply with Federal and State OSHA, DOT, and RCRA regulations.

Photographs on the following page display the observations made during the November 29, 2016 inspection. Please call or email with any questions.



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**Soil Samples Collected November 29, 2016**  
**Reclamation Yard – Fairfield, Connecticut**

Sample I.D.:	S-9	S-10	CTDEEP PMC GB Groundwater Area	CTDEEP DEC Residential/Commercial & Industrial	RCRA Hazardous Waste Concentration
CT ETPH - (mg/kg)	<b>760</b>	ND (< 280)	2,500 mg/kg	500/2,500 mg/kg	--
VOCs - Method 8260 (mg/kg)					
1,2,4-Trimethylbenzene	ND (< 0.55)	0.085	28 mg/kg (APS)	500/1,000 mg/kg (APS)	--
1,3,5-Trimethylbenzene	ND (< 0.55)	0.034	28 mg/kg (APS)	500/1,000 mg/kg (APS)	--
Ethylbenzene	ND (< 0.0074)	0.025	10.1 mg/kg	500/1,000 mg/kg	--
Naphthalene	ND (< 0.55)	0.44	56 mg/kg	1,000/2,500 mg/kg	--
n-Propylbenzene	ND (< 0.55)	0.0063	10 mg/kg (APS)	500/1,000 mg/kg (APS)	--
p-Isopropyltoluene	ND (< 0.55)	0.0065	5 mg/kg (APS)	500/1,000 mg/kg (APS)	--
Xylenes (total)	ND (< 0.0074)	0.115	19.5 mg/kg	500/1,000 mg/kg	--
All Other VOCs Tested	ND	ND	--	--	--
SVOCs - Method 8270 (mg/kg)					
Acenaphthylene	ND (< 0.3)	0.35	84 mg/kg	1,000/2,500 mg/kg	--
Anthracene	0.58	0.49	400 mg/kg	1,000/2,500 mg/kg	--
Benzo(a)anthracene	<b>2.3</b>	<b>1.2</b>	1 mg/kg	1/7.8 mg/kg	--
Benzo(a)pyrene	<b>2.5</b>	<b>1.4</b>	1 mg/kg	1/1 mg/kg	--
Benzo(b)fluoranthene	<b>3.3</b>	<b>1.3</b>	1 mg/kg	1/7.8 mg/kg	--
Benzo(g,h,i)perylene	<b>1.6</b>	0.96	1 mg/kg (APS)	8.4/78 mg/kg (APS)	--
Benzo(k)fluoranthene	<b>2.1</b>	<b>1.1</b>	1 mg/kg	8.4/78 mg/kg	--
Benzyl Butyl Phthalate	ND (< 0.3)	0.41	200 mg/kg	1,000/2,000 mg/kg	--
Bis(2-ethylhexylphthalate)	0.33	1.3	200 mg/kg	1,000/2,000 mg/kg	--
Chrysene	<b>3.3</b>	<b>1.4</b>	1 mg/kg (APS)	84/780 mg/kg (APS)	--
Dibenz(a,h)anthracene	0.45	ND (< 0.26)	1 mg/kg (APS)	1/1 mg/kg (APS)	--
Fluoranthene	6.0	2.9	56 mg/kg	1,000/2,500 mg/kg	--
Fluorene	0.38	0.26	56 mg/kg	1,000/2,500 mg/kg	--
Indeno(1,2,3-cd)pyrene	<b>1.8</b>	0.98	1 mg/kg (APS)	1/7.8 mg/kg (APS)	--
Phenanthrene	3.8	1.9	40 mg/kg	1,000/2,500 mg/kg	--
Pyrene	5.0	2.8	40 mg/kg	1,000/2,500 mg/kg	--
All other SVOCs Tested	ND	ND	--	--	--
Total PCBs – Method 8082 (mg/kg)	ND (< 0.42)	<b>6.8</b>	Not Applicable	1/10 mg/kg	--
Pesticides – Method 8081A (mg/kg)	ND	<b>ND*</b>	--	--	--
TCLP DEEP 15 Metals (mg/L)				Not Applicable	
Barium	0.3	1.63	10 mg/L		100 mg/L
Cadmium	ND (< 0.05)	<b>0.051</b>	0.05 mg/L		1.0 mg/L
Copper	ND (< 0.1)	1.26	13 mg/L		--
Nickel	ND (< 0.1)	0.18	1.0 mg/L		--
Lead	<b>0.2</b>	<b>10.6</b>	0.015 mg/L		5.0 mg/L
Zinc	1.57	20.5	50 mg/L		--

ND – Not Detected above laboratory detection limits.

PMC – Pollutant Mobility Criteria

DEC – Direct Exposure Criteria

APS – Additional Polluting Substance

\*       The laboratory detection limits for several pesticides exceeded their respective CTDEEP criteria.

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits. Concentrations displayed in bold red font exceed the CTDEEP Remediation Standard Regulation criteria.



NGVD 1929  
GRAPHIC SCALE  
100 0 50 100  
( IN FEET )  
1 inch = 100 ft

Town of Fairfield Dept. of Public Works	
	Construction Material Processing Facility Richard White Way Fairfield, CT
DRAWN BY: juls DATE: March 20, 2013 SCALE: 1"=100'	CHK'D BY: M.A. FILE NO: 3340 MAP NO:



View of Julian crushing and screening operations taken from the top of the main pile facing south.



View from top of main pile facing southwest.



View from the top of the pile facing southwest.



Approximate location of S-9 soil sample collected from the south side of the newly placed soil on the top of the pile.



Blue triaxle dump truck backing up to dump soil on northeastern side of main pile. The soil being dumped was placed onsite at approximately 7:20 am.



View from southern side of main pile top facing southwest showing darker colored newly placed soil.



Newly placed soil that was brought in by Julian and collected as the S-10 soil sample.



Newly placed soil that was brought in by Julian and collected as the S-10 soil sample.



Thursday, December 08, 2016

Attn: Cindy Knight  
Logical Environmental Solutions  
354 South River Rd.  
Tolland, CT 06084

Project ID: FAIRFIELD RECLAMATION YARD  
Sample ID#s: BV90953 - BV90954

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller".

Phyllis Shiller

Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #MA-CT-007  
ME Lab Registration #CT-007  
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003  
NY Lab Registration #11301  
PA Lab Registration #68-03530  
RI Lab Registration #63  
VT Lab Registration #VT11301



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

December 08, 2016

FOR: Attn: Cindy Knight  
Logical Environmental Solutions  
354 South River Rd.  
Tolland, CT 06084

### Sample Information

Matrix: SOIL  
Location Code: LOGIC-DAS  
Rush Request: Standard  
P.O. #:

### Custody Information

Collected by:  
Received by: SW  
Analyzed by: see "By" below

Date

Time

11/29/16

7:00

11/29/16

11:49

SDG ID: GBV90953

Phoenix ID: BV90953

Project ID: FAIRFIELD RECLAMATION YARD  
Client ID: S-9

### Laboratory Data

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
TCLP Silver	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Barium	0.30	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Beryllium	< 0.040	0.040	mg/L	1	11/30/16	TH	SW6010C
TCLP Cadmium	< 0.050	0.050	mg/L	1	11/30/16	TH	SW6010C
TCLP Chromium	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Copper	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Mercury	< 0.0002	0.0002	mg/L	1	11/30/16	RS	SW7470A
TCLP Nickel	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Lead	0.20	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Antimony	< 0.060	0.060	mg/L	1	11/30/16	TH	SW6010C
TCLP Selenium	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Thallium	< 0.050	0.050	mg/L	1	11/30/16	TH	SW6010C
TCLP Vanadium	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Zinc	1.57	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Metals Digestion	Completed				11/30/16	Q/Q	SW3005A
Percent Solid	78		%		11/29/16	Q	SW846-%Solid
Soil Extraction for PCB	Completed				11/29/16	JJ/V	SW3545A
Soil Extraction for Pesticide	Completed				11/29/16	JJ/V	SW3545A
Soil Extraction for SVOA	Completed				11/29/16	JJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/29/16	XC/CKV	SW3545A
TCLP Digestion Mercury	Completed				11/30/16	Q/Q	SW7470A
TCLP Extraction for Metals	Completed				11/29/16	Q	SW1311
Field Extraction	Completed				11/29/16		SW5035A

### TPH by GC (Extractable Products)

Ext. Petroleum HC Identification	760	320	mg/Kg	5	12/01/16	JRB	CTETPH 8015D
	**		mg/Kg	5	12/01/16	JRB	CTETPH 8015D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	103		%	5	12/01/16	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	420	ug/Kg	10	11/30/16	AW	SW8082A
PCB-1221	ND	420	ug/Kg	10	11/30/16	AW	SW8082A
PCB-1232	ND	420	ug/Kg	10	11/30/16	AW	SW8082A
PCB-1242	ND	420	ug/Kg	10	11/30/16	AW	SW8082A
PCB-1248	ND	420	ug/Kg	10	11/30/16	AW	SW8082A
PCB-1254	ND	420	ug/Kg	10	11/30/16	AW	SW8082A
PCB-1260	ND	420	ug/Kg	10	11/30/16	AW	SW8082A
PCB-1262	ND	420	ug/Kg	10	11/30/16	AW	SW8082A
PCB-1268	ND	420	ug/Kg	10	11/30/16	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	93		%	10	11/30/16	AW	30 - 150 %
% TCMX	85		%	10	11/30/16	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
4,4' -DDE	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
4,4' -DDT	ND	15	ug/Kg	2	12/01/16	PS	SW8081B
a-BHC	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
Alachlor	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
Aldrin	ND	4.2	ug/Kg	2	12/01/16	PS	SW8081B
b-BHC	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
Chlordane	ND	42	ug/Kg	2	12/01/16	PS	SW8081B
d-BHC	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
Dieldrin	ND	7.0	ug/Kg	2	12/01/16	PS	SW8081B
Endosulfan I	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
Endosulfan II	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
Endosulfan sulfate	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
Endrin	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
Endrin aldehyde	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
Endrin ketone	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
g-BHC	ND	1.7	ug/Kg	2	12/01/16	PS	SW8081B
Heptachlor	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
Heptachlor epoxide	ND	8.3	ug/Kg	2	12/01/16	PS	SW8081B
Methoxychlor	ND	42	ug/Kg	2	12/01/16	PS	SW8081B
Toxaphene	ND	170	ug/Kg	2	12/01/16	PS	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	99		%	2	12/01/16	PS	30 - 150 %
% TCMX	92		%	2	12/01/16	PS	30 - 150 %
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
1,1,1-Trichloroethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.4	ug/Kg	1	11/29/16	JLI	SW8260C
1,1,2-Trichloroethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
1,1-Dichloroethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
1,1-Dichloroethene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,1-Dichloropropene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
1,2,3-Trichloropropane	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	440	ug/Kg	50	11/30/16	JLI	SW8260C
1,2-Dibromoethane	ND	7.0	ug/Kg	1	11/29/16	JLI	SW8260C
1,2-Dichlorobenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
1,2-Dichloroethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
1,2-Dichloropropane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
1,3-Dichlorobenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
1,3-Dichloropropane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
1,4-Dichlorobenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
2,2-Dichloropropane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
2-Chlorotoluene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
2-Hexanone	ND	37	ug/Kg	1	11/29/16	JLI	SW8260C
2-Isopropyltoluene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
4-Chlorotoluene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
4-Methyl-2-pentanone	ND	37	ug/Kg	1	11/29/16	JLI	SW8260C
Acetone	ND	370	ug/Kg	1	11/29/16	JLI	SW8260C
Acrylonitrile	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Benzene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Bromobenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
Bromochloromethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Bromodichloromethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Bromoform	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Bromomethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Carbon Disulfide	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Carbon tetrachloride	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Chlorobenzene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Chloroethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Chloroform	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Chloromethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
cis-1,2-Dichloroethene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
cis-1,3-Dichloropropene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Dibromochloromethane	ND	4.4	ug/Kg	1	11/29/16	JLI	SW8260C
Dibromomethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Dichlorodifluoromethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Ethylbenzene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Hexachlorobutadiene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
Isopropylbenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
m&p-Xylene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Methyl Ethyl Ketone	ND	44	ug/Kg	1	11/29/16	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	15	ug/Kg	1	11/29/16	JLI	SW8260C
Methylene chloride	ND	15	ug/Kg	1	11/29/16	JLI	SW8260C
Naphthalene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
n-Butylbenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
n-Propylbenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
o-Xylene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
p-Isopropyltoluene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
sec-Butylbenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
Styrene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
tert-Butylbenzene	ND	550	ug/Kg	50	11/30/16	JLI	SW8260C
Tetrachloroethene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Tetrahydrofuran (THF)	ND	15	ug/Kg	1	11/29/16	JLI	SW8260C
Toluene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Total Xylenes	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
trans-1,2-Dichloroethene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
trans-1,3-Dichloropropene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	1100	ug/Kg	50	11/30/16	JLI	SW8260C
Trichloroethene	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Trichlorofluoromethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Trichlorotrifluoroethane	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
Vinyl chloride	ND	7.4	ug/Kg	1	11/29/16	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	98		%	50	11/30/16	JLI	70 - 130 %
% Bromofluorobenzene	99		%	50	11/30/16	JLI	70 - 130 %
% Dibromofluoromethane	111		%	1	11/29/16	JLI	70 - 130 %
% Toluene-d8	80		%	1	11/29/16	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
1,2-Dichlorobenzene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
1,3-Dichlorobenzene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
1,4-Dichlorobenzene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
2,4-Dichlorophenol	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
2,4-Dimethylphenol	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
2,4-Dinitrophenol	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
2,4-Dinitrotoluene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
2,6-Dinitrotoluene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
2-Chloronaphthalene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
2-Chlorophenol	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
2-Methylnaphthalene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
2-Nitroaniline	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
2-Nitrophenol	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
3-Nitroaniline	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
4-Chloroaniline	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	300	ug/Kg	1	11/30/16	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitroaniline	ND	680	ug/Kg	1	11/30/16	DD	SW8270D
4-Nitrophenol	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Acenaphthene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Acenaphthylene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Acetophenone	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Aniline	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
Anthracene	580	300	ug/Kg	1	11/30/16	DD	SW8270D
Benz(a)anthracene	2300	300	ug/Kg	1	11/30/16	DD	SW8270D
Benzidine	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Benzo(a)pyrene	2500	300	ug/Kg	1	11/30/16	DD	SW8270D
Benzo(b)fluoranthene	3300	300	ug/Kg	1	11/30/16	DD	SW8270D
Benzo(ghi)perylene	1600	300	ug/Kg	1	11/30/16	DD	SW8270D
Benzo(k)fluoranthene	2100	300	ug/Kg	1	11/30/16	DD	SW8270D
Benzoic acid	ND	850	ug/Kg	1	11/30/16	DD	SW8270D
Benzyl butyl phthalate	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	330	300	ug/Kg	1	11/30/16	DD	SW8270D
Carbazole	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
Chrysene	3300	300	ug/Kg	1	11/30/16	DD	SW8270D
Dibenz(a,h)anthracene	450	300	ug/Kg	1	11/30/16	DD	SW8270D
Dibenzofuran	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Diethyl phthalate	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Dimethylphthalate	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Di-n-butylphthalate	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Di-n-octylphthalate	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Fluoranthene	6000	300	ug/Kg	1	11/30/16	DD	SW8270D
Fluorene	380	300	ug/Kg	1	11/30/16	DD	SW8270D
Hexachlorobenzene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Hexachlorobutadiene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Hexachloroethane	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	1800	300	ug/Kg	1	11/30/16	DD	SW8270D
Isophorone	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Naphthalene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Nitrobenzene	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
N-Nitrosodimethylamine	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
Pentachloronitrobenzene	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
Pentachlorophenol	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
Phenanthrene	3800	300	ug/Kg	1	11/30/16	DD	SW8270D
Phenol	ND	300	ug/Kg	1	11/30/16	DD	SW8270D
Pyrene	5000	300	ug/Kg	1	11/30/16	DD	SW8270D
Pyridine	ND	420	ug/Kg	1	11/30/16	DD	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	80		%	1	11/30/16	DD	30 - 130 %
% 2-Fluorobiphenyl	62		%	1	11/30/16	DD	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 2-Fluorophenol	49		%	1	11/30/16	DD	30 - 130 %
% Nitrobenzene-d5	69		%	1	11/30/16	DD	30 - 130 %
% Phenol-d5	68		%	1	11/30/16	DD	30 - 130 %
% Terphenyl-d14	61		%	1	11/30/16	DD	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Volatile Comment:

Where the LOD justifies lowering the RL/PQL, the RL/PQL of some compounds are evaluated below the lowest calibration standard in order to meet criteria.

Volatile Comment:

There was a suppression of the last internal standard in the low level analysis, all affected compounds are reported from the methanol preserved high level analysis which did not exhibit this interference.

TPH Comment:

\*\*Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C14 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

December 08, 2016

Reviewed and Released by: Phyllis Shiller, Laboratory Director



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

December 08, 2016

FOR: Attn: Cindy Knight  
Logical Environmental Solutions  
354 South River Rd.  
Tolland, CT 06084

### Sample Information

Matrix: SOIL  
Location Code: LOGIC-DAS  
Rush Request: Standard  
P.O.#:

### Custody Information

Collected by:  
Received by: SW  
Analyzed by: see "By" below

Date

11/29/16 7:25  
11/29/16 11:49

Time

Project ID: FAIRFIELD RECLAMATION YARD  
Client ID: S-10

### Laboratory Data

SDG ID: GBV90953

Phoenix ID: BV90954

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
TCLP Silver	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Arsenic	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Barium	1.63	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Beryllium	< 0.040	0.040	mg/L	1	11/30/16	TH	SW6010C
TCLP Cadmium	0.051	0.050	mg/L	1	11/30/16	TH	SW6010C
TCLP Chromium	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Copper	1.26	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Mercury	< 0.0002	0.0002	mg/L	1	11/30/16	RS	SW7470A
TCLP Nickel	0.18	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Lead	10.6	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Antimony	< 0.060	0.060	mg/L	1	11/30/16	TH	SW6010C
TCLP Selenium	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Thallium	< 0.050	0.050	mg/L	1	11/30/16	TH	SW6010C
TCLP Vanadium	< 0.10	0.10	mg/L	1	11/30/16	TH	SW6010C
TCLP Zinc	20.5	1.0	mg/L	10	12/03/16	LK	SW6010C
TCLP Metals Digestion	Completed				11/30/16	Q/Q	SW3005A
Percent Solid	90		%		11/29/16	Q	SW846-%Solid
Soil Extraction for PCB	Completed				11/29/16	JJ/V	SW3545A
Soil Extraction for Pesticide	Completed				11/29/16	JJ/V	SW3545A
Soil Extraction for SVOA	Completed				11/29/16	JJ/CKV	SW3545A
Extraction of CT ETPH	Completed				11/29/16	XC/CKV	SW3545A
TCLP Digestion Mercury	Completed				11/30/16	Q/Q	SW7470A
TCLP Extraction for Metals	Completed				11/29/16	Q	SW1311
Field Extraction	Completed				11/29/16		SW5035A

### TPH by GC (Extractable Products)

Ext. Petroleum HC Identification	ND	280	mg/Kg	5	11/30/16	JRB	CTETPH 8015D
	ND		mg/Kg	5	11/30/16	JRB	CTETPH 8015D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<b><u>QA/QC Surrogates</u></b>							
% n-Pentacosane	147		%	5	11/30/16	JRB	50 - 150 %
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	370	ug/Kg	10	12/01/16	AW	SW8082A
PCB-1221	ND	370	ug/Kg	10	12/01/16	AW	SW8082A
PCB-1232	ND	370	ug/Kg	10	12/01/16	AW	SW8082A
PCB-1242	ND	370	ug/Kg	10	12/01/16	AW	SW8082A
PCB-1248	*	*	370 ug/Kg	10	12/01/16	AW	SW8082A
PCB-1254	6800	*	370 ug/Kg	10	12/01/16	AW	SW8082A
PCB-1260	*	*	370 ug/Kg	10	12/01/16	AW	SW8082A
PCB-1262	ND	370	ug/Kg	10	12/01/16	AW	SW8082A
PCB-1268	ND	370	ug/Kg	10	12/01/16	AW	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	114		%	10	12/01/16	AW	30 - 150 %
% TCMX	90		%	10	12/01/16	AW	30 - 150 %
<b><u>Pesticides</u></b>							
4,4' -DDD	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
4,4' -DDE	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
4,4' -DDT	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
a-BHC	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
Alachlor	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
Aldrin	ND	18	ug/Kg	20	12/01/16	CE	SW8081B
b-BHC	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
Chlordane	ND	370	ug/Kg	20	12/01/16	CE	SW8081B
d-BHC	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
Dieldrin	ND	60	ug/Kg	20	12/01/16	CE	SW8081B
Endosulfan I	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
Endosulfan II	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
Endosulfan sulfate	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
Endrin	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
Endrin aldehyde	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
Endrin ketone	ND	74	ug/Kg	20	12/01/16	CE	SW8081B
g-BHC	ND	30	ug/Kg	20	12/01/16	CE	SW8081B
Heptachlor	ND	37	ug/Kg	20	12/01/16	CE	SW8081B
Heptachlor epoxide	ND	37	ug/Kg	20	12/01/16	CE	SW8081B
Methoxychlor	ND	370	ug/Kg	20	12/01/16	CE	SW8081B
Toxaphene	ND	1500	ug/Kg	20	12/01/16	CE	SW8081B
<b><u>QA/QC Surrogates</u></b>							
% DCBP	68		%	2	12/01/16	CE	30 - 150 %
% TCMX	61		%	2	12/01/16	CE	30 - 150 %
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.1	ug/Kg	1	11/29/16	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,1-Dichloroethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,1-Dichloroethene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,1-Dichloropropene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,2,4-Trimethylbenzene	85	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,2-Dibromoethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,2-Dichloroethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,2-Dichloropropane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,3,5-Trimethylbenzene	34	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,3-Dichloropropane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
2,2-Dichloropropane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
2-Chlorotoluene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
2-Hexanone	ND	26	ug/Kg	1	11/29/16	JLI	SW8260C
2-Isopropyltoluene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
4-Chlorotoluene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
4-Methyl-2-pentanone	ND	26	ug/Kg	1	11/29/16	JLI	SW8260C
Acetone	ND	260	ug/Kg	1	11/29/16	JLI	SW8260C
Acrylonitrile	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Benzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Bromobenzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Bromochloromethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Bromodichloromethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Bromoform	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Bromomethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Carbon Disulfide	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Carbon tetrachloride	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Chlorobenzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Chloroethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Chloroform	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Chloromethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Dibromochloromethane	ND	3.1	ug/Kg	1	11/29/16	JLI	SW8260C
Dibromomethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Dichlorodifluoromethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Ethylbenzene	25	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Hexachlorobutadiene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Isopropylbenzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
m&p-Xylene	80	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Methyl Ethyl Ketone	ND	31	ug/Kg	1	11/29/16	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	11/29/16	JLI	SW8260C
Methylene chloride	ND	10	ug/Kg	1	11/29/16	JLI	SW8260C
Naphthalene	440	400	ug/Kg	50	11/30/16	JLI	SW8260C
n-Butylbenzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
n-Propylbenzene	6.3	5.2	ug/Kg	1	11/29/16	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
o-Xylene	35	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
p-Isopropyltoluene	6.5	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
sec-Butylbenzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Styrene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
tert-Butylbenzene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Tetrachloroethene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Tetrahydrofuran (THF)	ND	10	ug/Kg	1	11/29/16	JLI	SW8260C
Toluene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Total Xylenes	115	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	11/29/16	JLI	SW8260C
Trichloroethene	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Trichlorofluoromethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
Vinyl chloride	ND	5.2	ug/Kg	1	11/29/16	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	92		%	1	11/29/16	JLI	70 - 130 %
% Bromofluorobenzene	90		%	1	11/29/16	JLI	70 - 130 %
% Dibromofluoromethane	107		%	1	11/29/16	JLI	70 - 130 %
% Toluene-d8	84		%	1	11/29/16	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
1,2-Dichlorobenzene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
1,3-Dichlorobenzene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
1,4-Dichlorobenzene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
2,4-Dichlorophenol	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
2,4-Dimethylphenol	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
2,4-Dinitrophenol	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
2,4-Dinitrotoluene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
2,6-Dinitrotoluene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
2-Chloronaphthalene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
2-Chlorophenol	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
2-Methylnaphthalene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
2-Nitroaniline	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
2-Nitrophenol	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
3-Nitroaniline	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
4-Chloroaniline	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	260	ug/Kg	1	11/30/16	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitroaniline	ND	590	ug/Kg	1	11/30/16	DD	SW8270D
4-Nitrophenol	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Acenaphthene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Acenaphthylene	350	260	ug/Kg	1	11/30/16	DD	SW8270D
Acetophenone	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Aniline	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
Anthracene	490	260	ug/Kg	1	11/30/16	DD	SW8270D
Benz(a)anthracene	1200	260	ug/Kg	1	11/30/16	DD	SW8270D
Benzidine	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Benzo(a)pyrene	1400	260	ug/Kg	1	11/30/16	DD	SW8270D
Benzo(b)fluoranthene	1300	260	ug/Kg	1	11/30/16	DD	SW8270D
Benzo(ghi)perylene	960	260	ug/Kg	1	11/30/16	DD	SW8270D
Benzo(k)fluoranthene	1100	260	ug/Kg	1	11/30/16	DD	SW8270D
Benzoic acid	ND	730	ug/Kg	1	11/30/16	DD	SW8270D
Benzyl butyl phthalate	410	260	ug/Kg	1	11/30/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	1300	260	ug/Kg	1	11/30/16	DD	SW8270D
Carbazole	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
Chrysene	1400	260	ug/Kg	1	11/30/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Dibenzofuran	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Diethyl phthalate	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Dimethylphthalate	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Di-n-butylphthalate	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Di-n-octylphthalate	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Fluoranthene	2900	260	ug/Kg	1	11/30/16	DD	SW8270D
Fluorene	260	260	ug/Kg	1	11/30/16	DD	SW8270D
Hexachlorobenzene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Hexachlorobutadiene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Hexachloroethane	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	980	260	ug/Kg	1	11/30/16	DD	SW8270D
Isophorone	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Naphthalene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Nitrobenzene	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
N-Nitrosodimethylamine	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
Pentachloronitrobenzene	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
Pentachlorophenol	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
Phenanthrene	1900	260	ug/Kg	1	11/30/16	DD	SW8270D
Phenol	ND	260	ug/Kg	1	11/30/16	DD	SW8270D
Pyrene	2800	260	ug/Kg	1	11/30/16	DD	SW8270D
Pyridine	ND	370	ug/Kg	1	11/30/16	DD	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	75		%	1	11/30/16	DD	30 - 130 %
% 2-Fluorobiphenyl	62		%	1	11/30/16	DD	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 2-Fluorophenol	51		%	1	11/30/16	DD	30 - 130 %
% Nitrobenzene-d5	71		%	1	11/30/16	DD	30 - 130 %
% Phenol-d5	67		%	1	11/30/16	DD	30 - 130 %
% Terphenyl-d14	64		%	1	11/30/16	DD	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

#### PCB Comment:

\* For PCBs, as per section 11.9.3 of SW846 method 8082, when multiple Aroclor's of PCBs are present and the aroclor is no longer recognizable, quantitation may be performed by comparing the total area of the PCB pattern to that of the aroclor it mostly resembles. The PCB pattern did not resemble any of the standards, but most closely resembles a mixture of the Aroclors 1248 and 1254 and 1260. The PCB is quantitated as a timed group and is reported as the Aroclor 1254.

#### Pesticide Comment:

Due to matrix interference caused by the presence of PCBs in the sample, an elevated RL was reported.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller

Phyllis Shiller, Laboratory Director

December 08, 2016

Reviewed and Released by: Phyllis Shiller, Laboratory Director



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# QA/QC Report

December 08, 2016

## QA/QC Data

SDG I.D.: GBV90953

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 368127 (mg/L), QC Sample No: BV90908 (BV90953, BV90954)													
<u>ICP Metals - TCLP Extraction</u>													
Antimony	BRL	0.060	0.074	<0.060	NC	115			108			75 - 125	20
Arsenic	BRL	0.10	<0.10	<0.10	NC	114			102			75 - 125	20
Barium	BRL	0.10	0.39	0.39	NC	100			101			75 - 125	20
Beryllium	BRL	0.040	<0.040	<0.040	NC	106			102			75 - 125	20
Cadmium	BRL	0.050	0.008	0.007	NC	105			99.0			75 - 125	20
Chromium	BRL	0.10	<0.10	<0.10	NC	105			100			75 - 125	20
Copper	BRL	0.10	0.08	0.08	NC	116			104			75 - 125	20
Lead	BRL	0.10	0.81	0.80	1.20	110			102			75 - 125	20
Nickel	BRL	0.10	0.03	0.03	NC	105			100			75 - 125	20
Selenium	BRL	0.10	<0.10	<0.10	NC	118			104			75 - 125	20
Silver	BRL	0.10	<0.10	<0.10	NC	115			103			75 - 125	20
Thallium	BRL	0.050	<0.050	<0.050	NC	117			103			75 - 125	20
Vanadium	BRL	0.10	0.01	<0.10	NC	106			99.4			75 - 125	20
Zinc	BRL	0.10	2.83	2.84	0.40	107			99.3			75 - 125	20
QA/QC Batch 368267 (mg/L), QC Sample No: BV91708 (BV90953, BV90954)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	91.9			88.2			70 - 130	20

Comment:

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.



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### QA/QC Report

December 08, 2016

#### QA/QC Data

SDG I.D.: GBV90953

Parameter	Blank	Blk	RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits											
QA/QC Batch 368063 (ug/Kg), QC Sample No: BV90691 2X (BV90953, BV90954)																						
<u>Pesticides - Soil</u>																						
4,4'-DDD	ND	1.7		91	79	14.1	72	69	4.3	40 - 140	30											
4,4'-DDE	ND	1.7		84	73	14.0	70	67	4.4	40 - 140	30											
4,4'-DDT	ND	1.7		96	83	14.5	81	78	3.8	40 - 140	30											
a-BHC	ND	1.0		77	67	13.9	64	62	3.2	40 - 140	30											
a-Chlordane	ND	3.3		85	74	13.8	71	68	4.3	40 - 140	30											
Alachlor	ND	3.3		NA	NA	NC	NA	NA	NC	40 - 140	30											
Aldrin	ND	1.0		80	69	14.8	68	65	4.5	40 - 140	30											
b-BHC	ND	1.0		86	75	13.7	80	73	9.2	40 - 140	30											
Chlordane	ND	33		80	71	11.9	66	63	4.7	40 - 140	30											
d-BHC	ND	3.3		85	73	15.2	69	62	10.7	40 - 140	30											
Dieldrin	ND	1.0		82	71	14.4	67	64	4.6	40 - 140	30											
Endosulfan I	ND	3.3		87	75	14.8	72	67	7.2	40 - 140	30											
Endosulfan II	ND	3.3		97	84	14.4	76	75	1.3	40 - 140	30											
Endosulfan sulfate	ND	3.3		100	86	15.1	76	74	2.7	40 - 140	30											
Endrin	ND	3.3		88	76	14.6	71	68	4.3	40 - 140	30											
Endrin aldehyde	ND	3.3		86	74	15.0	67	66	1.5	40 - 140	30											
Endrin ketone	ND	3.3		109	94	14.8	85	82	3.6	40 - 140	30											
g-BHC	ND	1.0		83	73	12.8	70	66	5.9	40 - 140	30											
g-Chlordane	ND	3.3		80	71	11.9	66	63	4.7	40 - 140	30											
Heptachlor	ND	3.3		84	73	14.0	72	68	5.7	40 - 140	30											
Heptachlor epoxide	ND	3.3		86	75	13.7	71	67	5.8	40 - 140	30											
Methoxychlor	ND	3.3		111	95	15.5	87	85	2.3	40 - 140	30											
Toxaphene	ND	130		NA	NA	NC	NA	NA	NC	40 - 140	30											
% DCBP	96	%		98	89	9.6	83	81	2.4	30 - 150	30											
% TCMX	86	%		77	72	6.7	75	66	12.8	30 - 150	30											
Comment:																						
Alpha and gamma chlordane were spiked and analyzed instead of technical chlordane. Gamma chlordane recovery is reported as chlordane in the LCS, LCSD, MS and MSD.																						
QA/QC Batch 368061 (ug/kg), QC Sample No: BV90691 (BV90953, BV90954)																						
<u>Semivolatiles - Soil</u>																						
1,2,4,5-Tetrachlorobenzene	ND	230		62		70			30 - 130	30												
1,2,4-Trichlorobenzene	ND	230		57		67			30 - 130	30												
1,2-Dichlorobenzene	ND	180		50		62			30 - 130	30												
1,2-Diphenylhydrazine	ND	230		68		73			30 - 130	30												
1,3-Dichlorobenzene	ND	230		47		57			30 - 130	30												
1,4-Dichlorobenzene	ND	230		50		60			30 - 130	30												
2,4,5-Trichlorophenol	ND	230		68		68			30 - 130	30												
2,4,6-Trichlorophenol	ND	130		68		70			30 - 130	30												
2,4-Dichlorophenol	ND	130		68		76			30 - 130	30												
2,4-Dimethylphenol	ND	230		62		72			30 - 130	30												
2,4-Dinitrophenol	ND	230		14		53			30 - 130	30	I											

QA/QC Data

SDG I.D.: GBV90953

Parameter	Blank	Blk	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Parameter	Blank	Blk	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
2,4-Dinitrotoluene	ND	130	71		74				30 - 130	30
2,6-Dinitrotoluene	ND	130	70		70				30 - 130	30
2-Chloronaphthalene	ND	230	66		70				30 - 130	30
2-Chlorophenol	ND	230	66		71				30 - 130	30
2-Methylnaphthalene	ND	230	62		70				30 - 130	30
2-Methylphenol (o-cresol)	ND	230	74		80				30 - 130	30
2-Nitroaniline	ND	330	62		75				30 - 130	30
2-Nitrophenol	ND	230	60		64				30 - 130	30
3&4-Methylphenol (m&p-cresol)	ND	230	76		80				30 - 130	30
3,3'-Dichlorobenzidine	ND	130	56		54				30 - 130	30
3-Nitroaniline	ND	330	61		69				30 - 130	30
4,6-Dinitro-2-methylphenol	ND	230	33		86				30 - 130	30
4-Bromophenyl phenyl ether	ND	230	70		71				30 - 130	30
4-Chloro-3-methylphenol	ND	230	73		77				30 - 130	30
4-Chloroaniline	ND	230	69		74				30 - 130	30
4-Chlorophenyl phenyl ether	ND	230	67		72				30 - 130	30
4-Nitroaniline	ND	230	73		75				30 - 130	30
4-Nitrophenol	ND	230	71		72				30 - 130	30
Acenaphthene	ND	230	68		73				30 - 130	30
Acenaphthylene	ND	130	65		67				30 - 130	30
Acetophenone	ND	230	62		68				30 - 130	30
Aniline	ND	330	57		63				30 - 130	30
Anthracene	ND	230	70		70				30 - 130	30
Benz(a)anthracene	ND	230	67		60				30 - 130	30
Benzidine	ND	330	11		<10				30 - 130	30
Benzo(a)pyrene	ND	130	66		54				30 - 130	30
Benzo(b)fluoranthene	ND	160	68		60				30 - 130	30
Benzo(ghi)perylene	ND	230	73		59				30 - 130	30
Benzo(k)fluoranthene	ND	230	69		59				30 - 130	30
Benzoic Acid	ND	330	<10		<10				30 - 130	30
Benzyl butyl phthalate	ND	230	67		70				30 - 130	30
Bis(2-chloroethoxy)methane	ND	230	68		72				30 - 130	30
Bis(2-chloroethyl)ether	ND	130	52		61				30 - 130	30
Bis(2-chloroisopropyl)ether	ND	230	55		63				30 - 130	30
Bis(2-ethylhexyl)phthalate	ND	230	63		67				30 - 130	30
Carbazole	ND	230	68		71				30 - 130	30
Chrysene	ND	230	68		61				30 - 130	30
Dibenz(a,h)anthracene	ND	130	72		69				30 - 130	30
Dibenzo furan	ND	230	67		72				30 - 130	30
Diethyl phthalate	ND	230	71		74				30 - 130	30
Dimethylphthalate	ND	230	70		71				30 - 130	30
Di-n-butylphthalate	ND	230	76		72				30 - 130	30
Di-n-octylphthalate	ND	230	70		70				30 - 130	30
Fluoranthene	ND	230	71		60				30 - 130	30
Fluorene	ND	230	70		75				30 - 130	30
Hexachlorobenzene	ND	130	68		72				30 - 130	30
Hexachlorobutadiene	ND	230	55		63				30 - 130	30
Hexachlorocyclopentadiene	ND	230	67		59				30 - 130	30
Hexachloroethane	ND	130	47		56				30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	72		59				30 - 130	30
Isophorone	ND	130	60		66				30 - 130	30
Naphthalene	ND	230	63		72				30 - 130	30
Nitrobenzene	ND	130	65		73				30 - 130	30

QA/QC Data

SDG I.D.: GBV90953

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
N-Nitrosodimethylamine	ND	230	45			57			30 - 130	30
N-Nitrosodi-n-propylamine	ND	130	74			79			30 - 130	30
N-Nitrosodiphenylamine	ND	130	78			80			30 - 130	30
Pentachloronitrobenzene	ND	230	63			67			30 - 130	30
Pentachlorophenol	ND	230	59			60			30 - 130	30
Phenanthrene	ND	130	70			68			30 - 130	30
Phenol	ND	230	68			73			30 - 130	30
Pyrene	ND	230	74			64			30 - 130	30
Pyridine	ND	230	27			40			30 - 130	30
% 2,4,6-Tribromophenol	62	%	69			71			30 - 130	30
% 2-Fluorobiphenyl	61	%	61			65			30 - 130	30
% 2-Fluorophenol	59	%	55			61			30 - 130	30
% Nitrobenzene-d5	58	%	65			73			30 - 130	30
% Phenol-d5	65	%	71			75			30 - 130	30
% Terphenyl-d14	69	%	69			68			30 - 130	30

Comment:

LCSD and MSD not reported for this batch.

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 368197 (mg/Kg), QC Sample No: BV91000 (BV90953, BV90954)

TPH by GC (Extractable Products) - Soil

Ext. Petroleum H.C.	ND	50	61		72	71	1.4	60 - 120	30
% n-Pentacosane	58	%	67		86	83	3.6	50 - 150	30

Comment:

Additional criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%.

QA/QC Batch 368285 (ug/kg), QC Sample No: BV91132 (BV90953, BV90954)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	5.0	106	102	3.8	91	93	2.2	70 - 130	30
1,1,1-Trichloroethane	ND	5.0	95	93	2.1	90	83	8.1	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0	101	105	3.9	93	96	3.2	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	98	97	1.0	83	78	6.2	70 - 130	30
1,1-Dichloroethane	ND	5.0	97	95	2.1	94	85	10.1	70 - 130	30
1,1-Dichloroethene	ND	5.0	101	99	2.0	88	88	0.0	70 - 130	30
1,1-Dichloropropene	ND	5.0	95	94	1.1	85	82	3.6	70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	102	102	0.0	49	44	10.8	70 - 130	30
1,2,3-Trichloropropane	ND	5.0	95	97	2.1	103	97	6.0	70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	96	93	3.2	54	47	13.9	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	97	98	1.0	92	92	0.0	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	108	104	3.8	84	79	6.1	70 - 130	30
1,2-Dibromoethane	ND	5.0	96	95	1.0	82	77	6.3	70 - 130	30
1,2-Dichlorobenzene	ND	5.0	103	101	2.0	85	81	4.8	70 - 130	30
1,2-Dichloroethane	ND	5.0	100	102	2.0	88	87	1.1	70 - 130	30
1,2-Dichloropropane	ND	5.0	99	101	2.0	86	85	1.2	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	98	97	1.0	96	95	1.0	70 - 130	30
1,3-Dichlorobenzene	ND	5.0	100	99	1.0	81	80	1.2	70 - 130	30
1,3-Dichloropropane	ND	5.0	100	96	4.1	88	87	1.1	70 - 130	30
1,4-Dichlorobenzene	ND	5.0	101	99	2.0	79	79	0.0	70 - 130	30
2,2-Dichloropropane	ND	5.0	104	98	5.9	94	86	8.9	70 - 130	30
2-Chlorotoluene	ND	5.0	100	100	0.0	98	93	5.2	70 - 130	30
2-Hexanone	ND	25	86	89	3.4	79	75	5.2	70 - 130	30
2-Isopropyltoluene	ND	5.0	101	101	0.0	103	102	1.0	70 - 130	30

QA/QC Data

SDG I.D.: GBV90953

Parameter	Blank	Blk RL	LCS				MSD		MS		% Rec Limits	% RPD Limits
			%	LCSD %	LCS RPD	%	MSD %	RPD				
4-Chlorotoluene	ND	5.0		94	96	2.1	90	84	6.9	70 - 130	30	
4-Methyl-2-pentanone	ND	25		95	97	2.1	86	88	2.3	70 - 130	30	
Acetone	ND	10		91	81	11.6	68	58	15.9	70 - 130	30	m
Acrylonitrile	ND	5.0		92	89	3.3	83	74	11.5	70 - 130	30	
Benzene	ND	1.0		96	97	1.0	84	84	0.0	70 - 130	30	
Bromobenzene	ND	5.0		107	103	3.8	97	97	0.0	70 - 130	30	
Bromoform	ND	5.0		91	90	1.1	81	77	5.1	70 - 130	30	
Bromochloromethane	ND	5.0		100	101	1.0	84	84	0.0	70 - 130	30	
Bromodichloromethane	ND	5.0		95	95	0.0	71	72	1.4	70 - 130	30	
Bromoform	ND	5.0		112	101	10.3	114	105	8.2	70 - 130	30	
Bromomethane	ND	5.0		110	105	4.7	104	97	7.0	70 - 130	30	
Carbon Disulfide	ND	5.0		98	95	3.1	90	81	10.5	70 - 130	30	
Carbon tetrachloride	ND	5.0		102	99	3.0	83	84	1.2	70 - 130	30	
Chlorobenzene	ND	5.0		117	104	11.8	121	113	6.8	70 - 130	30	
Chloroethane	ND	5.0		93	89	4.4	88	81	8.3	70 - 130	30	
Chloroform	ND	5.0		107	101	5.8	115	109	5.4	70 - 130	30	
Chloromethane	ND	5.0		99	95	4.1	88	85	3.5	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0		99	102	3.0	78	77	1.3	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0		108	104	3.8	91	88	3.4	70 - 130	30	
Dibromochloromethane	ND	3.0		100	102	2.0	82	82	0.0	70 - 130	30	
Dibromomethane	ND	5.0		115	109	5.4	137	128	6.8	70 - 130	30	m
Dichlorodifluoromethane	ND	1.0		103	99	4.0	94	88	6.6	70 - 130	30	
Ethylbenzene	ND	5.0		106	106	0.0	71	67	5.8	70 - 130	30	m
Hexachlorobutadiene	ND	1.0		98	102	4.0	104	106	1.9	70 - 130	30	
Isopropylbenzene	ND	2.0		99	93	6.3	83	84	1.2	70 - 130	30	
m&p-Xylene	ND	5.0		78	83	6.2	81	72	11.8	70 - 130	30	
Methyl ethyl ketone	ND	1.0		96	95	1.0	105	99	5.9	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	5.0		100	91	9.4	86	79	8.5	70 - 130	30	
Methylene chloride	ND	1.0		103	102	1.0	84	82	2.4	70 - 130	30	
n-Butylbenzene	ND	1.0		98	97	1.0	98	96	2.1	70 - 130	30	
n-Propylbenzene	ND	2.0		104	104	0.0	99	97	2.0	70 - 130	30	
o-Xylene	ND	5.0		101	97	4.0	86	81	6.0	70 - 130	30	
p-Isopropyltoluene	ND	1.0		100	97	3.0	90	88	2.2	70 - 130	30	
sec-Butylbenzene	ND	5.0		104	104	0.0	99	97	2.0	70 - 130	30	
Styrene	ND	5.0		97	93	4.2	75	75	0.0	70 - 130	30	
tert-Butylbenzene	ND	1.0		102	101	1.0	100	101	1.0	70 - 130	30	
Tetrachloroethene	ND	5.0		98	96	2.1	80	79	1.3	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0		88	91	3.4	88	81	8.3	70 - 130	30	
Toluene	ND	1.0		100	101	1.0	87	82	5.9	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0		113	107	5.5	96	88	8.7	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0		94	95	1.1	74	71	4.1	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0		99	103	4.0	96	95	1.0	70 - 130	30	
Trichloroethene	ND	5.0		100	102	2.0	90	90	0.0	70 - 130	30	
Trichlorofluoromethane	ND	5.0		105	98	6.9	115	107	7.2	70 - 130	30	
Trichlorotrifluoroethane	ND	5.0		101	93	8.2	102	93	9.2	70 - 130	30	
Vinyl chloride	ND	5.0		106	101	4.8	112	104	7.4	70 - 130	30	
% 1,2-dichlorobenzene-d4	95	%		101	104	2.9	99	101	2.0	70 - 130	30	
% Bromofluorobenzene	103	%		102	98	4.0	93	94	1.1	70 - 130	30	
% Dibromofluoromethane	100	%		95	95	0.0	104	98	5.9	70 - 130	30	
% Toluene-d8	88	%		101	101	0.0	98	99	1.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Data

SDG I.D.: GBV90953

Parameter	Blank	Blk	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits						
		RL														
QA/QC Batch 368196 (ug/Kg), QC Sample No: BV91158 2X (BV90953, BV90954)																
<u>Polychlorinated Biphenyls - Soil</u>																
PCB-1016	ND	33			71	76	6.8	63	74	16.1						
PCB-1221	ND	33								40 - 140						
PCB-1232	ND	33								40 - 140						
PCB-1242	ND	33								40 - 140						
PCB-1248	ND	33								40 - 140						
PCB-1254	ND	33								40 - 140						
PCB-1260	ND	33			81	87	7.1	75	90	18.2						
PCB-1262	ND	33								40 - 140						
PCB-1268	ND	33								40 - 140						
% DCBP (Surrogate Rec)	80	%			91	97	6.4	84	100	17.4						
% TCMX (Surrogate Rec)	76	%			77	82	6.3	67	79	16.4						
QA/QC Batch 368484 (ug/kg), QC Sample No: BV91663 (BV90953 (50X) , BV90954 (50X) )																
<u>Volatiles - Soil</u>																
1,2,3-Trichlorobenzene	ND	5.0			121	114	6.0	64	66	3.1						
1,2,3-Trichloropropane	ND	5.0			87	86	1.2	93	87	6.7						
1,2,4-Trichlorobenzene	ND	5.0			122	115	5.9	75	74	1.3						
1,2,4-Trimethylbenzene	ND	1.0			114	111	2.7	10	29	97.4						
1,2-Dibromo-3-chloropropane	ND	5.0			88	87	1.1	84	83	1.2						
1,2-Dichlorobenzene	ND	5.0			103	101	2.0	75	76	1.3						
1,3,5-Trimethylbenzene	ND	1.0			111	109	1.8	58	72	21.5						
1,3-Dichlorobenzene	ND	5.0			104	103	1.0	95	89	6.5						
1,4-Dichlorobenzene	ND	5.0			105	103	1.9	94	87	7.7						
2-Chlorotoluene	ND	5.0			100	99	1.0	84	86	2.4						
2-Isopropyltoluene	ND	5.0			122	121	0.8	105	109	3.7						
4-Chlorotoluene	ND	5.0			99	98	1.0	71	80	11.9						
Bromobenzene	ND	5.0			94	93	1.1	95	90	5.4						
Hexachlorobutadiene	ND	5.0			109	103	5.7	57	59	3.4						
Isopropylbenzene	ND	1.0			95	94	1.1	83	88	5.8						
Naphthalene	ND	5.0			111	106	4.6	<10	<10	NC						
n-Butylbenzene	ND	1.0			118	112	5.2	64	72	11.8						
n-Propylbenzene	ND	1.0			95	95	0.0	77	82	6.3						
p-Isopropyltoluene	ND	1.0			110	107	2.8	94	93	1.1						
sec-Butylbenzene	ND	1.0			108	106	1.9	80	86	7.2						
tert-Butylbenzene	ND	1.0			98	97	1.0	96	92	4.3						
trans-1,4-dichloro-2-butene	ND	5.0			108	105	2.8	101	94	7.2						
% 1,2-dichlorobenzene-d4	96	%			101	100	1.0	96	97	1.0						
% Bromofluorobenzene	100	%			99	99	0.0	95	98	3.1						

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.

m = This parameter is outside laboratory MS/MSD specified recovery limits.

r = This parameter is outside laboratory RPD specified recovery limits.

QA/QC Data

SDG I.D.: GBV90953

Parameter	Blank	Blk	LCS	LCSD	LCS	MS	MSD	MS	Rec %	RPD %
			%	%	RPD	%	%	RPD	Limits	RPD Limits

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference  
LCS - Laboratory Control Sample  
LCSD - Laboratory Control Sample Duplicate  
MS - Matrix Spike  
MS Dup - Matrix Spike Duplicate  
NC - No Criteria  
Intf - Interference



Phyllis Shiller, Laboratory Director  
December 08, 2016

Thursday, December 08, 2016

Criteria: CT: GBM, RC

State: CT

# Sample Criteria Exceedances Report

## GBV90953 - LOGIC-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
BV90953	\$8270-SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	2300	300	1000	1000	ug/Kg
BV90953	\$8270-SMR	Benzo(k)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	2100	300	1000	1000	ug/Kg
BV90953	\$8270-SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	3300	300	1000	1000	ug/Kg
BV90953	\$8270-SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	2500	300	1000	1000	ug/Kg
BV90953	\$8270-SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	3300	300	1000	1000	ug/Kg
BV90953	\$8270-SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	2500	300	1000	1000	ug/Kg
BV90953	\$8270-SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	2300	300	1000	1000	ug/Kg
BV90953	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	760	320	500	500	mg/Kg
BV90953	TCLP-PB	TCLP Lead	CT / INORGANIC SUBSTANCES / GB PMC (mg/l)**	0.20	0.10	0.15	0.15	mg/L
BV90954	\$8270-SMR	Benzo(k)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1100	260	1000	1000	ug/Kg
BV90954	\$8270-SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1200	260	1000	1000	ug/Kg
BV90954	\$8270-SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1300	260	1000	1000	ug/Kg
BV90954	\$8270-SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / GB PMC (mg/kg)	1400	260	1000	1000	ug/Kg
BV90954	\$8270-SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	1400	260	1000	1000	ug/Kg
BV90954	\$8270-SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	1300	260	1000	1000	ug/Kg
BV90954	\$8270-SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k)	1200	260	1000	1000	ug/Kg
BV90954	\$PCB_SMR	PCB-1254	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	6800	370	1000	1000	ug/Kg
BV90954	\$PEST_SMR	Toxaphene	CT / PESTICIDES, PCB's, TPH, a / GB PMC (mg/kg)	ND	1500	600	600	ug/Kg
BV90954	\$PEST_SMR	Chlordane	CT / PESTICIDES, PCB's, TPH, a / GB PMC (mg/kg)	ND	370	66	66	ug/Kg
BV90954	\$PEST_SMR	Dieldrin	CT / PESTICIDES, PCB's, TPH, a / GB PMC (mg/kg)	ND	60	7	7	ug/Kg
BV90954	\$PEST_SMR	Heptachlor	CT / PESTICIDES, PCB's, TPH, a / GB PMC (mg/kg)	ND	37	13	13	ug/Kg
BV90954	\$PEST_SMR	Heptachlor epoxide	CT / PESTICIDES, PCB's, TPH, a / GB PMC (mg/kg)	ND	37	20	20	ug/Kg
BV90954	\$PEST_SMR	Dieldrin	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	ND	60	38	38	ug/Kg
BV90954	\$PEST_SMR	Toxaphene	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	ND	1500	560	560	ug/Kg
BV90954	TCLP-CD	TCLP Cadmium	CT / INORGANIC SUBSTANCES / GB PMC (mg/l)**	0.051	0.050	0.05	0.05	mg/L
BV90954	TCLP-PB	TCLP Lead	CT / INORGANIC SUBSTANCES / GB PMC (mg/l)**	10.6	0.10	0.15	0.15	mg/L
BV90954	TCLP-PB	TCLP Lead	EPA / 40 CFR 261.24 / Toxicity Characteristics	10.6	0.10	5	5	mg/L

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



# REASONABLE CONFIDENCE PROTOCOL

## LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

**Laboratory Name:** Phoenix Environmental Labs, Inc.

**Client:**

**Project Location:** FAIRFIELD RECLAMATION YARD

**Project Number:**

**Laboratory Sample ID(s):** BV90953, BV90954

**Sampling Date(s):** 11/29/2016

**List RCP Methods Used (e.g., 8260, 8270, et cetera)** 1311/1312, 6010, 7470/7471, 8081, 8082, 8260, 8270, ETPH

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1A	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1B	<u>VPH and EPH methods only:</u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
2	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Section: SVOA Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	a) Were reporting limits specified or referenced on the chain-of-custody?  b) Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Ethan Lee Position: Project Manager

Printed Name: Ethan Lee Date: Thursday, December 08, 2016

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# RCP Certification Report

December 08, 2016

SDG I.D.: GBV90953

### SDG Comments

BV90954 - Sample(s) required a dilution for Pesticides due to the presence of PCBs in the sample. This resulted in elevated reporting limits that exceed the requested criteria for one or more analytes.

### ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

AU-FID1 11/30/16-2 Jeff Bucko, Chemist 11/30/16

BV90953, BV90954

The initial calibration (ETPHN09I) RSD for the compound list was less than 30% except for the following compounds: None.  
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

#### QC (Batch Specific):

Batch 368197 (BV91000)

BV90953, BV90954

All LCS recoveries were within 60 - 120 with the following exceptions: None.

### Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

#### Instrument:

MERLIN 11/30/16 09:59 Rick Schweitzer, Chemist 11/30/16

BV90953, BV90954

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.  
The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

#### QC (Batch Specific):

Batch 368267 (BV91708)

BV90953, BV90954

All LCS recoveries were within 70 - 130 with the following exceptions: None.

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

### ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

#### Instrument:



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
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## Certification Report

December 08, 2016

SDG I.D.: GBV90953

### ICP Metals Narration

**ARCOS 11/30/16 09:36** Laura Kinnin, Tina Hall, Chemist 11/30/16

BV90953, BV90954

The linear range is defined daily by the calibration range.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

**ARCOS 12/03/16 08:49** Laura Kinnin, Tina Hall, Chemist 12/03/16

BV90954

The linear range is defined daily by the calibration range.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

### QC (Batch Specific):

**Batch 368127 (BV90908)**

BV90953, BV90954

All LCS recoveries were within 75 - 125 with the following exceptions: None.

### PCB Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

### Instrument:

**AU-ECD1 12/01/16-1** Adam Werner, Chemist 12/01/16

BV90954

The initial calibration (PC1128AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC1128BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

**AU-ECD29 11/30/16-1** Adam Werner, Chemist 11/30/16

BV90953

The initial calibration (PC1128AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC1128BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

### QC (Batch Specific):

**Batch 368196 (BV91158)**

BV90953, BV90954

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

### PEST Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

December 08, 2016

SDG I.D.: GBV90953

### PEST Narration

#### Instrument:

AU-ECD13 11/30/16-1 Carol Eddy, Chemist 11/30/16

BV90954

8081 Narration:

Endrin and DDT breakdown was evaluated and does not exceed 15%.

The initial calibration (PSN23AI) RSD for the compound list was less than 20% except for the following compounds: None. The initial calibration (PSN23BI) RSD for the compound list was less than 20% except for the following compounds: None. The continuing calibration %D for the compound list was less than 15% except for the following compounds:

Samples: BV90953

Preceding CC N30A047 - Endrin Ketone 17%H (15%), Methoxychlor 21%H (15%)  
Succeeding CC N30A059 - Methoxychlor 20%H (15%)

Samples: BV90954

Preceding CC N30A059 - Methoxychlor 20%H (15%)  
Succeeding CC - None.

AU-ECD13 12/01/16-1 Carol Eddy, Chemist 12/01/16

BV90954

8081 Narration:

Endrin and DDT breakdown was evaluated and does not exceed 15%.

The initial calibration (PSN23AI) RSD for the compound list was less than 20% except for the following compounds: None. The initial calibration (PSN23BI) RSD for the compound list was less than 20% except for the following compounds: None. The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

#### QC (Batch Specific):

##### Batch 368063 (BV90691)

BV90953, BV90954

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Alpha and gamma chlordane were spiked and analyzed instead of technical chlordane. Gamma chlordane recovery is reported as chlordane in the LCS, LCSD, MS and MSD.

### SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 368061 (Samples: BV90953, BV90954): -----

The QC recoveries for one or more analytes are below method criteria. A low bias is possible. (Benzidine, Benzoic Acid)

The LCS and/or the LCSD recovery is below the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (2,4-Dinitrophenol, Pyridine)

#### Instrument:

CHEM25 11/30/16-1 Damien Drobinski, Chemist 11/30/16

BV90953, BV90954



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### SVOA Narration

Initial Calibration Verification (CHEM25/SV\_1122):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: 4,6-Dinitro-2-methylphenol 25% (20%)

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM25/1129\_33-SV\_1122):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

### QC (Batch Specific):

#### Batch 368061 (BV90691)

BV90953, BV90954

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(14%), Benzidine(11%), Benzoic Acid(<10%), Pyridine(27%)

LCSD and MSD not reported for this batch.

### VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

#### CHEM18 11/29/16-2

Jane Li, Chemist 11/29/16

BV90953, BV90954

Initial Calibration Verification (CHEM18/VT-M1128):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone 29% (20%)

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM18/1129M05-VT-M1128):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

#### CHEM26 11/30/16-1

Jane Li, Chemist 11/30/16

BV90953, BV90954

Initial Calibration Verification (CHEM26/VT-1118):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.



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### VOA Narration

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM26/1130\_02-VT-1118):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

99% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

### QC (Batch Specific):

#### Batch 368285 (BV91132)

BV90953, BV90954

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

#### Batch 368484 (BV91663)

BV90953, BV90954

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

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### Temperature Narration

The samples were received at 1C with cooling initiated.

(Note acceptance criteria is above freezing up to 6°C)

