



THUNDERBIRD ENVIRONMENTAL, LLC

January 22, 2020

Town of Westport
Department of Public Works
110 Myrtle Avenue
Westport, CT 06880

Attn: Mr. Peter Ratkiewich

RE: Soil Management Options Evaluation Report
21 Imperial Avenue
Westport, Connecticut

Dear Mr. Ratkiewich:

At your request, Thunderbird Environmental, LLC (Thunderbird) has prepared this letter to summarize the results of recent supplemental soil sampling and analysis, and to present soil management options associated with stockpiled soil currently located at the Westport Senior Center property. The Westport Senior Center property is located at 21 Imperial Avenue in Westport, Connecticut (herein referred to as “the Site”). A summary of background information, supplemental soil sampling, a summary of soil re-use options and conclusions and recommendations are discussed below.

1. Background and Purpose

Based on the available information, approximately 5,000 cubic yards of excess soil was generated at the Site in 2018 during construction of an addition to the Senior Center building and expansion of the existing paved parking lot. Excess soil generated during these activities was stockpiled on the south-central portion of the Site, pending off-site re-use and/or disposal. The stockpiled soil was initially sampled in May 2019 via excavation of four test pits (TP-1 through TP-4). Soil samples were collected from each test pit and analyzed for potential constituents of concern (COCs) in an effort to evaluate the material for appropriate reuse and/or offsite disposal. Based on the May 2019 sampling results, trace concentrations of pesticides, toluene, polycyclic aromatic hydrocarbons (PAHs), and metals (including arsenic) were reported in the samples. As shown in **Table 1**, arsenic was reported in one of the soil samples (TP-4) at an elevated concentration of 13 milligrams per kilogram (mg/kg). The purpose of the supplemental soil sampling and analysis described herein was to further evaluate potential soil re-use options at the Site and at two optional off-site locations.

The Site is not currently enrolled in any Connecticut Department of Energy and Environmental Protection (DEEP) regulatory programs, nor is it the subject of a DEEP Consent Order or other regulatory instrument.

As such, the DEEP's Remediation Standard Regulations (RSRs) do not strictly apply to the Site, by regulation. However, the RSRs do contain the most widely used and readily accepted set of soil and groundwater criteria in Connecticut, as well as a provisions and requirements for Re-use of Polluted Soil. As such, the RSRs are used for data comparison purposes in this evaluation of soil reuse options for the stockpiled soil at the Site. The Site and the potential off-site reuse properties are included as **Figure 1**. As shown in **Table 1**, with the exception of arsenic, each of the COCs identified in the stockpiled soil in May 2019 were reported at concentrations below their respective Residential Direct Exposure Criteria (RDEC) numerical threshold values. Based on the available historical site information, the Site was previously used for gardening activities that occurred on the property from circa 1940 through 1983. Although historical gardening activities could be related to the trace concentrations of pesticides reported in the stockpiled soil, a statistical analysis of soil data suggests that reported concentrations of arsenic in this material may be associated with naturally occurring metals in soil at the Site. Additional historical site data and additional soil data from other areas of the Site (outside the stockpiled material area) would be needed to confirm whether the reported levels of arsenic in the stockpiled soil can be generally attributed to naturally occurring background concentrations of arsenic, or whether the reported concentrations of arsenic is associated with an anthropogenic release. A presentation of the statistical analysis, including the box and whisker plot, is included as **Attachment A**.

2. Supplemental Sampling of Stockpiled Soil

On December 13, 2019, Thunderbird oversaw the excavation of four (4) additional test pits (TP-5 through TP-8) within the stockpiled soil area at the Site. Test pits were excavated to depths of 4 to 5.5 feet below the top of the soil stockpile. Four (4) composite soil samples were collected from each test pit for a total of 16 samples (TP-5A through TP-8D) and each soil sample was screened in the field for the presence of volatile organic compounds (VOCs) with a photoionization detector (PID) calibrated to 100 parts per million by volume (ppmv) isobutylene standard. PID readings ranged from 0.1 ppmv to 1.2 ppmv.

Following sample collection, the samples were submitted to Phoenix Environmental Laboratory (Phoenix) in Manchester, CT for laboratory analysis of total arsenic by Environmental Protection Agency (EPA) Method 6010 and 4 samples (TP-5A, TP-6A, TP-7A and TP-8A) were submitted for analysis of total pesticides by EPA Method 8081. As shown in **Table 1**, arsenic was reported at concentrations above laboratory detection limits in each of the 16 soil samples at concentrations ranging from 6.12 to 13.9 mg/kg. Trace concentrations of pesticides were reported in in soil samples TP-5A and TP-7A.

Soil samples TP-5A and TP-5C were subsequently analyzed for leachable pesticides and leachable arsenic via the Synthetic Precipitation Leaching Procedure (SPLP). SPLP pesticides were not reported above laboratory detection limits in sample TP-5A. SPLP arsenic was reported at a concentration of 5 micrograms

per liter ($\mu\text{g/L}$). **The results of the SPLP analysis indicate that the leachability potential for pesticides and arsenic in stockpiled soil at the Site are below their respective GA PMC.**

In order to evaluate the distribution of arsenic concentrations in stockpiled soil at the Site and demonstrate that the reported concentrations are associated with naturally occurring background levels, Thunderbird oversaw the advancement of two additional test pits (TP-9 and TP-10) within the stockpiled soil area. Each test pit was advanced via excavator to depths of 4 feet to 5 feet below the top of the pile. A total of 10 composite soil samples (TP-9A through TP-10D) were collected from each test pit and submitted to Phoenix for laboratory analysis of total arsenic. As shown in **Table 1**, arsenic was reported in each sample at concentrations ranging from 7.7 to 17.5 mg/kg.

Test pit and soil sampling locations within the on-site soil stockpile are depicted on **Figure 2**. A summary of the laboratory analytical results is included in **Table 1** and copies of the laboratory analytical reports are provided as **Attachment B**.

3. Baseline Soil Sampling at Prospective Re-Use Sites

In order to evaluate the potential for re-use of polluted soil at offsite properties, soil sampling for identified COCs was conducted at two potential off-site locations, including: 1) a wooded area south of the United States Post Office building located at 4 Post Office Lane in Westport, CT (herein referred to as the Post Office property); and 2) a vacant area to the west of the Green Farms Train Station parking lot in Westport, CT (herein referred to as the Parking Lot property). A summary of baseline soil sampling at each proposed re-use location is discussed below.

3.1 Baseline Sampling at the Parking Lot Property

On December 13, 2019, Thunderbird advanced six (6) soil borings via a hand auger to depths of 2 feet below ground surface (ft bgs) at the Parking Lot property. A total of six (6) soil samples (one from each boring) were collected (identified as PL-1 through PL-6) from the Parking Lot property. Each sample was screened in the field with a PID for the presence of VOCs.

Three of the six soil samples (PL-1, PL-3 and PL-5) were submitted to Phoenix for laboratory analysis of aromatic VOCs, PAHs, pesticides and Priority Pollutant 13 metals. As shown in **Table 2**, PAHs, metals and pesticides were reported in the Parking Lot property samples. Although VOCs were not reported in any of the Parking Lot property soil samples, Thunderbird confirmed with the DEEP that the absence of toluene in the Parking Lot property samples would not preclude reuse of the stockpiled soil at this offsite location, since only a trace concentration of one VOC (toluene) was reported in the stockpiled soil.

The Parking Lot property soil boring and sampling locations are depicted on **Figure 3**. A summary of the laboratory analytical results is included in **Table 2** and a copy of the laboratory analytical report is provided as **Attachment B**.

3.2 Baseline Sampling at Post Office Property

On December 13, 2019, Thunderbird advanced six (6) soil borings via a hand auger to 2 feet bgs at the Post Office property. A total of six soil samples (one from each boring) were collected from the Post Office property (identified as PO-1 through PO-6). Each soil sample was screened in the field with a PID for the presence of VOCs.

Three of the six soil samples (PO-1, PO-3 and PO-5) were submitted to Phoenix for laboratory analysis of AVOCs, PAHs, pesticides and Priority Pollutant 13 metals. Metals and pesticides were reported at concentrations above laboratory detection limits in samples collected at the Post Office property. Since PAHs were not reported above method detection limits, and additional arsenic data was determined to be needed, the remaining samples (PO-2, PO-4 and PO-6) were analyzed for PAHs and arsenic. As shown in **Table 3**, PAHs and arsenic were reported in these samples at concentrations below their respective RDEC numerical threshold values.

Although VOCs were not reported in any of the Post Office property soil samples, Thunderbird confirmed with the DEEP that the absence of toluene in the Parking Lot property samples would not preclude reuse of the stockpiled soil at this off-site location, since only a trace concentration of one VOC (toluene) was reported in the stockpiled soil.

The Post Office property soil boring and sampling locations are depicted on Figure 4. A summary of the laboratory analytical results is included in **Table 3** and a copy of the laboratory analytical report is provided as **Attachment B**.

4. Soil Re-Use Options

Pursuant to Section 22a-133k-2(h)(3) of the DEEP RSRs, polluted soil from a release area may be treated to achieve concentrations of substances that do not exceed either the applicable direct exposure criteria or pollutant mobility criteria. After such treatment, such soil may be reused on the parcel from which it was excavated or on another parcel approved by the Commissioner, provided that such reuse is consistent with all other provisions of Sections 22a-133k-1 through 22a-133k-3, inclusive, of the Regulations of Connecticut State Agencies and:

- (A) Prior to reuse, a map showing the location and depth of proposed placement of such soil is submitted to the Commissioner;
- (B) Such soil is not placed below the water table;
- (C) Such soil is not placed in an area subject to erosion;
- (D) Any such soil in which the concentration of any substance exceeds the pollutant mobility criteria applicable to a GA area is not placed over soil and ground water which have not been affected by a release at the parcel at which placement is proposed; and

- (E) For soils polluted with PCB, the Commissioner has issued a written approval in accordance with Section 22a-467 of the General Statutes.

Based on the supplemental and baseline soil sampling results, an evaluation of potential reuse options is discussed below.

4.1 Soil Re-Used at the Site

Based on a review of the May 2019 and December 2019 soil analytical results, arsenic concentrations are above the R-DEC and I/C-DEC in 14 samples. However, metals, particularly arsenic, are naturally occurring in New England soils and their presence is not always indicative of a release or considered an imminent threat to human health or the environment. Therefore, Thunderbird performed a statistical analysis of the reported arsenic concentrations in order to determine if a release of arsenic has occurred at the Site.

After determining that the analytical results for arsenic are normally distributed, a box and whiskers plot was developed to identify numerical outlier, which would typically indicate a release. As depicted in **Attachment A**, the analytical results for arsenic have no statistical outliers, indicating that the arsenic concentrations at the Site of Polluted Soil Origin are likely not indicative of a release at a 94.8% confidence level. While the statistical analysis results do not support a historical release of arsenic at the Site, a comprehensive review of historical site uses has not been conducted and as such, Thunderbird cannot eliminate a potential arsenic source.

However, the option to reuse the soil at the Site of Polluted Origin is feasible, granted the soil is deemed “inaccessible”. Pursuant to Section 22a-133k-1(32), inaccessible soil applies to polluted soil that is: A) located more than four feet below the ground surface; B) located more than two feet below a paved surface comprised of a minimum of three inches of concrete; C) polluted fill beneath a minimum of three inches of concrete; or D) beneath an existing building or beneath another existing permanent structure provided written notice that such structure will be used to prevent human contact with such soil has been provided to the Commissioner.

Given the Town of Westport’s potential plans to redevelop the existing soil stockpile staging area, the inaccessible soil option that requires placing the soil two (2) feet below a paved surface with a minimum of three inches of concrete or placing the soil at least four feet below ground surface appears to be a viable, cost effective, and environmentally suitable option for onsite reuse provided that reuse requirements (A) through (E) of Section 22a-133k-2(h)(3) listed at the beginning of this report section are also followed.

4.2 Soil Re-Used at the Parking Lot Property

The laboratory analytical results collected in December 2019 at the Parking Lot property report soil concentrations of metals, PAHs and pesticides that are consistent with concentrations detected in soil at the Site. However, in order to be protective of human health, given that arsenic is present in the stockpiled soil at concentrations above the RDEC and I/C DEC of 10 mg/kg, if the stockpiled soil is reused at the Parking Lot property, the soil should be placed beneath either 4-feet of clean fill and/or 2-feet of clean fill and 3-inches of asphalt to remain inaccessible. Additionally, a use restriction should be recorded on the land records for the reuse property to document that the present soil contains arsenic at elevated concentrations. The requirements for inaccessible soil are discussed in **Section 4.1**.

Should the polluted soil remain inaccessible, the Parking Lot property appears to be an environmentally suitable location for reuse provided that reuse requirements (A) through (E) of Section 22a-133k-2(h)(3) listed at the beginning of this report section are also followed.

Based on Thunderbird's understanding, the Parking Lot property has the potential for redevelopment into an additional commuter parking area for the Green's Farms Train Station. As such, the inaccessible soil option that requires placing the soil two (2) feet below a paved surface with a minimum of three inches of concrete appears to be a viable, cost effective, and environmentally suitable option for reuse at the Parking Lot property.

4.3 Soil Re-Used at the Post Office Property

Constituents of concern reported in soil at the Post Office Property include metals, PAHs and pesticides. Similar to reuse options proposed at the Parking Lot property, due to the presence of arsenic at concentrations above RDEC and the I/C DEC for arsenic, reuse of the polluted soil at the Post Office property would require that the soil remain inaccessible and that reuse requirements (A) through (E) of Section 22a-133k-2(h)(3) listed at the beginning of this report section are also followed. Additionally, a use restriction should be recorded on the land records for the reuse property documenting that the present soil contains arsenic at elevated concentrations.

Based on Thunderbird's understanding, the Post Office property has the potential to be regraded with clean imported fill; therefore, the inaccessible soil option that requires soil to be placed at least four (4) feet below the ground surface appears to be a viable, cost effective, and environmentally suitable option for reuse at the Post Office property.

5. Conclusions and Recommendations

Thunderbird has conducted an evaluation of the environmental suitability of reusing polluted soil at the Site and/or at two potential Re-Use Sites located in Westport, CT. Based on the analytical results of the soil samples collected in May and December 2019 and January 2020 at the Site, and the known constituents of concern at the potential Re-use Sites, Thunderbird has determined that the polluted soil

is environmentally suitable for reuse at any of the aforementioned sites. However, based on the analytical results from soil collected at the Site, arsenic concentrations are above the R-DEC and I/C-DEC in select samples. As such, Thunderbird recommends the following reuse options:

1) Re-Use of Polluted Soil at the Site

- Since redevelopment of the existing stockpiled soil area is proposed, reusing the soil at the Site would be the most cost-effective option, eliminating the costs associated with offsite transport. To prevent a risk to human health and the environment, the soil should be placed at least two (2) feet below a paved surface with a minimum of three inches of concrete/asphalt for designation as inaccessible soil, and a use restriction should be recorded on the land records for the Site. Based on the findings of a full historical site use review and supplemental sampling of soil outside the stockpiled material area, DEEP Approval for on-site re-use of polluted may not be required.

2) Re-Use of Polluted Soil at the Parking Lot Property

- The Parking Lot Site is an environmentally suitable option for reuse given that the soil is placed at least two (2) feet below a paved surface with a minimum of three inches of concrete/asphalt for designation as inaccessible soil. DEEP approval for reuse of polluted soil at this off-site location would be required.

3) Re-Use of Polluted Soil at the Post Office Property

- The Post Office Site is an environmentally suitable option for reuse given that the soil is placed at least four (4) feet below the ground surface and beneath clean fill material for designation as inaccessible soil. DEEP approval for reuse of polluted soil at the Post Office Property would be required.

4) Re-Use of Polluted Soil at Multiple Re-Use Sites

- Given the amount of soil proposed for reuse, approximately 5,000 cubic yards, reuse of the entire stockpile may not be possible in one location. As presented above, the soil is environmentally suitable for reuse at the Site, the Parking Lot property and the Post Office property, assuming the inaccessible soil restrictions for each site are met. Additionally, separate Requests to Re-Use Polluted Soil will need to be prepared and submitted to DEEP if the multiple reuse site option is selected. DEEP approval for reuse of polluted soil at multiple off-site locations would be required.

5) Disposal at an Approved Off-Site Disposal Facility

- Disposal at an approved off-site disposal facility is one option that will always be available. Various permitted facilities that could accept the excess soil are located throughout New England, New York, and New Jersey. Based on the volume of soil to be transported and disposed (approximately 5,000 cubic yards), the available soil data, and pricing obtained for other recent similar projects, the cost associated with transportation and off-site disposal at a treatment/disposal facility is estimated to range between \$225,000 and \$500,000. Additional sampling and analysis would be needed to obtain pre-approval from disposal facilities.

6. Limitations

This Report is solely for the use of the “addressee.” Thunderbird will accept no liability or responsibility to any person or entity other than those to whom the Report is addressed. This Report must not be made available or copied in whole or in part to any other person without Thunderbird’s written permission. This report cannot be relied upon by anyone other than the addressee without the expressed consent of Thunderbird Environmental, LLC.

In rendering a professional opinion, we warrant that services provided hereunder were performed within the limits described and were consistent with current generally accepted environmental consulting principles and practices. No other warranty, expressed or implied, is made. The limited scope for which we were asked to perform is not thorough enough to exclude the potential presence of hazardous materials at the Site. If hazardous conditions have not been identified during the defined scope of work, such a finding should not therefore be construed as a guarantee of the absence of such materials on the Site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

Any opinions or recommendations presented apply to site conditions existing when services were performed within the limited defined scope of services. We are unable to report on or accurately predict events that may change the site conditions after the described services are performed, whether occurring naturally or caused by external forces. We assume no responsibility for conditions we were not authorized to investigate, or conditions not generally recognized as environmentally unacceptable when services were performed.

We appreciate the opportunity to assist with this project. Upon your review, if you have any questions or comments regarding the items or attachments presented herein, please do not hesitate to contact me directly at 860.575.4898.

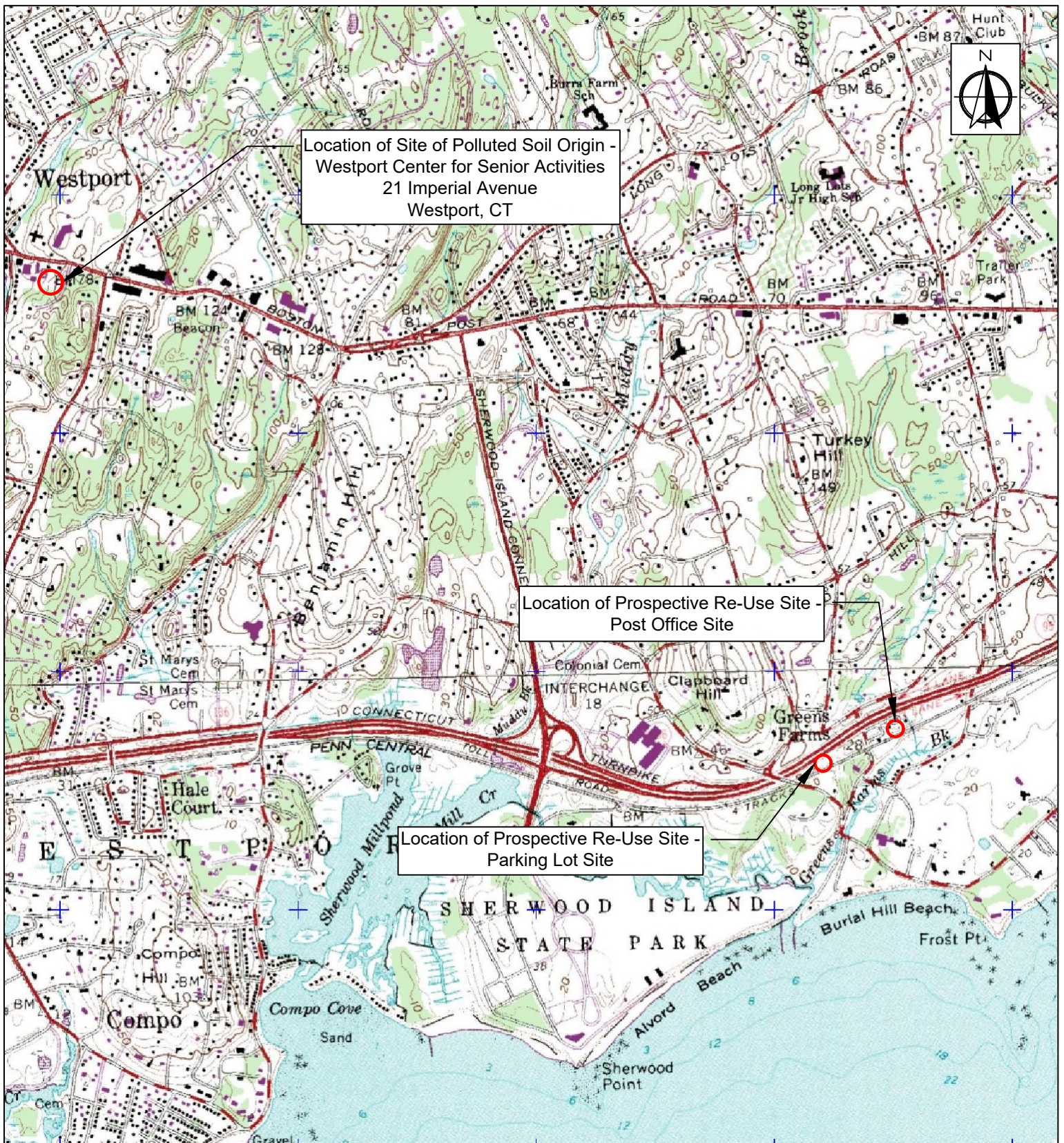
Sincerely,

THUNDERBIRD ENVIRONMENTAL, LLC

A handwritten signature in black ink that reads "Darby W. Hittle". The signature is written in a cursive, flowing style.

Darby W. Hittle, L.E.P.

FIGURES



<p>THUNDERBIRD ENVIRONMENTAL</p> <p>14 Leffingwell Road Clinton, Connecticut 06413 ph: (860) 227-4714 web: tbirdenv.com</p>	<p>Site Location: Westport, CT 06880</p>	<p>Topographic Map Source</p> <p>State: Connecticut</p> <p>USGS 7.5' Quadrangle: Westport</p>
<p>FIGURE 1 Site Location Map</p>	<p>Project Number: 2019_096</p>	<p>Year: 1971</p> <p>Scale: 1:24000</p>



Legend

- Test Pit Location
- - - Approximate Location of Fill Pile and Test Pits

Notes:
 Four composites samples were collected from TP-5, TP-6, TP-7, and TP-8 (ex TP-5A, TP-5B, TP-5C, TP-5D...). Five composite samples were collected from TP-9 and TP-10 (ex TP-9A, TP-9B, TP-9C, TP-9D, TP-9E...).



THUNDERBIRD ENVIRONMENTAL, LLC
 14 Leffingwell Road
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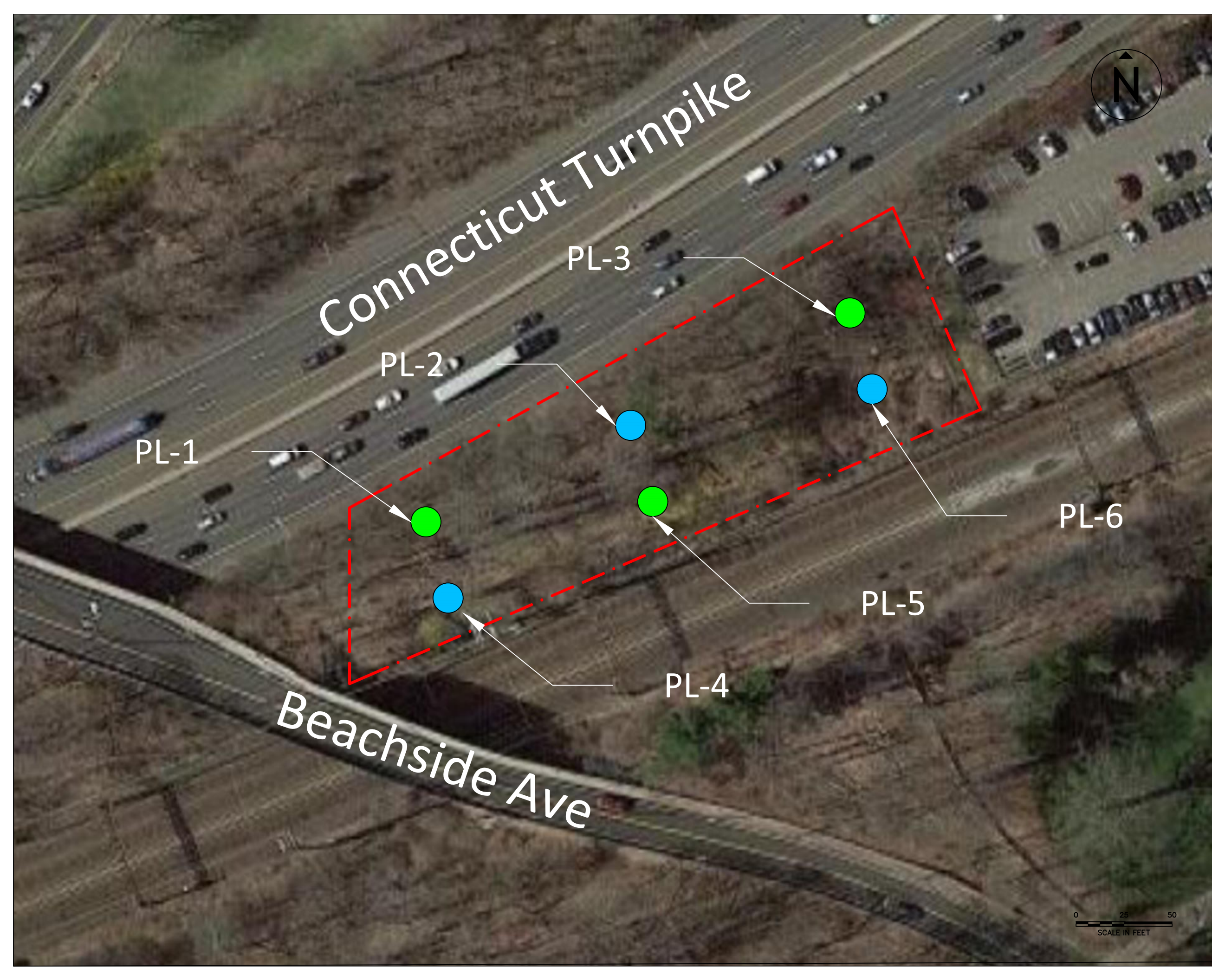
Site Plan Showing Sampling Locations at Site of Polluted Soil Origin

Site Address:
Westport Center for Senior Activities
 21 Imperial Avenue
 Westport, CT

Project Number: 2019_096	Drawn By: CR
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Date: 1/9/2020	Scale: As Shown
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FIGURE 2



Legend

- - - Proposed Re-Use Area
- PL-1 ● Soil Analytical Sample Location
- PL-2 ● Soil Boring Location

Notes:

THUNDERBIRD ENVIRONMENTAL, LLC
 14 Leffingwell Road
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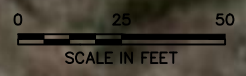
Site Plan Showing Sample Locations at Site of Prospective Soil Re-Use - Parking Lot Site

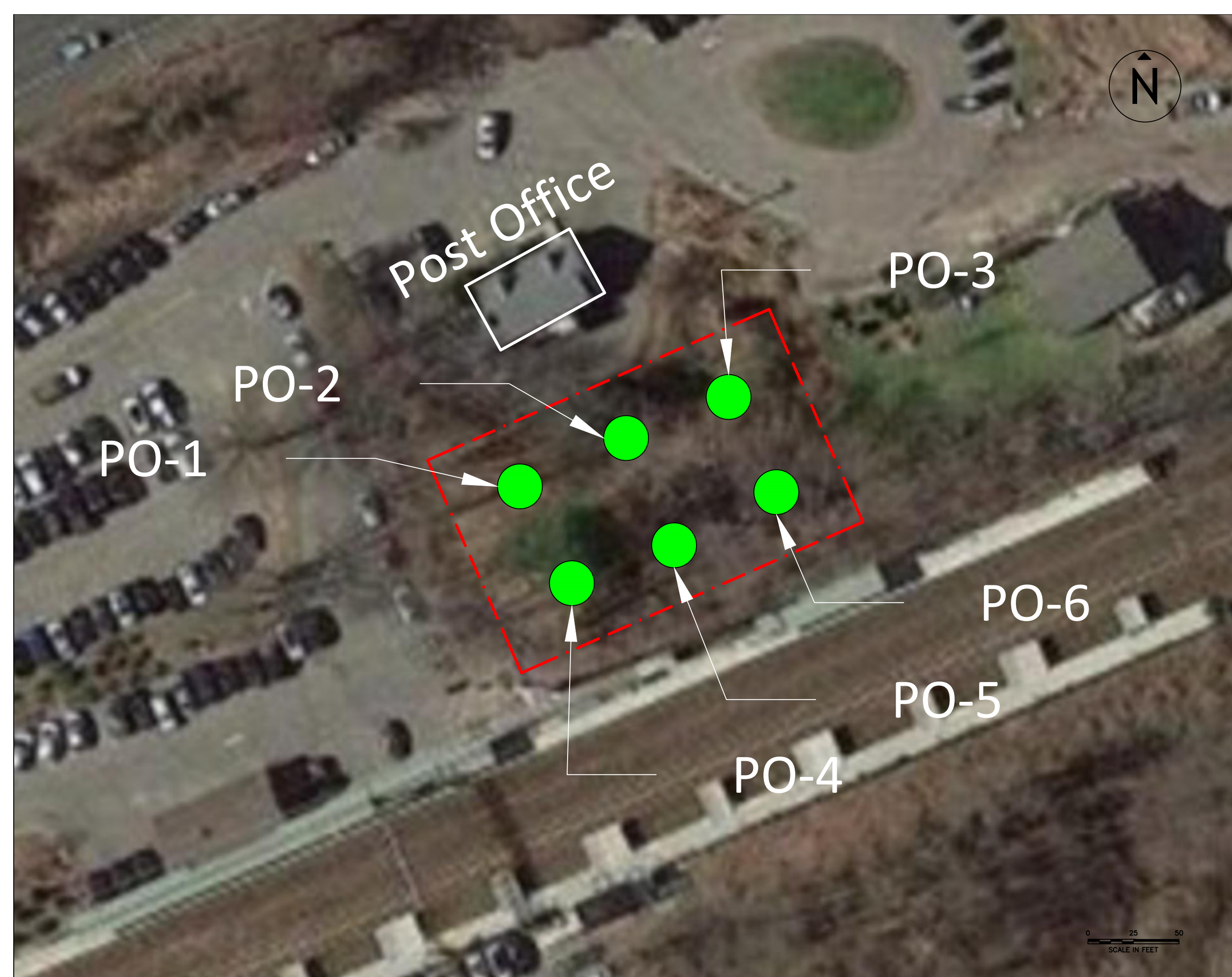
Site Address:
 Westport, CT

Project Number: 2019_096	Drawn By: CR
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Date: 1/10/2020	Scale: As Shown
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FIGURE 3





Legend

--- Proposed Re-Use Area

PO-1 ● Soil Analytical Sample Location

Notes:

THUNDERBIRD ENVIRONMENTAL, LLC

14 Leffingwell Road
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Site Plan Showing Sample Locations at Site of Prospective Soil Re-Use - Post Office Site

Site Address:
 Westport, CT

Project Number: 2019_096	Drawn By: CR
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Date: 1/10/2020	Scale: As Shown
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FIGURE 4

TABLES

Table 1
Summary of Soil Analytical Results
Westport Center for Senior Activities
21 Imperial Avenue
Westport, CT

Parameter	RES DEC	I/C DEC	GA PMC										
Sample I.D.				TP-1	TP-2	TP-3	TP-4	TP-5A	TP-5B	TP-5C	TP-5D	TP-6A	TP-6B
Sampling Date				5/6/2019	5/6/2019	5/6/2019	5/6/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Sample Depth (feet)				(0-7)	(0-7)	(0-7)	(0-7)	(0-5.5)	(0-5.5)	(0-5.5)	(0-5.5)	(0-4)	(0-4)
Extractable Total Petroleum Hydrocarbons (mg/kg)													
ETPH	500	2,500	500	ND < 59	ND < 58	ND < 60	ND < 59	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls (PCBs)													
Various PCBs	1	10	NE	ND < 0.12	ND < 0.12	ND < 0.12	ND < 0.12	NA	NA	NA	NA	NA	NA
Total Metals (mg/kg)													
Arsenic	10	10	NE	6.8	7.0	8.7	13	13.7	13.4	13.9	11.0	12.0	11.2
Beryllium	2	2	NE	ND < 1.1	ND < 1.2	ND < 1.2	ND < 1.2	NA	NA	NA	NA	NA	NA
Cadmium	34	1,000	NE	ND < 0.55	ND < 0.58	ND < 0.60	ND < 0.60	NA	NA	NA	NA	NA	NA
Chromium	100	100	NE	21	23	28	27	NA	NA	NA	NA	NA	NA
Copper	2,500	76,000	NE	14	13	17	18	NA	NA	NA	NA	NA	NA
Lead	400	1,000	NE	38	32	56	50	NA	NA	NA	NA	NA	NA
Mercury	20	610	NE	ND < 0.14	ND < 0.15	ND < 0.16	ND < 0.15	NA	NA	NA	NA	NA	NA
Nickel	1,400	7,500	NE	12	13	14	13	NA	NA	NA	NA	NA	NA
Selenium	340	10,000	NE	1.5	1.9	2.2	2.0	NA	NA	NA	NA	NA	NA
Zinc	20,000	610,000	NE	53	52	64	61	NA	NA	NA	NA	NA	NA
SPLP Metals (mg/l)													
Arsenic	NE	NE	0.05	NA	NA	NA	NA	NA	NA	0.005	NA	NA	NA
Pesticides (µg/kg)													
4,4' -DDD	1,800*	17,000*	3*	ND < 5.9	ND < 5.8	19	35	61	NA	NA	NA	ND < 40	NA
4,4' -DDE	1,800*	17,000*	3*	11	11	35	66	40	NA	NA	NA	ND < 65	NA
4,4' -DDT	1,800*	17,000*	3*	13	23	57	61	740	NA	NA	NA	ND < 35	NA
Chlordane	490	2,200	66	ND < 35	ND < 35	ND < 36	ND < 35	57	NA	NA	NA	ND < 76	NA
Heptachlor epoxide	67	630	20	ND < 5.9	ND < 5.8	ND < 6.0	ND < 5.9	ND < 7.6	NA	NA	NA	ND < 19	NA
SPLP Pesticides (µg/kg)													
Various	VARIOUS	VARIOUS	VARIOUS	NA	NA	NA	NA	ND < 0.19	NA	NA	NA	NA	NA
Aromatic Volative Organic Compounds (µg/kg)													
Toluene	500,000	1,000,000	20,000	ND < 3.2	ND < 3.2	6.2	33	NA	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons (µg/kg)													
Benzo(a)anthracene	1,000	7,800	1,000	ND < 350	ND < 350	430	ND < 350	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1,000	1,000	1,000	ND < 350	ND < 350	390	ND < 350	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1,000	7,800	1,000	ND < 350	ND < 350	470	ND < 350	NA	NA	NA	NA	NA	NA
Chrysene	84,000*	780,000*	1,000*	ND < 350	ND < 350	400	ND < 350	NA	NA	NA	NA	NA	NA
Fluoranthene	1,000,000	2,500,000	5,600	ND < 350	450	840	700	NA	NA	NA	NA	NA	NA
Pyrene	1,000,000	2,500,000	4,000	ND < 350	480	730	630	NA	NA	NA	NA	NA	NA
Notes:													
1. RES DEC = Residential Direct Exposure Criteria													
2. I/C DEC = Industrial/Commercial Direct Exposure Criteria													
3. GA PMC = GA Pollutant Mobility Criteria													
4. mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, per liter, mg/l = milligrams per liter													
5. NA = Not Analyzed													
6. NE = No Established Criteria													
7. ND = Not Detected above Laboratory Reporting Limit													
8. Bolded values indicate parameter detected at concentration above the Laboratory Reporting Limit (RL)													
9. Shaded values indicate exceedance of applicable RSR Criteria													
10. * = CTDEEP approval required for use of Additional Polluting Substance (APS) Criteria													

Table 1
Summary of Soil Analytical Results
Westport Center for Senior Activities
21 Imperial Avenue
Westport, CT

Parameter	RES DEC	I/C DEC	GA PMC										
Sample I.D.				TP-6C	TP-6D	TP-7A	TP-7B	TP-7C	TP-7D	TP-8A	TP-8B	TP-8C	TP-8D
Sampling Date				12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Sample Depth (feet)				(0-4)	(0-4)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)
Extractable Total Petroleum Hydrocarbons (mg/kg)													
ETPH	500	2,500	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls (PCBs)													
Various PCBs	1	10	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Metals (mg/kg)													
Arsenic	10	10	NE	12.0	11.0	6.12	7.75	7.68	7.60	7.86	10.0	9.34	8.88
Beryllium	2	2	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	34	1,000	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	100	100	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	2,500	76,000	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	400	1,000	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	20	610	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	1,400	7,500	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	340	10,000	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	20,000	610,000	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SPLP Metals (mg/l)													
Arsenic	NE	NE	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (µg/kg)													
4,4' -DDD	1,800*	17,000*	3*	NA	NA	15	NA	NA	NA	ND < 1.5	NA	NA	NA
4,4' -DDE	1,800*	17,000*	3*	NA	NA	29	NA	NA	NA	ND < 11	NA	NA	NA
4,4' -DDT	1,800*	17,000*	3*	NA	NA	14	NA	NA	NA	ND < 8	NA	NA	NA
Chlordane	490	2,200	66	NA	NA	60	NA	NA	NA	ND < 37	NA	NA	NA
Heptachlor epoxide	67	630	20	NA	NA	ND < 7.1	NA	NA	NA	ND < 7.5	NA	NA	NA
SPLP Pesticides (µg/kg)													
Various	VARIOUS	VARIOUS	VARIOUS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aromatic Volative Organic Compounds (µg/kg)													
Toluene	500,000	1,000,000	20,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons (µg/kg)													
Benzo(a)anthracene	1,000	7,800	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1,000	1,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1,000	7,800	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	84,000*	780,000*	1,000*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,000,000	2,500,000	5,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,000,000	2,500,000	4,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Notes:													
1. RES DEC = Residential Direct Exposure Criteria													
2. I/C DEC = Industrial/Commercial Direct Exposure Criteria													
3. GA PMC = GA Pollutant Mobility Criteria													
4. mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, per liter, mg/l = milligrams per liter													
5. NA = Not Analyzed													
6. NE = No Established Criteria													
7. ND = Not Detected above Laboratory Reporting Limit													
8. Bolded values indicate parameter detected at concentration above the Laboratory Reporting Limit (RL)													
9. Shaded values indicate exceedance of applicable RSR Criteria													
10. * = CTDEEP approval required for use of Additional Polluting Substance (APS) Criteria													

Table 1
Summary of Soil Analytical Results
Westport Center for Senior Activities
21 Imperial Avenue
Westport, CT

Parameter	RES DEC	I/C DEC	GA PMC											
				TP-9A	TP-9B	TP-9C	TP-9D	TP-9E	TP-10A	TP-10B	TP-10C	TP-10D	TP-10E	
Sample I.D.														
Sampling Date				1/3/2020	1/3/2020	1/3/2020	1/3/2020	1/3/2020	1/3/2020	1/3/2020	1/3/2020	1/3/2020	1/3/2020	1/3/2020
Sample Depth (feet)				(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)
Extractable Total Petroleum Hydrocarbons (mg/kg)														
ETPH	500	2,500	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls (PCBs)														
Various PCBs	1	10	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Metals (mg/kg)														
Arsenic	10	10	NE	17.5	14.1	14.1	13.9	9.54	8.09	10.6	8.67	8.96	7.7	
Beryllium	2	2	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	34	1,000	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	100	100	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	2,500	76,000	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	400	1,000	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	20	610	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	1,400	7,500	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	340	10,000	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	20,000	610,000	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SPLP Metals (mg/l)														
Arsenic	NE	NE	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (µg/kg)														
4,4' -DDD	1,800*	17,000*	3*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4' -DDE	1,800*	17,000*	3*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4' -DDT	1,800*	17,000*	3*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	490	2,200	66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	67	630	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SPLP Pesticides (µg/kg)														
Various	VARIOUS	VARIOUS	VARIOUS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aromatic Volatile Organic Compounds (µg/kg)														
Toluene	500,000	1,000,000	20,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons (µg/kg)														
Benzo(a)anthracene	1,000	7,800	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1,000	1,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1,000	7,800	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	84,000*	780,000*	1,000*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,000,000	2,500,000	5,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,000,000	2,500,000	4,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Notes:														
1. RES DEC = Residential Direct Exposure Criteria														
2. I/C DEC = Industrial/Commercial Direct Exposure Criteria														
3. GA PMC = GA Pollutant Mobility Criteria														
4. mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, per liter, mg/l = milligrams per liter														
5. NA = Not Analyzed														
6. NE = No Established Criteria														
7. ND = Not Detected above Laboratory Reporting Limit														
8. Bolded values indicate parameter detected at concentration above the Laboratory Reporting Limit (RL)														
9. Shaded values indicate exceedance of applicable RSR Criteria														
10. * = CTDEEP approval required for use of Additional Polluting Substance (APS) Criteria														

Table 2
Summary of Soil Analytical Results
Parking Lot Site
Westport, CT

Parameter	RES DEC	I/C DEC	GA PMC			
Sample I.D.				PL-1	PL-3	PL-5
Sampling Date				12/13/2019	12/13/2019	12/13/2019
Sample Depth (feet)				(0-2)	(0-2)	(0-2)
Extractable Total Petroleum Hydrocarbons (mg/kg)						
ETPH	500	2,500	500	NA	NA	NA
Polychlorinated Biphenyls (PCBs)						
Various PCBs	1	10	NE	NA	NA	NA
Total Metals (mg/kg)						
Arsenic	10	10	NE	10.5	21.8	1.77
Beryllium	2	2	NE	0.63	0.83	ND < 0.26
Cadmium	34	1,000	NE	0.63	0.54	0.33
Chromium	100	100	NE	21.8	23.5	11.5
Copper	2,500	76,000	NE	33.0	26.6	17.7
Lead	400	1,000	NE	172	189	20.7
Mercury	20	610	NE	0.19	0.13	ND < 0.06
Nickel	1,400	7,500	NE	16.4	14.3	7
Selenium	340	10,000	NE	ND < 1.8	ND < 1.5	ND < 1.3
Zinc	20,000	610,000	NE	82.0	143	41
SPLP Metals (mg/l)						
Arsenic	NE	NE	0.05	NA	NA	NA
Pesticides (µg/kg)						
4,4' -DDD	1,800*	17,000*	3*	12	ND < 50	ND < 1.4
4,4' -DDE	1,800*	17,000*	3*	18	ND < 150	ND < 6.0
4,4' -DDT	1,800*	17,000*	3*	23	ND < 400	ND < 17
Chlordane	490	2,200	66	ND < 47	ND < 76	ND < 34
Heptachlor epoxide	67	630	20	ND < 9.3	ND < 19	ND < 6.8
SPLP Pesticides (µg/kg)						
Various	VARIOUS	VARIOUS	VARIOUS	NA	NA	NA
Aromatic Volative Organic Compounds (µg/kg)						
Toluene	500,000	1,000,000	20,000	ND < 9.5	ND < 6.0	ND < 4.8
Polynuclear Aromatic Hydrocarbons (µg/kg)						
Benzo(a)anthracene	1,000	7,800	1,000	ND < 330	ND < 270	ND < 240
Benzo(a)pyrene	1,000	1,000	1,000	ND < 330	ND < 270	ND < 240
Benzo(b)fluoranthene	1,000	7,800	1,000	ND < 330	ND < 270	ND < 240
Chrysene	84,000*	780,000*	1,000*	ND < 330	ND < 270	ND < 240
Fluoranthene	1,000,000	2,500,000	5,600	380	ND < 270	ND < 240
Pyrene	1,000,000	2,500,000	4,000	340	ND < 270	ND < 240
Notes:						
1. RES DEC = Residential Direct Exposure Criteria						
2. I/C DEC = Industrial/Commercial Direct Exposure Criteria						
3. GA PMC = GA Pollutant Mobility Criteria						
4. mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, per liter, mg/l = milligrams per liter						
5. NA = Not Analyzed						
6. NE = No Established Criteria						
7. ND = Not Detected above Laboratory Reporting Limit						
8. Bolded values indicate parameter detected at concentration above the Laboratory Reporting Limit (RL)						
9. Shaded values indicate exceedance of applicable RSR Criteria						
10. * = CTDEEP approval required for use of Additional Polluting Substance (APS) Criteria						

Table 3
Summary of Soil Analytical Results
Post Office Site
Westport, CT

Parameter	RES DEC	I/C DEC	GA PMC						
				PO-1	PO-2	PO-3	PO-4	PO-5	PO-6
Sample I.D.									
Sampling Date				12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Sample Depth (feet)				(0-2)	(0-2)	(0-2)	(0-2)	(0-2)	(0-2)
Extractable Total Petroleum Hydrocarbons (mg/kg)									
ETPH	500	2,500	500	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls (PCBs)									
Various PCBs	1	10	NE	NA	NA	NA	NA	NA	NA
Total Metals (mg/kg)									
Arsenic	10	10	NE	5.86	6.85	6.02	5.81	6.88	5.95
Beryllium	2	2	NE	0.84	NA	0.96	NA	0.84	NA
Cadmium	34	1,000	NE	0.45	NA	ND < 0.44	NA	0.42	NA
Chromium	100	100	NE	23.6	NA	23.1	NA	20.4	NA
Copper	2,500	76,000	NE	25.9	NA	19.8	NA	35.7	NA
Lead	400	1,000	NE	49.1	NA	31.2	NA	34.1	NA
Mercury	20	610	NE	ND < 0.08	NA	ND < 0.08	NA	ND < 0.07	NA
Nickel	1,400	7,500	NE	16.5	NA	15.5	NA	15.6	NA
Selenium	340	10,000	NE	ND < 1.6	NA	ND < 1.8	NA	ND < 1.5	NA
Zinc	20,000	610,000	NE	64.7	NA	57.6	NA	60.2	NA
SPLP Metals (mg/l)									
Arsenic	NE	NE	0.05	NA	NA	NA	NA	NA	NA
Pesticides (µg/kg)									
4,4' -DDD	1,800*	17,000*	3*	3.7	NA	ND < 1.8	NA	ND < 1.6	NA
4,4' -DDE	1,800*	17,000*	3*	4.2	NA	ND < 1.8	NA	ND < 1.6	NA
4,4' -DDT	1,800*	17,000*	3*	17	NA	ND < 1.8	NA	ND < 1.6	NA
Chlordane	490	2,200	66	63	NA	350	NA	ND < 41	NA
Heptachlor epoxide	67	630	20	ND < 8.8	NA	64	NA	ND < 8.2	NA
SPLP Pesticides (µg/kg)									
Various	VARIOUS	VARIOUS	VARIOUS	NA	NA	NA	NA	NA	NA
Aromatic Volative Organic Compounds (µg/kg)									
Toluene	500,000	1,000,000	20,000	ND < 6.1	NA	ND < 5.5	NA	ND < 6.0	NA
Polynuclear Aromatic Hydrocarbons (µg/kg)									
Benzo(a)anthracene	1,000	7,800	1,000	ND < 310	ND < 300	ND < 310	ND < 310	ND < 280	ND < 310
Benzo(a)pyrene	1,000	1,000	1,000	ND < 310	ND < 300	ND < 310	ND < 310	ND < 280	ND < 310
Benzo(b)fluoranthene	1,000	7,800	1,000	ND < 310	ND < 300	ND < 310	ND < 310	ND < 280	ND < 310
Chrysene	84,000*	780,000*	1,000*	ND < 310	ND < 300	ND < 310	ND < 310	ND < 280	ND < 310
Fluoranthene	1,000,000	2,500,000	5,600	ND < 310	ND < 300	ND < 310	320	ND < 280	ND < 310
Pyrene	1,000,000	2,500,000	4,000	ND < 310	ND < 300	ND < 310	ND < 310	ND < 280	ND < 310
Notes:									
1. RES DEC = Residential Direct Exposure Criteria									
2. I/C DEC = Industrial/Commercial Direct Exposure Criteria									
3. GA PMC = GA Pollutant Mobility Criteria									
4. mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, per liter, mg/l = milligrams per liter									
5. NA = Not Analyzed									
6. NE = No Established Criteria									
7. ND = Not Detected above Laboratory Reporting Limit									
8. Bolded values indicate parameter detected at concentration above the Laboratory Reporting Limit (RL)									
9. Shaded values indicate exceedance of applicable RSR Criteria									
10. * = CTDEEP approval required for use of Additional Polluting Substance (APS) Criteria									

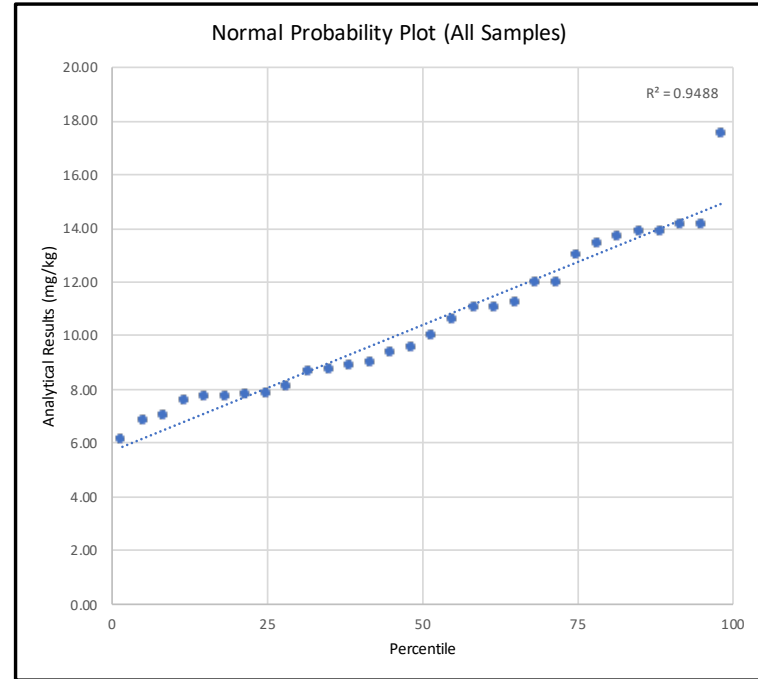
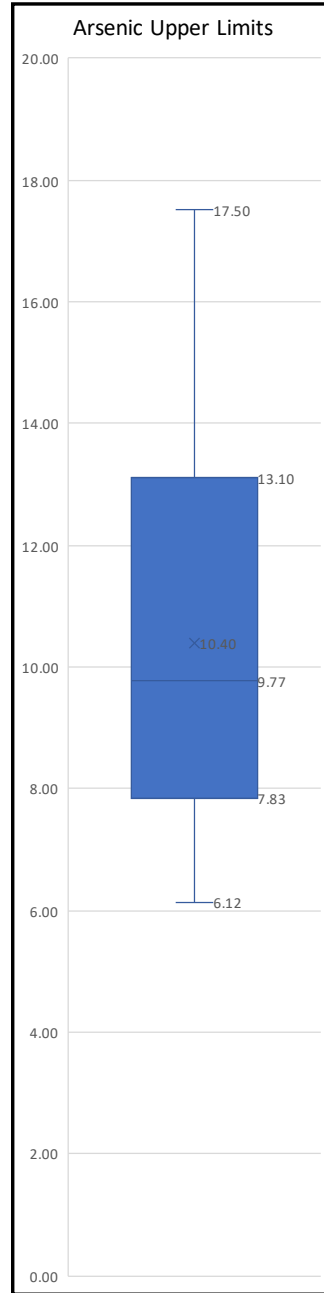
ATTACHMENT A

Arsenic

Probability Output

Analytical Results (mg/kg)	Percentile
6.12	1.67
6.80	5.00
7.00	8.33
7.60	11.67
7.68	15.00
7.70	18.33
7.75	21.67
7.86	25.00
8.09	28.33
8.67	31.67
8.70	35.00
8.88	38.33
8.96	41.67
9.34	45.00
9.54	48.33
10.00	51.67
10.60	55.00
11.00	58.33
11.00	61.67
11.20	65.00
12.00	68.33
12.00	71.67
13.00	75.00
13.40	78.33
13.70	81.67
13.90	85.00
13.90	88.33
14.10	91.67
14.10	95.00
17.50	98.33

W-Test suggests data is Normally Distributed



After determining that the analytical results are normally distributed, a box and whiskers plot was run to identify numerical outliers. Incorporating all data points results in a 94.8% confidence level with no statistical outliers. The analytical data indicates there has not been a release of arsenic at the site.

ATTACHMENT B



Friday, December 20, 2019

Attn: Lauren Lomax
Thunderbird Environmental
14 Leffingwell Rd
Clinton, CT 06413

Project ID: 2019-096 WESTPORT
SDG ID: GCE87479
Sample ID#s: CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

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

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

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

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

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301



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

Sample Id Cross Reference

December 20, 2019

SDG I.D.: GCE87479

Project ID: 2019-096 WESTPORT

Client Id	Lab Id	Matrix
PO-1	CE87479	SOIL
PO-3	CE87481	SOIL
PO-5	CE87483	SOIL
PL-1	CE87485	SOIL
PL-3	CE87487	SOIL
PL-5	CE87489	SOIL



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

Analysis Report
 December 20, 2019

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

11:50
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87479

Project ID: 2019-096 WESTPORT
 Client ID: PO-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.41	0.41	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	5.86	0.81	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	0.84	0.33	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	0.45	0.41	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	23.6	0.41	mg/Kg	1	12/16/19	TH	SW6010D
Copper	25.9	0.8	mg/kg	1	12/16/19	TH	SW6010D
Mercury	< 0.08	0.08	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	16.5	0.41	mg/Kg	1	12/16/19	TH	SW6010D
Lead	49.1	0.41	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 4.1	4.1	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.6	1.6	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 3.7	3.7	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	64.7	0.8	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	75		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	GR/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	3.7	1.8	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDE	4.2	1.8	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDT	17	8.8	ug/Kg	2	12/17/19	CG	SW8081B
a-BHC	ND	1.8	ug/Kg	2	12/17/19	CG	SW8081B
Alachlor	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Aldrin	ND	1.8	ug/Kg	2	12/17/19	CG	SW8081B
b-BHC	ND	1.8	ug/Kg	2	12/17/19	CG	SW8081B
Chlordane	63	44	ug/Kg	2	12/17/19	CG	SW8081B

Client ID: PO-1

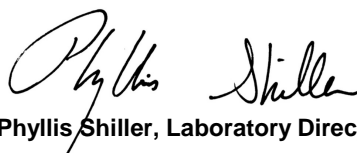
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	1.8	ug/Kg	2	12/17/19	CG	SW8081B
Dieldrin	ND	4.4	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan I	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan II	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan sulfate	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Endrin	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Endrin aldehyde	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Endrin ketone	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
g-BHC	ND	1.8	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor epoxide	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Methoxychlor	ND	44	ug/Kg	2	12/17/19	CG	SW8081B
Toxaphene	ND	180	ug/Kg	2	12/17/19	CG	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	61		%	2	12/17/19	CG	30 - 150 %
% DCBP (Confirmation)	40		%	2	12/17/19	CG	30 - 150 %
% TCMX	50		%	2	12/17/19	CG	30 - 150 %
% TCMX (Confirmation)	44		%	2	12/17/19	CG	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	94		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	95		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	94		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	95		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Acenaphthene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Acenaphthylene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Anthracene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Benz(a)anthracene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(a)pyrene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(b)fluoranthene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(ghi)perylene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(k)fluoranthene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Chrysene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Fluoranthene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Fluorene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Naphthalene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Phenanthrene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Pyrene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	59		%	1	12/17/19	WB	30 - 130 %
% Nitrobenzene-d5	67		%	1	12/17/19	WB	30 - 130 %
% Terphenyl-d14	48		%	1	12/17/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

December 20, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 20, 2019

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

12:10
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87481

Project ID: 2019-096 WESTPORT
 Client ID: PO-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.44	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	6.02	0.88	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	0.96	0.35	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	< 0.44	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	23.1	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Copper	19.8	0.9	mg/kg	1	12/16/19	TH	SW6010D
Mercury	< 0.08	0.08	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	15.5	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Lead	31.2	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 4.4	4.4	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.8	1.8	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 3.9	3.9	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	57.6	0.9	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	75		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	GR/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
4,4' -DDE	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
4,4' -DDT	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
a-BHC	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
Alachlor	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Aldrin	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
b-BHC	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
Chlordane	350	220	ug/Kg	10	12/18/19	AW	SW8081B

Client ID: PO-3

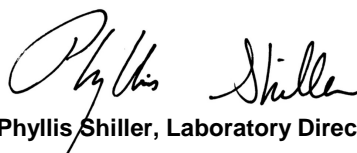
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
Dieldrin	ND	4.4	ug/Kg	2	12/17/19	AW	SW8081B
Endosulfan I	ND	44	ug/Kg	10	12/18/19	AW	SW8081B
Endosulfan II	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Endosulfan sulfate	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Endrin	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Endrin aldehyde	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Endrin ketone	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
g-BHC	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
Heptachlor	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Heptachlor epoxide	64	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Methoxychlor	ND	44	ug/Kg	2	12/17/19	AW	SW8081B
Toxaphene	ND	180	ug/Kg	2	12/17/19	AW	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	53		%	2	12/17/19	AW	30 - 150 %
% DCBP (Confirmation)	75		%	2	12/17/19	AW	30 - 150 %
% TCMX	123		%	2	12/17/19	AW	30 - 150 %
% TCMX (Confirmation)	53		%	2	12/17/19	AW	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	96		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	95		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	96		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Acenaphthene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Acenaphthylene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Anthracene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Benz(a)anthracene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(a)pyrene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(b)fluoranthene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(ghi)perylene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(k)fluoranthene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Chrysene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Fluoranthene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Fluorene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Naphthalene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Phenanthrene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Pyrene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	53		%	1	12/18/19	WB	30 - 130 %
% Nitrobenzene-d5	46		%	1	12/18/19	WB	30 - 130 %
% Terphenyl-d14	60		%	1	12/18/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

December 20, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 20, 2019

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

12:30
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87483

Project ID: 2019-096 WESTPORT
 Client ID: PO-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.39	0.39	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	6.88	0.77	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	0.84	0.31	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	0.42	0.39	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	20.4	0.39	mg/Kg	1	12/16/19	TH	SW6010D
Copper	35.7	0.8	mg/kg	1	12/16/19	TH	SW6010D
Mercury	< 0.07	0.07	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	15.6	0.39	mg/Kg	1	12/16/19	TH	SW6010D
Lead	34.1	0.39	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 3.9	3.9	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.5	1.5	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 3.5	3.5	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	60.2	0.8	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	81		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	GR/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDE	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDT	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
a-BHC	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
Alachlor	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Aldrin	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
b-BHC	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
Chlordane	ND	41	ug/Kg	2	12/17/19	CG	SW8081B

Client ID: PO-5

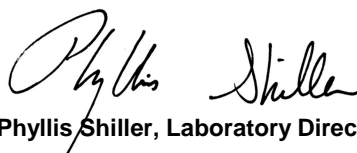
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
Dieldrin	ND	4.1	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan I	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan II	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan sulfate	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Endrin	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Endrin aldehyde	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Endrin ketone	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
g-BHC	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor epoxide	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Methoxychlor	ND	41	ug/Kg	2	12/17/19	CG	SW8081B
Toxaphene	ND	160	ug/Kg	2	12/17/19	CG	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	83		%	2	12/17/19	CG	30 - 150 %
% DCBP (Confirmation)	54		%	2	12/17/19	CG	30 - 150 %
% TCMX	68		%	2	12/17/19	CG	30 - 150 %
% TCMX (Confirmation)	62		%	2	12/17/19	CG	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	99		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	93		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	95		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	95		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Acenaphthene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Acenaphthylene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Anthracene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Benz(a)anthracene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(a)pyrene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(b)fluoranthene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(ghi)perylene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(k)fluoranthene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Chrysene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Fluoranthene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Fluorene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Naphthalene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Phenanthrene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Pyrene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	51		%	1	12/17/19	WB	30 - 130 %
% Nitrobenzene-d5	50		%	1	12/17/19	WB	30 - 130 %
% Terphenyl-d14	47		%	1	12/17/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

December 20, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 20, 2019

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

10:10
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87485

Project ID: 2019-096 WESTPORT
 Client ID: PL-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.44	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	10.5	0.88	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	0.63	0.35	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	0.63	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	21.8	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Copper	33.0	0.9	mg/kg	1	12/16/19	TH	SW6010D
Mercury	0.19	0.09	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	16.4	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Lead	172	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 4.4	4.4	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.8	1.8	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 4.0	4.0	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	82.0	0.9	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	71		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	GR/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	12	1.9	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDE	18	9.3	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDT	23	9.3	ug/Kg	2	12/17/19	CG	SW8081B
a-BHC	ND	1.9	ug/Kg	2	12/17/19	CG	SW8081B
Alachlor	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Aldrin	ND	1.9	ug/Kg	2	12/17/19	CG	SW8081B
b-BHC	ND	1.9	ug/Kg	2	12/17/19	CG	SW8081B
Chlordane	ND	47	ug/Kg	2	12/17/19	CG	SW8081B

Client ID: PL-1

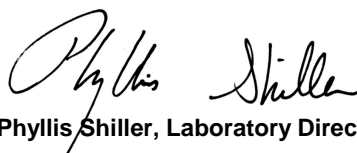
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	1.9	ug/Kg	2	12/17/19	CG	SW8081B
Dieldrin	ND	4.7	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan I	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan II	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan sulfate	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Endrin	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Endrin aldehyde	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Endrin ketone	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
g-BHC	ND	1.9	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor epoxide	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Methoxychlor	ND	47	ug/Kg	2	12/17/19	CG	SW8081B
Toxaphene	ND	190	ug/Kg	2	12/17/19	CG	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	80		%	2	12/17/19	CG	30 - 150 %
% DCBP (Confirmation)	44		%	2	12/17/19	CG	30 - 150 %
% TCMX	64		%	2	12/17/19	CG	30 - 150 %
% TCMX (Confirmation)	47		%	2	12/17/19	CG	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	95		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	94		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	96		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Acenaphthene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Acenaphthylene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Anthracene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Benz(a)anthracene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(a)pyrene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(b)fluoranthene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(ghi)perylene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(k)fluoranthene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Chrysene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Fluoranthene	380	330	ug/Kg	1	12/18/19	WB	SW8270D
Fluorene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Naphthalene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Phenanthrene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Pyrene	340	330	ug/Kg	1	12/18/19	WB	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	51		%	1	12/18/19	WB	30 - 130 %
% Nitrobenzene-d5	42		%	1	12/18/19	WB	30 - 130 %
% Terphenyl-d14	38		%	1	12/18/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

December 20, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 20, 2019

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

10:30
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87487

Project ID: 2019-096 WESTPORT
 Client ID: PL-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.37	0.37	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	21.8	0.74	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	0.83	0.30	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	0.54	0.37	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	23.5	0.37	mg/Kg	1	12/16/19	TH	SW6010D
Copper	26.6	0.7	mg/kg	1	12/16/19	TH	SW6010D
Mercury	0.13	0.07	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	14.3	0.37	mg/Kg	1	12/16/19	TH	SW6010D
Lead	189	0.37	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 3.7	3.7	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.5	1.5	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 3.4	3.4	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	143	0.7	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	85		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	GR/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	50	ug/Kg	10	12/18/19	CG	SW8081B
4,4' -DDE	ND	150	ug/Kg	10	12/18/19	CG	SW8081B
4,4' -DDT	ND	400	ug/Kg	10	12/18/19	CG	SW8081B
a-BHC	ND	7.6	ug/Kg	10	12/18/19	CG	SW8081B
Alachlor	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Aldrin	ND	7.6	ug/Kg	10	12/18/19	CG	SW8081B
b-BHC	ND	7.6	ug/Kg	10	12/18/19	CG	SW8081B
Chlordane	ND	76	ug/Kg	10	12/18/19	CG	SW8081B

Client ID: PL-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	7.6	ug/Kg	10	12/18/19	CG	SW8081B
Dieldrin	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Endosulfan I	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Endosulfan II	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Endosulfan sulfate	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Endrin	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Endrin aldehyde	ND	60	ug/Kg	10	12/18/19	CG	SW8081B
Endrin ketone	ND	50	ug/Kg	10	12/18/19	CG	SW8081B
g-BHC	ND	7.6	ug/Kg	10	12/18/19	CG	SW8081B
Heptachlor	ND	19	ug/Kg	10	12/18/19	CG	SW8081B
Heptachlor epoxide	ND	19	ug/Kg	10	12/18/19	CG	SW8081B
Methoxychlor	ND	190	ug/Kg	10	12/18/19	CG	SW8081B
Toxaphene	ND	760	ug/Kg	10	12/18/19	CG	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	68		%	10	12/18/19	CG	30 - 150 %
% DCBP (Confirmation)	67		%	10	12/18/19	CG	30 - 150 %
% TCMX	76		%	10	12/18/19	CG	30 - 150 %
% TCMX (Confirmation)	71		%	10	12/18/19	CG	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	99		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	94		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	97		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Acenaphthene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Anthracene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Benz(a)anthracene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Benzo(a)pyrene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Benzo(b)fluoranthene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Benzo(ghi)perylene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Benzo(k)fluoranthene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Chrysene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Fluoranthene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Fluorene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Naphthalene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Phenanthrene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Pyrene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	47		%	1	12/17/19	AW	30 - 130 %
% Nitrobenzene-d5	50		%	1	12/17/19	AW	30 - 130 %
% Terphenyl-d14	44		%	1	12/17/19	AW	30 - 130 %

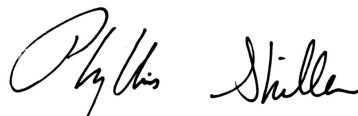
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Pesticide Comment:
 Due to matrix interference caused by the presence of suspected 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.

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Phyllis Shiller, Laboratory Director

December 20, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 20, 2019

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

10:50
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87489

Project ID: 2019-096 WESTPORT
 Client ID: PL-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.32	0.32	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	1.77	0.65	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	< 0.26	0.26	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	0.33	0.32	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	11.5	0.32	mg/Kg	1	12/16/19	TH	SW6010D
Copper	17.7	0.6	mg/kg	1	12/16/19	TH	SW6010D
Mercury	< 0.06	0.06	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	7.00	0.32	mg/Kg	1	12/16/19	TH	SW6010D
Lead	20.7	0.32	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 3.2	3.2	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.3	1.3	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 2.9	2.9	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	41.0	0.6	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	95		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	KK/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDE	ND	6.0	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDT	ND	17	ug/Kg	2	12/18/19	CG	SW8081B
a-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Alachlor	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Aldrin	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
b-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Chlordane	ND	34	ug/Kg	2	12/18/19	CG	SW8081B

Client ID: PL-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Dieldrin	ND	3.4	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan I	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan II	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan sulfate	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Endrin	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Endrin aldehyde	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Endrin ketone	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
g-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor epoxide	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Methoxychlor	ND	34	ug/Kg	2	12/18/19	CG	SW8081B
Toxaphene	ND	140	ug/Kg	2	12/18/19	CG	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	62		%	2	12/18/19	CG	30 - 150 %
% DCBP (Confirmation)	45		%	2	12/18/19	CG	30 - 150 %
% TCMX	51		%	2	12/18/19	CG	30 - 150 %
% TCMX (Confirmation)	47		%	2	12/18/19	CG	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	96		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	97		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	95		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	96		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Acenaphthene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Acenaphthylene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Anthracene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Benz(a)anthracene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Benzo(a)pyrene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Chrysene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Fluoranthene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Fluorene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Naphthalene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Phenanthrene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Pyrene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	51		%	1	12/16/19	WB	30 - 130 %
% Nitrobenzene-d5	55		%	1	12/16/19	WB	30 - 130 %
% Terphenyl-d14	53		%	1	12/16/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Pesticide Comment:
 Due to matrix interference caused by the presence of suspected 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 you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

December 20, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

QA/QC Report

December 20, 2019

QA/QC Data

SDG I.D.: GCE87479

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 510372 (mg/kg), QC Sample No: CE87173 2X (CE87479, CE87481, CE87483, CE87485, CE87487, CE87489)

Mercury - Soil	BRL	0.02	0.09	0.07	NC	100	104	3.9				70 - 130	30
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Comment:

This batch consists of a Blank, LCS, LCSD and sample Duplicate.

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

QA/QC Batch 510274 (mg/kg), QC Sample No: CE87333 (CE87479, CE87481, CE87483, CE87485, CE87487, CE87489)

ICP Metals - Soil

Antimony	BRL	3.3	<3.5	<3.8	NC	97.5	102	4.5	95.1			75 - 125	30
Arsenic	BRL	0.67	13.2	13.9	5.20	98.8	110	10.7	94.7			75 - 125	30
Beryllium	BRL	0.27	0.40	0.40	NC	101	108	6.7	102			75 - 125	30
Cadmium	BRL	0.33	<0.35	<0.38	NC	89.4	88.7	0.8	98.3			75 - 125	30
Chromium	BRL	0.33	13.2	12.7	3.90	109	121	10.4	102			75 - 125	30
Copper	BRL	0.67	13.4	14.6	8.60	110	124	12.0	113			75 - 125	30
Lead	BRL	0.33	30.1	32.7	8.30	98.8	120	19.4	97.4			75 - 125	30
Nickel	BRL	0.33	8.66	9.00	3.90	99.8	109	8.8	101			75 - 125	30
Selenium	BRL	1.3	<1.4	<1.5	NC	83.8	89.8	6.9	80.8			75 - 125	30
Silver	BRL	0.33	<0.35	<0.38	NC	105	119	12.5	102			75 - 125	30
Thallium	BRL	3.0	<3.1	<3.4	NC	104	110	5.6	99.7			75 - 125	30
Zinc	BRL	0.67	47.0	49.9	6.00	100	110	9.5	104			75 - 125	30



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QA/QC Report

December 20, 2019

QA/QC Data

SDG I.D.: GCE87479

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 510239 (ug/Kg), QC Sample No: CE87483 2X (CE87479, CE87481, CE87483, CE87485, CE87487, CE87489)

Pesticides - Soil

4,4' -DDD	ND	1.7	78	84	7.4	70	62	12.1	40 - 140	30
4,4' -DDE	ND	1.7	67	76	12.6	71	64	10.4	40 - 140	30
4,4' -DDT	ND	1.7	77	88	13.3	74	69	7.0	40 - 140	30
a-BHC	ND	1.0	69	77	11.0	66	63	4.7	40 - 140	30
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30
Aldrin	ND	1.0	65	73	11.6	62	59	5.0	40 - 140	30
b-BHC	ND	1.0	100	108	7.7	105	96	9.0	40 - 140	30
Chlordane	ND	33	73	80	9.2	75	63	17.4	40 - 140	30
d-BHC	ND	3.3	81	86	6.0	72	67	7.2	40 - 140	30
Dieldrin	ND	1.0	77	82	6.3	69	61	12.3	40 - 140	30
Endosulfan I	ND	3.3	71	80	11.9	69	64	7.5	40 - 140	30
Endosulfan II	ND	3.3	70	75	6.9	65	57	13.1	40 - 140	30
Endosulfan sulfate	ND	3.3	100	103	3.0	85	75	12.5	40 - 140	30
Endrin	ND	3.3	92	98	6.3	85	73	15.2	40 - 140	30
Endrin aldehyde	ND	3.3	82	85	3.6	76	63	18.7	40 - 140	30
Endrin ketone	ND	3.3	78	85	8.6	68	62	9.2	40 - 140	30
g-BHC	ND	1.0	72	80	10.5	67	64	4.6	40 - 140	30
Heptachlor	ND	3.3	70	78	10.8	65	67	3.0	40 - 140	30
Heptachlor epoxide	ND	3.3	73	79	7.9	67	63	6.2	40 - 140	30
Methoxychlor	ND	3.3	86	95	9.9	81	72	11.8	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	113	%	91	96	5.3	77	71	8.1	30 - 150	30
% DCBP (Confirmation)	67	%	87	65	28.9	52	47	10.1	30 - 150	30
% TCMX	81	%	73	84	14.0	67	67	0.0	30 - 150	30
% TCMX (Confirmation)	78	%	96	76	23.3	71	83	15.6	30 - 150	30

QA/QC Batch 510339 (ug/kg), QC Sample No: CE87487 (CE87479, CE87481, CE87483, CE87485, CE87487)

Polynuclear Aromatic HC - Soil

2-Methylnaphthalene	ND	230	58	45	25.2	44	53	18.6	30 - 130	30
Acenaphthene	ND	230	59	48	20.6	44	53	18.6	30 - 130	30
Acenaphthylene	ND	230	58	47	21.0	44	52	16.7	30 - 130	30
Anthracene	ND	230	61	49	21.8	46	53	14.1	30 - 130	30
Benz(a)anthracene	ND	230	65	52	22.2	49	57	15.1	30 - 130	30
Benzo(a)pyrene	ND	230	62	51	19.5	46	53	14.1	30 - 130	30
Benzo(b)fluoranthene	ND	230	67	56	17.9	58	65	11.4	30 - 130	30
Benzo(ghi)perylene	ND	230	53	46	14.1	34	40	16.2	30 - 130	30
Benzo(k)fluoranthene	ND	230	66	54	20.0	56	66	16.4	30 - 130	30
Chrysene	ND	230	63	50	23.0	47	53	12.0	30 - 130	30
Dibenz(a,h)anthracene	ND	230	68	57	17.6	43	50	15.1	30 - 130	30
Fluoranthene	ND	230	58	48	18.9	47	54	13.9	30 - 130	30
Fluorene	ND	230	62	49	23.4	46	54	16.0	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	67	57	16.1	45	52	14.4	30 - 130	30

QA/QC Data

SDG I.D.: GCE87479

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
	Blank	RL									
Naphthalene	ND	230	55	39	34.0	40	50	22.2	30 - 130	30	r
Phenanthrene	ND	230	60	49	20.2	47	52	10.1	30 - 130	30	
Pyrene	ND	230	59	48	20.6	48	56	15.4	30 - 130	30	
% 2-Fluorobiphenyl	52	%	54	45	18.2	40	47	16.1	30 - 130	30	
% Nitrobenzene-d5	54	%	56	39	35.8	42	50	17.4	30 - 130	30	r
% Terphenyl-d14	52	%	49	42	15.4	39	45	14.3	30 - 130	30	

Comment:

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

QA/QC Batch 510462 (ug/kg), QC Sample No: CE87489 (CE87489)

Polynuclear Aromatic HC - Soil

2-Methylnaphthalene	ND	230	65	61	6.3	56	56	0.0	30 - 130	30
Acenaphthene	ND	230	70	67	4.4	62	62	0.0	30 - 130	30
Acenaphthylene	ND	230	70	69	1.4	64	63	1.6	30 - 130	30
Anthracene	ND	230	71	69	2.9	64	65	1.6	30 - 130	30
Benz(a)anthracene	ND	230	76	71	6.8	68	69	1.5	30 - 130	30
Benzo(a)pyrene	ND	230	80	76	5.1	73	73	0.0	30 - 130	30
Benzo(b)fluoranthene	ND	230	74	70	5.6	69	65	6.0	30 - 130	30
Benzo(ghi)perylene	ND	230	70	71	1.4	60	66	9.5	30 - 130	30
Benzo(k)fluoranthene	ND	230	74	70	5.6	67	70	4.4	30 - 130	30
Chrysene	ND	230	74	69	7.0	67	67	0.0	30 - 130	30
Dibenz(a,h)anthracene	ND	230	82	78	5.0	68	73	7.1	30 - 130	30
Fluoranthene	ND	230	72	68	5.7	68	66	3.0	30 - 130	30
Fluorene	ND	230	70	68	2.9	63	63	0.0	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	72	70	2.8	61	66	7.9	30 - 130	30
Naphthalene	ND	230	61	60	1.7	52	51	1.9	30 - 130	30
Phenanthrene	ND	230	70	69	1.4	64	63	1.6	30 - 130	30
Pyrene	ND	230	75	70	6.9	70	68	2.9	30 - 130	30
% 2-Fluorobiphenyl	62	%	60	62	3.3	55	55	0.0	30 - 130	30
% Nitrobenzene-d5	69	%	64	59	8.1	55	54	1.8	30 - 130	30
% Terphenyl-d14	61	%	58	58	0.0	56	55	1.8	30 - 130	30

Comment:

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

QA/QC Batch 510627 (ug/kg), QC Sample No: CE87827 (CE87479, CE87481, CE87483, CE87485, CE87487, CE87489)

Volatiles - Soil (Low Level)

1,2,3-Trichlorobenzene	ND	5.0	82	82	0.0				70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	82	83	1.2				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	81	81	0.0				70 - 130	30
1,2-Dichlorobenzene	ND	5.0	79	80	1.3				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	83	83	0.0				70 - 130	30
1,3-Dichlorobenzene	ND	5.0	82	82	0.0				70 - 130	30
1,4-Dichlorobenzene	ND	5.0	80	82	2.5				70 - 130	30
Benzene	ND	1.0	81	82	1.2				70 - 130	30
Chlorobenzene	ND	5.0	82	83	1.2				70 - 130	30
Ethylbenzene	ND	1.0	82	84	2.4				70 - 130	30
Isopropylbenzene	ND	1.0	81	81	0.0				70 - 130	30
m&p-Xylene	ND	2.0	84	84	0.0				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	99	103	4.0				70 - 130	30
Naphthalene	ND	5.0	81	84	3.6				70 - 130	30
n-Butylbenzene	ND	1.0	80	80	0.0				70 - 130	30
n-Propylbenzene	ND	1.0	82	82	0.0				70 - 130	30

QA/QC Data

SDG I.D.: GCE87479

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
o-Xylene	ND	2.0	83	86	3.6				70 - 130	30
p-Isopropyltoluene	ND	1.0	84	84	0.0				70 - 130	30
sec-Butylbenzene	ND	1.0	87	88	1.1				70 - 130	30
Styrene	ND	5.0	83	85	2.4				70 - 130	30
tert-Butylbenzene	ND	1.0	84	85	1.2				70 - 130	30
Toluene	ND	1.0	81	85	4.8				70 - 130	30
% 1,2-dichlorobenzene-d4	99	%	99	96	3.1				70 - 130	30
% Bromofluorobenzene	95	%	98	99	1.0				70 - 130	30
% Dibromofluoromethane	96	%	100	103	3.0				70 - 130	30
% Toluene-d8	96	%	98	98	0.0				70 - 130	30

Comment:

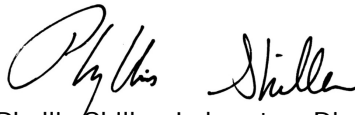
The Low Level MS/MSD are not reported for this batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

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

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

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


 Phyllis Shiller, Laboratory Director
 December 20, 2019

Friday, December 20, 2019

Criteria: CT: GAM, I/C, RC

State: CT

Sample Criteria Exceedances Report

GCE87479 - THUNDER

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria	RL	Analysis Units
CE87479	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	4.2	1.8	3	3	3	ug/Kg
CE87479	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	17	8.8	3	3	3	ug/Kg
CE87479	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	3.7	1.8	3	3	3	ug/Kg
CE87481	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / APS Organics	350	220	66	66	66	ug/Kg
CE87481	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	350	220	66	66	66	ug/Kg
CE87481	\$PEST_SMR	Heptachlor epoxide	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	64	8.8	20	20	20	ug/Kg
CE87485	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	12	1.9	3	3	3	ug/Kg
CE87485	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	18	9.3	3	3	3	ug/Kg
CE87485	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	23	9.3	3	3	3	ug/Kg
CE87485	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	10.5	0.88	10	10	10	mg/Kg
CE87485	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	10.5	0.88	10	10	10	mg/Kg
CE87487	\$PEST_SMR	Toxaphene	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	760	560	560	560	ug/Kg
CE87487	\$PEST_SMR	Aldrin	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	2	ug/Kg
CE87487	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	50	3	3	3	ug/Kg
CE87487	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	150	3	3	3	ug/Kg
CE87487	\$PEST_SMR	a-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	2	ug/Kg
CE87487	\$PEST_SMR	b-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	2	ug/Kg
CE87487	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	76	66	66	66	ug/Kg
CE87487	\$PEST_SMR	d-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	2	ug/Kg
CE87487	\$PEST_SMR	Endrin aldehyde	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	60	40	40	40	ug/Kg
CE87487	\$PEST_SMR	Endrin ketone	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	50	40	40	40	ug/Kg
CE87487	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	400	3	3	3	ug/Kg
CE87487	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	76	66	66	66	ug/Kg
CE87487	\$PEST_SMR	Dieldrin	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	38	7	7	7	ug/Kg
CE87487	\$PEST_SMR	Heptachlor	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	19	13	13	13	ug/Kg
CE87487	\$PEST_SMR	Toxaphene	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	760	330	330	330	ug/Kg
CE87487	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	21.8	0.74	10	10	10	mg/Kg
CE87487	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	21.8	0.74	10	10	10	mg/Kg
CE87489	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	17	3	3	3	ug/Kg
CE87489	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	6.0	3	3	3	ug/Kg

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



REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc.

Client: Thunderbird Environmental

Project Location: 2019-096 WESTPORT

Project Number:

Laboratory Sample ID(s): CE87479,
CE87481, CE87483, CE87485, CE87487, CE87489

Sampling Date(s): 12/13/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 7470/7471, 8081, 8260, 8270

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input checked="" type="checkbox"/> Yes <input 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: Rashmi Makol **Position:** Project Manager

Printed Name: Rashmi Makol **Date:** Friday, December 20, 2019

Name of Laboratory Phoenix Environmental Labs, Inc.

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



Environmental Laboratories, Inc.
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RCP Certification Report

December 20, 2019

SDG I.D.: GCE87479

SDG Comments

Metals Analysis:

The client requested a site specific list of elements which is shorter than the 6010 RCP list.

8260 Volatile Organics:

The client requested a short list for 8260 RCP Volatiles. Only the volatile aromatic constituents are reported as requested on the chain-of-custody.

8270 Semi-volatile Organics:

The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

Metals Analysis:

The client requested a site specific list of elements which is shorter than the 6010 RCP list.

Sample(CE87487, CE87489) required a dilution for Pesticides due to a matrix interference and/or the presence of non-target material in the sample. This resulted in elevated reporting limits that exceed the requested criteria for one or more analytes.

Mercury Narration

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

Instrument:

MERLIN 12/16/19 07:49 Rick Schweitzer, Chemist 12/16/19

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

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 510372 (CE87173)

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

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.

This batch consists of a Blank, LCS, LCSD and sample Duplicate.

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

ICP Metals Narration

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

Instrument:

ARCOS 12/16/19 11:25 Tina Hall, Chemist 12/16/19



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Certification Report

December 20, 2019

SDG I.D.: GCE87479

ICP Metals Narration

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

Additional criteria for CCV and ICSAB:

Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB). The linear range is defined daily by the calibration range.

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

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

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

QC (Batch Specific):

Batch 510274 (CE87333)

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

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

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

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

PEST Narration

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

Instrument:

AU-ECD35 12/17/19-1 Chelsey Guerette, Chemist 12/17/19

CE87487

The initial calibration (PSD09AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSD09BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds: None.

AU-ECD4 12/17/19-1 Chelsey Guerette, Chemist 12/17/19

CE87479, CE87481, CE87483, CE87485, CE87489

The initial calibration (PSN20AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSN20BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CE87479, CE87481, CE87483, CE87485

Preceding CC D17A029 - Endrin 25%H (20%)

Succeeding CC D17A042 - Endrin 22%H (20%)

Samples: CE87489

Preceding CC D17A042 - Endrin 22%H (20%)

Succeeding CC D17A056 - None.

AU-ECD4 12/18/19-1 Chelsey Guerette, Chemist 12/18/19

CE87481

The initial calibration (PSD11AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSD11BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds: None.



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RCP Certification Report

December 20, 2019

SDG I.D.: GCE87479

PEST Narration

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.
The continuing calibration %D for the compound list was less than 20% except for the following compounds:None.

QC (Site Specific):

Batch 510239 (CE87483)

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

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.
All MS recoveries were within 30 - 150 with the following exceptions: None.
All MSD recoveries were within 30 - 150 with the following exceptions: None.
All MS/MSD RPDs were less than 30% with the following exceptions: None.

SVOA Narration

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

QC Batch 510339 (Samples: CE87479, CE87481, CE87483, CE87485, CE87487): -----

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (Naphthalene)

The LCS/LCSD RPD exceeds the method criteria for one or more surrogates, therefore there may be variability in the reported result. (% Nitrobenzene-d5)

Instrument:

CHEM06 12/16/19-2

Matt Richard, Chemist 12/16/19

CE87489

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.
For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM06/6_BN_1203):

100% of target compounds met criteria.

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

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

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

Continuing Calibration Verification (CHEM06/1216_26-6_BN_1203):

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.

CHEM19 12/16/19-1

Matt Richard, Chemist 12/16/19

CE87479, CE87483



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RCP Certification Report

December 20, 2019

SDG I.D.: GCE87479

SVOA Narration

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM19/19_BN_1112):

100% of target compounds met criteria.

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

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

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

Continuing Calibration Verification (CHEM19/1216_10-19_BN_1112):

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.

CHEM19 12/17/19-1

Matt Richard, Chemist 12/17/19

CE87481, CE87485

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM19/19_BN_1112):

100% of target compounds met criteria.

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

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

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

Continuing Calibration Verification (CHEM19/1217_06-19_BN_1112):

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.

CHEM28 12/16/19-1

Matt Richard, Chemist 12/16/19

CE87487

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM28/28_BN_1206):

100% of target compounds met criteria.

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

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

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



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RCP Certification Report

December 20, 2019

SDG I.D.: GCE87479

SVOA Narration

Continuing Calibration Verification (CHEM28/1216_04-28_BN_1206):

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 (Site Specific):

Batch 510339 (CE87487)

CE87479, CE87481, CE87483, CE87485, CE87487

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: % Nitrobenzene-d5(35.8%), Naphthalene(34.0%)

All MS recoveries were within 30 - 130 with the following exceptions: None.

All MSD recoveries were within 30 - 130 with the following exceptions: None.

All MS/MSD RPDs were less than 30% with the following exceptions: None.

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

Batch 510462 (CE87489)

CE87489

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

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

All MS recoveries were within 30 - 130 with the following exceptions: None.

All MSD recoveries were within 30 - 130 with the following exceptions: None.

All MS/MSD RPDs were less than 30% with the following exceptions: None.

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

VOA Narration

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

Instrument:

CHEM18 12/16/19-1

Jane Li, Chemist 12/16/19

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

Initial Calibration Evaluation (CHEM18/VT-M120419):

96% of target compounds met criteria.

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

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

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

Continuing Calibration Verification (CHEM18/1216M02-VT-M120419):

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

100% of target compounds met criteria.

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



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RCP Certification Report

December 20, 2019

SDG I.D.: GCE87479

VOA Narration

The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 510627 (CE87827) CHEM18 12/16/2019-1

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

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

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

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

The Low Level MS/MSD are not reported for this batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

Temperature Narration

The samples were received at 3.8C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

CHAIN OF CUSTODY RECORD



587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
 Client Services (860) 645-8726

Project: 20A-096 Westport
 Report to: Lauren LeMay
 Invoice to: lauren@thbirdenv.com
 QUOTE # _____

Customer: Thunderbird Environmental
 Address: 14 Leftwell Road
Clinton CT 06413

Project P.O.: _____
 This section **MUST** be completed with **Bottle Quantities.**

Sampler's Signature: [Signature] Date: 12/13/11
 Client Sample - Information - Identification

Matrix Code:
 DW=Drinking Water GW=Ground Water SW=Surface Water WM=Waste Water
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe Oil=Oil
 B=Bulk L=Liquid X = (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
87479	PO-1	S	12/13	11:50
87480	PO-2	S	12/13	12:00
87481	PO-3	S	12/13	12:10
87482	PO-4	S	12/13	12:20
87483	PO-5	S	12/13	12:30
87484	PO-6	S	12/13	12:40
87485	PL-1	S	12/13	10:10
87486	PL-2	S	12/13	10:20
87487	PL-3	S	12/13	10:30
87488	PL-4	S	12/13	10:40
87489	PL-5	S	12/13	10:50
87490	PL-6	S	12/13	11:00

Analysis Request

Analysis Request	GL Amber 8 oz. w/HSP4	GL Soil container (3) oz	GL Amber 100ml Vial (4) oz	PL Amber 100ml Vial (4) oz	PL Amber 250ml Vial (4) oz	PL Amber 500ml Vial (4) oz	PL Amber 1000ml Vial (4) oz	PL Amber 2500ml Vial (4) oz	PL Amber 5000ml Vial (4) oz	PL Amber 10000ml Vial (4) oz
GL Amber 8 oz. w/HSP4	3	1	1	1	1	1	1	1	1	1
GL Soil container (3) oz	3	1	1	1	1	1	1	1	1	1
GL Amber 100ml Vial (4) oz	3	1	1	1	1	1	1	1	1	1
PL Amber 100ml Vial (4) oz	3	1	1	1	1	1	1	1	1	1
PL Amber 250ml Vial (4) oz	3	1	1	1	1	1	1	1	1	1
PL Amber 500ml Vial (4) oz	3	1	1	1	1	1	1	1	1	1
PL Amber 1000ml Vial (4) oz	3	1	1	1	1	1	1	1	1	1
PL Amber 2500ml Vial (4) oz	3	1	1	1	1	1	1	1	1	1
PL Amber 5000ml Vial (4) oz	3	1	1	1	1	1	1	1	1	1
PL Amber 10000ml Vial (4) oz	3	1	1	1	1	1	1	1	1	1

Relinquished by: [Signature] Accepted by: [Signature] Date: 12/13/11 Time: 15:40

RI: Residential Direct Exposure (Comm/Industrial) Direct Exposure GA Leachability GB Leachability GA-GW Objectives GB-GW Objectives

CI: RCP Cert GW Protection SW Protection GA Mobility GB Mobility Residential DEC I/C DEC Other

MA: MCP Certification GW-1 MWRA eSMART GW-2 GW-3 S-1 GW-1 S-1 GW-2 S-1 GW-3 S-2 GW-1 S-2 GW-2 S-2 GW-3 S-3 GW-1 S-3 GW-2 S-3 GW-3 SW Protection

Data Format: Excel PDF GIS/Key EQUIS Other

Data Package: Tier II Checklist Full Data Package* Phoenix Std Report Other

* SURCHARGE APPLIES

State where samples were collected: CT

Comments, Special Requirements or Regulations:
 Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other
 * SURCHARGE APPLIES

PHOENIX



Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040

Email: info@phoenixlabs.com Fax (860) 645-0823

Client Services (860) 645-8726

CHAIN OF CUSTODY RECORD

Coolant: YPK ICE No

Temp: 38.8 C

Data Delivery/Contact Options:

Fax:

Phone:

Email: lauren@tbirdenv.com

Project P.O.

This section MUST be completed with Bottle Quantities.

Customer: Thunderbird Environmental
Address: 14 Left Wall Road
Clinton CT 06413

Project: 2019-096 Westport
Report to: Lauren Lomas
Invoice to: lauren@tbirdenv.com
QUOTE #

Sampler's Signature: [Signature] Date: 12/13/19

Client Sample - Information - Identification

Matrix Code: DM=Drinking Water GM=Ground Water SW=Surface Water WM=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe Oil=Oil
B=Bulk L=Liquid X= (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request	RI	CT	MA	Data Format
87479	PO-1	S	12/13	11:50	X	X	X	M 1 1	X Excel
87480	PO-2*	S	12/13	12:00	X	X	X	M 1 1	X PDF
87481	PO-3	S	12/13	12:10	X	X	X	M 1 1	X GIS/Key
87482	PO-4*	S	12/13	12:20	X	X	X	M 1 1	X EQUIS
87483	PO-5	S	12/13	12:30	X	X	X	M 1 1	X Other
87484	PO-6*	S	12/13	12:40	X	X	X	M 1 1	X Data Package
87485	PL-1	S	12/13	10:10	X	X	X	M 1 1	X Tier II Checklist
87486	PL-2*	S	12/13	10:20	X	X	X	M 1 1	X Full Data Package
87487	PL-3	S	12/13	10:30	X	X	X	M 1 1	X Phoenix Std Report
87488	PL-4*	S	12/13	10:40	X	X	X	M 1 1	X Other
87489	PL-5	S	12/13	10:50	X	X	X	M 1 1	
87490	PL-6*	S	12/13	11:00	X	X	X	M 1 1	

Relinquished by: [Signature] Accepted by: Kayla Lomas

Date: 12/13/19 Time: 15:40

Comments, Special Requirements or Regulations:

* Hold Samples
Revised C.I.O.C.

Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

State where samples were collected: CT

SURCHARGE APPLIES

GCE 87479

Shannon Wilhelm

Subject: FW: Question on samples received
Attachments: img20191213_16365130.pdf

From: Lauren Lomax [<mailto:lauren@tbirdenv.com>]
Sent: Friday, December 13, 2019 4:38 PM
To: Shannon Wilhelm
Subject: RE: Question on samples received

Hi Shannon,
I modified the chain to make it clear. Please hold all samples marked with a "*" . The rest are to be analyzed.

Thank you

Lauren Lomax
Project Manager
Thunderbird Environmental, LLC
678.463.1970 | lauren@tbirdenv.com



From: Shannon Wilhelm <shannon@phoenixlabs.com>
Sent: Friday, December 13, 2019 4:12 PM
To: Lauren Lomax <lauren@tbirdenv.com>
Subject: Question on samples received
Importance: High

Hi Lauren,
Please see attached. On the ones with * Hold marked, are we holding the entire sample and not running anything? Please let me know.

Thank you,

Shannon Wilhelm
Client Services Representative
Phoenix Environmental Laboratories

GCE 87479

Shannon Wilhelm

From: Shannon Wilhelm
Sent: Friday, December 13, 2019 04:12 PM
To: lauren@tbirdenv.com
Subject: Question on samples received
Attachments: 20191213160750.pdf
Importance: High

Hi Lauren,
Please see attached. On the ones with *Hold marked, are we holding the entire sample and not running anything? Please let me know.

Thank you,

Shannon Wilhelm
Client Services Representative
Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester CT 06040
860-645-1102



Monday, December 23, 2019

Attn: Ms. Lauren Lomax
Thunderbird Environmental
14 Leffingwell Rd
Clinton, CT 06413

Project ID: 2019-096 WESTPORT
SDG ID: GCE87491
Sample ID#s: CE87491 - CE87506

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

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

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

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

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis/Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301



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

Sample Id Cross Reference

December 23, 2019

SDG I.D.: GCE87491

Project ID: 2019-096 WESTPORT

Client Id	Lab Id	Matrix
TP-5A	CE87491	SOIL
TP-5B	CE87492	SOIL
TP-5C	CE87493	SOIL
TP-5D	CE87494	SOIL
TP-6A	CE87495	SOIL
TP-6B	CE87496	SOIL
TP-6C	CE87497	SOIL
TP-6D	CE87498	SOIL
TP-7A	CE87499	SOIL
TP-7B	CE87500	SOIL
TP-7C	CE87501	SOIL
TP-7D	CE87502	SOIL
TP-8A	CE87503	SOIL
TP-8B	CE87504	SOIL
TP-8C	CE87505	SOIL
TP-8D	CE87506	SOIL



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date Time
 12/13/19 9:15
 12/13/19 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87491

Project ID: 2019-096 WESTPORT
 Client ID: TP-5A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	13.7	0.76	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	86		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	61	7.6	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDE	40	7.6	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDT	740	190	ug/Kg	50	12/19/19	CG	SW8081B
a-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Alachlor	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Aldrin	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
b-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Chlordane	57	38	ug/Kg	2	12/18/19	CG	SW8081B
d-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Dieldrin	ND	3.8	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan I	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan II	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan sulfate	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Endrin	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Endrin aldehyde	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Endrin ketone	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
g-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor epoxide	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Methoxychlor	ND	38	ug/Kg	2	12/18/19	CG	SW8081B
Toxaphene	ND	150	ug/Kg	2	12/18/19	CG	SW8081B

QA/QC Surrogates

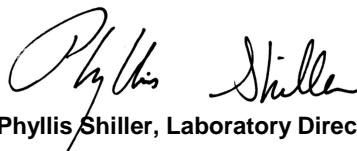
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP	89		%	2	12/18/19	CG	30 - 150 %
% DCBP (Confirmation)	54		%	2	12/18/19	CG	30 - 150 %
% TCMX	76		%	2	12/18/19	CG	30 - 150 %
% TCMX (Confirmation)	65		%	2	12/18/19	CG	30 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:15
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87492

Project ID: 2019-096 WESTPORT
 Client ID: TP-5B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	13.4	0.70	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	87		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:15
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87493

Project ID: 2019-096 WESTPORT
 Client ID: TP-5C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	13.9	0.71	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	88		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date Time
 12/13/19 9:15
 12/13/19 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87494

Project ID: 2019-096 WESTPORT
 Client ID: TP-5D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	11.0	0.68	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	89		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:00
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87495

Project ID: 2019-096 WESTPORT
 Client ID: TP-6A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	12.0	0.72	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	86		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	40	ug/Kg	10	12/18/19	AW	SW8081B
4,4' -DDE	ND	65	ug/Kg	10	12/18/19	AW	SW8081B
4,4' -DDT	ND	35	ug/Kg	10	12/18/19	AW	SW8081B
a-BHC	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
Alachlor	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Aldrin	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
b-BHC	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
Chlordane	ND	76	ug/Kg	10	12/18/19	AW	SW8081B
d-BHC	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
Dieldrin	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
Endosulfan I	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Endosulfan II	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Endosulfan sulfate	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Endrin	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Endrin aldehyde	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Endrin ketone	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
g-BHC	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
Heptachlor	ND	19	ug/Kg	10	12/18/19	AW	SW8081B
Heptachlor epoxide	ND	19	ug/Kg	10	12/18/19	AW	SW8081B
Methoxychlor	ND	190	ug/Kg	10	12/18/19	AW	SW8081B
Toxaphene	ND	760	ug/Kg	10	12/18/19	AW	SW8081B

QA/QC Surrogates

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP	68		%	10	12/18/19	AW	30 - 150 %
% DCBP (Confirmation)	60		%	10	12/18/19	AW	30 - 150 %
% TCMX	64		%	10	12/18/19	AW	30 - 150 %
% TCMX (Confirmation)	77		%	10	12/18/19	AW	30 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

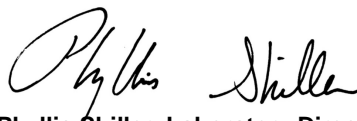
Comments:

Pesticide Comment:

Due to matrix interference caused by the presence of suspected 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.

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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date Time
 12/13/19 9:00
 12/13/19 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87496

Project ID: 2019-096 WESTPORT
 Client ID: TP-6B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	11.2	0.74	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	86		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date Time
 12/13/19 9:00
 12/13/19 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87497

Project ID: 2019-096 WESTPORT
 Client ID: TP-6C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	12.0	0.77	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	85		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:00
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87498

Project ID: 2019-096 WESTPORT
 Client ID: TP-6D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	11.0	0.69	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	85		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:45
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87499

Project ID: 2019-096 WESTPORT
 Client ID: TP-7A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	6.12	0.70	mg/Kg	1	12/17/19	TH	SW6010D
Percent Solid	91		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	15	7.1	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDE	29	7.1	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDT	14	7.1	ug/Kg	2	12/18/19	CG	SW8081B
a-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Alachlor	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Aldrin	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
b-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Chlordane	60	36	ug/Kg	2	12/18/19	CG	SW8081B
d-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Dieldrin	ND	3.6	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan I	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan II	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan sulfate	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Endrin	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Endrin aldehyde	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Endrin ketone	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
g-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor epoxide	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Methoxychlor	ND	36	ug/Kg	2	12/18/19	CG	SW8081B
Toxaphene	ND	140	ug/Kg	2	12/18/19	CG	SW8081B

QA/QC Surrogates

Client ID: TP-7A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP	92		%	2	12/18/19	CG	30 - 150 %
% DCBP (Confirmation)	62		%	2	12/18/19	CG	30 - 150 %
% TCMX	80		%	2	12/18/19	CG	30 - 150 %
% TCMX (Confirmation)	69		%	2	12/18/19	CG	30 - 150 %

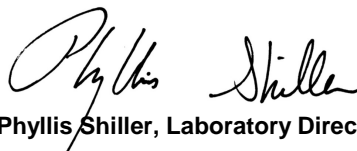
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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:

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

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:45
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87500

Project ID: 2019-096 WESTPORT
 Client ID: TP-7B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	7.75	0.72	mg/Kg	1	12/17/19	TH	SW6010D
Percent Solid	85		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date Time
 12/13/19 8:45
 12/13/19 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87501

Project ID: 2019-096 WESTPORT
 Client ID: TP-7C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	7.68	0.75	mg/Kg	1	12/17/19	TH	SW6010D
Percent Solid	84		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:45
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87502

Project ID: 2019-096 WESTPORT
 Client ID: TP-7D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	7.60	0.75	mg/Kg	1	12/17/19	TH	SW6010D
Percent Solid	86		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:30
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87503

Project ID: 2019-096 WESTPORT
 Client ID: TP-8A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	7.86	0.69	mg/Kg	1	12/17/19	TH	SW6010D
Percent Solid	88		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDE	ND	11	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDT	ND	8.0	ug/Kg	2	12/18/19	CG	SW8081B
a-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Alachlor	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Aldrin	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
b-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Chlordane	ND	37	ug/Kg	2	12/18/19	CG	SW8081B
d-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Dieldrin	ND	3.7	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan I	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan II	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan sulfate	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Endrin	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Endrin aldehyde	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Endrin ketone	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
g-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor epoxide	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Methoxychlor	ND	37	ug/Kg	2	12/18/19	CG	SW8081B
Toxaphene	ND	150	ug/Kg	2	12/18/19	CG	SW8081B

QA/QC Surrogates

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP	72		%	2	12/18/19	CG	30 - 150 %
% DCBP (Confirmation)	53		%	2	12/18/19	CG	30 - 150 %
% TCMX	64		%	2	12/18/19	CG	30 - 150 %
% TCMX (Confirmation)	61		%	2	12/18/19	CG	30 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

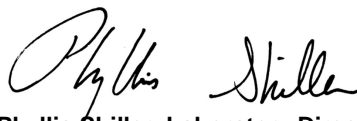
Comments:

Pesticide Comment:

Due to matrix interference caused by the presence of suspected 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.

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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:30
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87504

Project ID: 2019-096 WESTPORT
 Client ID: TP-8B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	10.0	0.72	mg/Kg	1	12/17/19	EK	SW6010D
Percent Solid	87		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:30
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87505

Project ID: 2019-096 WESTPORT
 Client ID: TP-8C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	9.34	0.68	mg/Kg	1	12/17/19	EK	SW6010D
Percent Solid	87		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 December 23, 2019

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:30
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87506

Project ID: 2019-096 WESTPORT
 Client ID: TP-8D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	8.88	0.70	mg/Kg	1	12/17/19	EK	SW6010D
Percent Solid	87		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

December 23, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

December 23, 2019

QA/QC Data

SDG I.D.: GCE87491

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 510274 (mg/kg), QC Sample No: CE87333 (CE87491, CE87492, CE87493, CE87494, CE87495, CE87496, CE87497, CE87498, CE87499, CE87500, CE87501, CE87502, CE87503)													
<u>ICP Metals - Soil</u>													
Arsenic	BRL	0.67	13.2	13.9	5.20	98.8	110	10.7	94.7			75 - 125	30
QA/QC Batch 510275 (mg/kg), QC Sample No: CE87504 (CE87504, CE87505, CE87506)													
<u>ICP Metals - Soil</u>													
Arsenic	BRL	0.67	10.0	8.00	22.2	96.7	103	6.3	96.1			75 - 125	30



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QA/QC Report

December 23, 2019


QA/QC Data

SDG I.D.: GCE87491

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 510239 (ug/Kg), QC Sample No: CE87483 2X (CE87491, CE87495, CE87499, CE87503)										
<u>Pesticides - Soil</u>										
4,4' -DDD	ND	1.7	78	84	7.4	70	62	12.1	40 - 140	30
4,4' -DDE	ND	1.7	67	76	12.6	71	64	10.4	40 - 140	30
4,4' -DDT	ND	1.7	77	88	13.3	74	69	7.0	40 - 140	30
a-BHC	ND	1.0	69	77	11.0	66	63	4.7	40 - 140	30
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30
Aldrin	ND	1.0	65	73	11.6	62	59	5.0	40 - 140	30
b-BHC	ND	1.0	100	108	7.7	105	96	9.0	40 - 140	30
Chlordane	ND	33	73	80	9.2	75	63	17.4	40 - 140	30
d-BHC	ND	3.3	81	86	6.0	72	67	7.2	40 - 140	30
Dieldrin	ND	1.0	77	82	6.3	69	61	12.3	40 - 140	30
Endosulfan I	ND	3.3	71	80	11.9	69	64	7.5	40 - 140	30
Endosulfan II	ND	3.3	70	75	6.9	65	57	13.1	40 - 140	30
Endosulfan sulfate	ND	3.3	100	103	3.0	85	75	12.5	40 - 140	30
Endrin	ND	3.3	92	98	6.3	85	73	15.2	40 - 140	30
Endrin aldehyde	ND	3.3	82	85	3.6	76	63	18.7	40 - 140	30
Endrin ketone	ND	3.3	78	85	8.6	68	62	9.2	40 - 140	30
g-BHC	ND	1.0	72	80	10.5	67	64	4.6	40 - 140	30
Heptachlor	ND	3.3	70	78	10.8	65	67	3.0	40 - 140	30
Heptachlor epoxide	ND	3.3	73	79	7.9	67	63	6.2	40 - 140	30
Methoxychlor	ND	3.3	86	95	9.9	81	72	11.8	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	113	%	91	96	5.3	77	71	8.1	30 - 150	30
% DCBP (Confirmation)	67	%	87	65	28.9	52	47	10.1	30 - 150	30
% TCMX	81	%	73	84	14.0	67	67	0.0	30 - 150	30
% TCMX (Confirmation)	78	%	96	76	23.3	71	83	15.6	30 - 150	30

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
- Inf - Interference


 Phyllis Shiller, Laboratory Director
 December 23, 2019

Monday, December 23, 2019

Criteria: CT: GAM, I/C, RC

State: CT

Sample Criteria Exceedances Report

GCE87491 - THUNDER

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria	Analysis Units
CE87491	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	40	7.6	3	3	ug/Kg
CE87491	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	740	190	3	3	ug/Kg
CE87491	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	61	7.6	3	3	ug/Kg
CE87491	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	13.7	0.76	10	10	mg/Kg
CE87491	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	13.7	0.76	10	10	mg/Kg
CE87492	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	13.4	0.70	10	10	mg/Kg
CE87492	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	13.4	0.70	10	10	mg/Kg
CE87493	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	13.9	0.71	10	10	mg/Kg
CE87493	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	13.9	0.71	10	10	mg/Kg
CE87494	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	11.0	0.68	10	10	mg/Kg
CE87494	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	11.0	0.68	10	10	mg/Kg
CE87495	\$PEST_SMR	Toxaphene	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	760	560	560	ug/Kg
CE87495	\$PEST_SMR	d-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	ug/Kg
CE87495	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	40	3	3	ug/Kg
CE87495	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	65	3	3	ug/Kg
CE87495	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	35	3	3	ug/Kg
CE87495	\$PEST_SMR	a-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	ug/Kg
CE87495	\$PEST_SMR	Aldrin	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	ug/Kg
CE87495	\$PEST_SMR	b-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	ug/Kg
CE87495	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	76	66	66	ug/Kg
CE87495	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	76	66	66	ug/Kg
CE87495	\$PEST_SMR	Dieldrin	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	7.6	7	7	ug/Kg
CE87495	\$PEST_SMR	Heptachlor	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	19	13	13	ug/Kg
CE87495	\$PEST_SMR	Toxaphene	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	760	330	330	ug/Kg
CE87495	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	12.0	0.72	10	10	mg/Kg
CE87495	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	12.0	0.72	10	10	mg/Kg
CE87496	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	11.2	0.74	10	10	mg/Kg
CE87496	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	11.2	0.74	10	10	mg/Kg
CE87497	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	12.0	0.77	10	10	mg/Kg
CE87497	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	12.0	0.77	10	10	mg/Kg
CE87498	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	11.0	0.69	10	10	mg/Kg
CE87498	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	11.0	0.69	10	10	mg/Kg
CE87499	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	15	7.1	3	3	ug/Kg
CE87499	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	29	7.1	3	3	ug/Kg
CE87499	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	14	7.1	3	3	ug/Kg

Monday, December 23, 2019

Criteria: CT: GAM, I/C, RC

State: CT

Sample Criteria Exceedances Report

GCE87491 - THUNDER

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE87503	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	8.0	3	3	ug/Kg
CE87503	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	11	3	3	ug/Kg

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



REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc.

Client: Thunderbird Environmental

Project Location: 2019-096 WESTPORT

Project Number:

Laboratory Sample ID(s): CE87491-CE87506

Sampling Date(s): 12/13/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 8081

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><i>VPH and EPH methods only:</i></u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
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 CTDEP Reasonable Confidence Protocol documents achieved?	<input checked="" type="checkbox"/> Yes <input 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input checked="" type="checkbox"/> Yes <input 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: Rashmi Makol **Position:** Project Manager

Printed Name: Rashmi Makol **Date:** Monday, December 23, 2019

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 23, 2019

SDG I.D.: GCE87491

SDG Comments

Metals Analysis:

The client requested a shorter list of elements than the 6010 RCP list. Only Arsenic is reported as requested on the chain of custody.

Sample(s) required a dilution for Pesticides due to a matrix interference and/or the presence of non-target material in the sample. This resulted in elevated reporting limits that exceed the requested criteria for one or more analytes.

ICP Metals Narration

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

Instrument:

ARCOS 12/16/19 11:25 Emily Kolominskaya, Tina Hall, Chemist 12/16/19

CE87491, CE87492, CE87493, CE87494, CE87495, CE87496, CE87497, CE87498, CE87499, CE87500, CE87501, CE87502, CE87503, CE87504, CE87505, CE87506

Additional criteria for CCV and ICSAB:

Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB). The linear range is defined daily by the calibration range.

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

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

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

QC (Batch Specific):

Batch 510274 (CE87333)

CE87491, CE87492, CE87493, CE87494, CE87495, CE87496, CE87497, CE87498, CE87499, CE87500, CE87501, CE87502, CE87503

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

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

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

QC (Site Specific):

Batch 510275 (CE87504)

CE87504, CE87505, CE87506

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

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

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

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

PEST Narration

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

Instrument:

AU-ECD4 12/17/19-1 Chelsey Guerette, Chemist 12/17/19

CE87499, CE87503

The initial calibration (PSN20AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSN20BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds: None.



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RCP Certification Report

December 23, 2019

SDG I.D.: GCE87491

PEST Narration

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CE87499, CE87503

Preceding CC D17A042 - Endrin 22%H (20%)

Succeeding CC D17A056 - None.

AU-ECD4 12/18/19-1

Chelsey Guerette, Chemist 12/18/19

CE87491, CE87495

The initial calibration (PSD11AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSD11BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CE87491, CE87495

Preceding CC D18A016 - Endrin 26%H (20%)

Succeeding CC D18A030 - None.

AU-ECD7 12/19/19-1

Chelsey Guerette, Chemist 12/19/19

CE87491

The initial calibration (PSD18AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSD18BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:None.

QC (Batch Specific):

Batch 510239 (CE87483)

CE87491, CE87495, CE87499, CE87503

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.

Temperature Narration

The samples were received at 3.8C with cooling initiated.

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

CHAIN OF CUSTODY RECORD



587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
 Client Services (860) 645-8726

Coolant: Yes No
 IPK ICE
 Temp: 56.8 Pg of

Data Delivery/Contact Options:

Fax:
 Phone:
 Email: Lauren@PhoenixLabs.com

Project P.O.:
 This section **MUST** be completed with **Bottle Quantities.**

Project: 2019-0916: Westport
 Report to: LAUREN LOMAX
 Invoice to: LAUREN LOMAX
 QUOTE #

Sampler's Signature: *A.G.* Date: 12/13/19

Client Sample - Information - Identification
 Customer Sample Identification: TP-8A, TP-8B, TP-8C, TP-8D
 Date Sampled: 12/13
 Time Sampled: 8:30

Matrix Code:
 GW=Ground Water SW=Surface Water WW=Waste Water
 DW=Drinking Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe Oil=Oil
 B=Bulk L=Liquid X=(Other)

Analysis Request:
 TOTAL RS-COIDS
 TOTAL PESTICIDES
 *HPLC for Pesticides
 *HPLC for AS + Pesticides

SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request	GL Amber 8 oz. W/3P4	GL Soil container (1/2 methanol) [H2O]	GL Amber 100ml Vial [As] [HCl]	PL AS Is [125ml] [As] [H2SO4]	PL H2SO4 [1250ml] [500ml] [1000ml]	PL HNO3 250ml	PL HNO3 250ml	Bacteria Bottle w/10
875003	TP-8A	S	12/13	8:30	X								
875004	TP-8B	S	12/13	8:30	X								
875005	TP-8C	S	12/13	8:30	X								
875006	TP-8D	S	12/13	8:30	X								

Relinquished by: *[Signature]*
 Accepted by: *[Signature]*
 Date: 12/13/19 15:41

Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other
 * SURCHARGE APPLIES

RI Direct Exposure (Residential)
 GW
 Other
 CT RCP Cert
 GW Protection
 SW Protection
 GA Mobility
 GB Mobility
 Residential DEC
 I/C DEC
 Other

MA MCP Certification
 GW-1
 GW-2
 GW-3
 S-1 GW-1 S-1 GW-2 S-1 GW-3
 S-2 GW-1 S-2 GW-2 S-2 GW-3
 S-3 GW-1 S-3 GW-2 S-3 GW-3
 MWRA eSMART Other

Data Format
 Excel
 PDF
 GIS/Key
 EQUIS
 Other
 Data Package
 Tier II Checklist
 Full Data Package*
 Phoenix Std Report
 Other
 * SURCHARGE APPLIES

State where samples were collected: CT



Thursday, January 02, 2020

Attn: Lauren Lomax
Thunderbird Environmental
14 Leffingwell Rd
Clinton, CT 06413

Project ID: 2019-096 WESTPORT
SDG ID: GCE87479
Sample ID#s: CE87479 - CE87485, CE87487, CE87489

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

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

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

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

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
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SDG Comments

January 02, 2020

SDG I.D.: GCE87479

Version 2: Per client request Arsenic and PAHs were added on.



Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

January 02, 2020

SDG I.D.: GCE87479

Project ID: 2019-096 WESTPORT

Client Id	Lab Id	Matrix
PO-1	CE87479	SOIL
PO-2	CE87480	SOIL
PO-3	CE87481	SOIL
PO-4	CE87482	SOIL
PO-5	CE87483	SOIL
PO-6	CE87484	SOIL
PL-1	CE87485	SOIL
PL-3	CE87487	SOIL
PL-5	CE87489	SOIL



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

Analysis Report

January 02, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

11:50
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87479

Project ID: 2019-096 WESTPORT
 Client ID: PO-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.41	0.41	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	5.86	0.81	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	0.84	0.33	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	0.45	0.41	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	23.6	0.41	mg/Kg	1	12/16/19	TH	SW6010D
Copper	25.9	0.8	mg/kg	1	12/16/19	TH	SW6010D
Mercury	< 0.08	0.08	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	16.5	0.41	mg/Kg	1	12/16/19	TH	SW6010D
Lead	49.1	0.41	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 4.1	4.1	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.6	1.6	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 3.7	3.7	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	64.7	0.8	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	75		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	GR/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	3.7	1.8	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDE	4.2	1.8	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDT	17	8.8	ug/Kg	2	12/17/19	CG	SW8081B
a-BHC	ND	1.8	ug/Kg	2	12/17/19	CG	SW8081B
Alachlor	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Aldrin	ND	1.8	ug/Kg	2	12/17/19	CG	SW8081B
b-BHC	ND	1.8	ug/Kg	2	12/17/19	CG	SW8081B
Chlordane	63	44	ug/Kg	2	12/17/19	CG	SW8081B

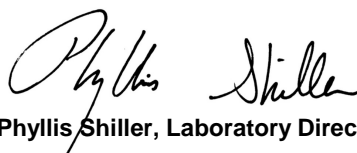
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	1.8	ug/Kg	2	12/17/19	CG	SW8081B
Dieldrin	ND	4.4	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan I	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan II	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan sulfate	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Endrin	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Endrin aldehyde	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Endrin ketone	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
g-BHC	ND	1.8	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor epoxide	ND	8.8	ug/Kg	2	12/17/19	CG	SW8081B
Methoxychlor	ND	44	ug/Kg	2	12/17/19	CG	SW8081B
Toxaphene	ND	180	ug/Kg	2	12/17/19	CG	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	61		%	2	12/17/19	CG	30 - 150 %
% DCBP (Confirmation)	40		%	2	12/17/19	CG	30 - 150 %
% TCMX	50		%	2	12/17/19	CG	30 - 150 %
% TCMX (Confirmation)	44		%	2	12/17/19	CG	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	6.1	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	94		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	95		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	94		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	95		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Acenaphthene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Acenaphthylene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Anthracene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Benz(a)anthracene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(a)pyrene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(b)fluoranthene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(ghi)perylene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(k)fluoranthene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Chrysene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Fluoranthene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Fluorene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Naphthalene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Phenanthrene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
Pyrene	ND	310	ug/Kg	1	12/17/19	WB	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	59		%	1	12/17/19	WB	30 - 130 %
% Nitrobenzene-d5	67		%	1	12/17/19	WB	30 - 130 %
% Terphenyl-d14	48		%	1	12/17/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

January 02, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

January 02, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

12:00
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87480

Project ID: 2019-096 WESTPORT
 Client ID: PO-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	6.85	0.87	mg/Kg	1	01/02/20	EK	SW6010D
Percent Solid	76		%		12/31/19	VT	SW846-%Solid
Soil Extraction SVOA PAH	Completed				12/31/19	MR/LA	SW3545A
Total Metals Digest	Completed				12/31/19	JJ/AG	SW3050B

Polynuclear Aromatic HC

2-Methylnaphthalene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Acenaphthene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Acenaphthylene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Anthracene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Benz(a)anthracene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(a)pyrene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(b)fluoranthene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(ghi)perylene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(k)fluoranthene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Chrysene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Dibenz(a,h)anthracene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Fluoranthene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Fluorene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Naphthalene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Phenanthrene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D
Pyrene	ND	300	ug/Kg	1	01/01/20	WB	SW8270D

QA/QC Surrogates

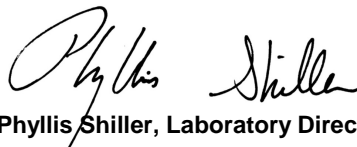
% 2-Fluorobiphenyl	62		%	1	01/01/20	WB	30 - 130 %
% Nitrobenzene-d5	57		%	1	01/01/20	WB	30 - 130 %
% Terphenyl-d14	58		%	1	01/01/20	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

January 02, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

January 02, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

12:10
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87481

Project ID: 2019-096 WESTPORT
 Client ID: PO-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.44	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	6.02	0.88	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	0.96	0.35	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	< 0.44	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	23.1	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Copper	19.8	0.9	mg/kg	1	12/16/19	TH	SW6010D
Mercury	< 0.08	0.08	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	15.5	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Lead	31.2	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 4.4	4.4	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.8	1.8	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 3.9	3.9	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	57.6	0.9	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	75		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	GR/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
4,4' -DDE	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
4,4' -DDT	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
a-BHC	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
Alachlor	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Aldrin	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
b-BHC	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
Chlordane	350	220	ug/Kg	10	12/18/19	AW	SW8081B

Client ID: PO-3

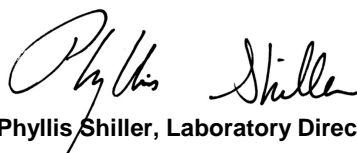
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
Dieldrin	ND	4.4	ug/Kg	2	12/17/19	AW	SW8081B
Endosulfan I	ND	44	ug/Kg	10	12/18/19	AW	SW8081B
Endosulfan II	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Endosulfan sulfate	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Endrin	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Endrin aldehyde	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Endrin ketone	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
g-BHC	ND	1.8	ug/Kg	2	12/17/19	AW	SW8081B
Heptachlor	ND	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Heptachlor epoxide	64	8.8	ug/Kg	2	12/17/19	AW	SW8081B
Methoxychlor	ND	44	ug/Kg	2	12/17/19	AW	SW8081B
Toxaphene	ND	180	ug/Kg	2	12/17/19	AW	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	53		%	2	12/17/19	AW	30 - 150 %
% DCBP (Confirmation)	75		%	2	12/17/19	AW	30 - 150 %
% TCMX	123		%	2	12/17/19	AW	30 - 150 %
% TCMX (Confirmation)	53		%	2	12/17/19	AW	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	5.5	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	96		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	95		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	96		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Acenaphthene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Acenaphthylene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Anthracene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Benz(a)anthracene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(a)pyrene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(b)fluoranthene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(ghi)perylene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(k)fluoranthene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Chrysene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Fluoranthene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Fluorene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Naphthalene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Phenanthrene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
Pyrene	ND	310	ug/Kg	1	12/18/19	WB	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	53		%	1	12/18/19	WB	30 - 130 %
% Nitrobenzene-d5	46		%	1	12/18/19	WB	30 - 130 %
% Terphenyl-d14	60		%	1	12/18/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

January 02, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

January 02, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

12:20
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87482

Project ID: 2019-096 WESTPORT
 Client ID: PO-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	5.81	0.85	mg/Kg	1	01/02/20	EK	SW6010D
Percent Solid	75		%		12/31/19	VT	SW846-%Solid
Soil Extraction SVOA PAH	Completed				12/31/19	MR/LA	SW3545A
Total Metals Digest	Completed				12/31/19	JJ/AG	SW3050B

Polynuclear Aromatic HC

2-Methylnaphthalene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Acenaphthene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Acenaphthylene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Anthracene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Benz(a)anthracene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(a)pyrene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(b)fluoranthene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(ghi)perylene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(k)fluoranthene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Chrysene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Dibenz(a,h)anthracene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Fluoranthene	320	310	ug/Kg	1	01/01/20	WB	SW8270D
Fluorene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Naphthalene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Phenanthrene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Pyrene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D

QA/QC Surrogates

% 2-Fluorobiphenyl	54		%	1	01/01/20	WB	30 - 130 %
% Nitrobenzene-d5	40		%	1	01/01/20	WB	30 - 130 %
% Terphenyl-d14	54		%	1	01/01/20	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

January 02, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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Analysis Report

January 02, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

12:30
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87483

Project ID: 2019-096 WESTPORT
 Client ID: PO-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.39	0.39	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	6.88	0.77	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	0.84	0.31	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	0.42	0.39	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	20.4	0.39	mg/Kg	1	12/16/19	TH	SW6010D
Copper	35.7	0.8	mg/kg	1	12/16/19	TH	SW6010D
Mercury	< 0.07	0.07	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	15.6	0.39	mg/Kg	1	12/16/19	TH	SW6010D
Lead	34.1	0.39	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 3.9	3.9	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.5	1.5	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 3.5	3.5	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	60.2	0.8	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	81		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	GR/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDE	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDT	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
a-BHC	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
Alachlor	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Aldrin	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
b-BHC	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
Chlordane	ND	41	ug/Kg	2	12/17/19	CG	SW8081B

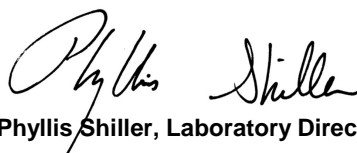
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
Dieldrin	ND	4.1	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan I	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan II	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan sulfate	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Endrin	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Endrin aldehyde	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Endrin ketone	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
g-BHC	ND	1.6	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor epoxide	ND	8.2	ug/Kg	2	12/17/19	CG	SW8081B
Methoxychlor	ND	41	ug/Kg	2	12/17/19	CG	SW8081B
Toxaphene	ND	160	ug/Kg	2	12/17/19	CG	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	83		%	2	12/17/19	CG	30 - 150 %
% DCBP (Confirmation)	54		%	2	12/17/19	CG	30 - 150 %
% TCMX	68		%	2	12/17/19	CG	30 - 150 %
% TCMX (Confirmation)	62		%	2	12/17/19	CG	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	99		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	93		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	95		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	95		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Acenaphthene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Acenaphthylene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Anthracene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Benz(a)anthracene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(a)pyrene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(b)fluoranthene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(ghi)perylene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Benzo(k)fluoranthene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Chrysene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Fluoranthene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Fluorene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Naphthalene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Phenanthrene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
Pyrene	ND	280	ug/Kg	1	12/17/19	WB	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	51		%	1	12/17/19	WB	30 - 130 %
% Nitrobenzene-d5	50		%	1	12/17/19	WB	30 - 130 %
% Terphenyl-d14	47		%	1	12/17/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

January 02, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

January 02, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

12:40
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87484

Project ID: 2019-096 WESTPORT
 Client ID: PO-6

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	5.95	0.88	mg/Kg	1	01/02/20	EK	SW6010D
Percent Solid	74		%		12/31/19	VT	SW846-%Solid
Soil Extraction SVOA PAH	Completed				12/31/19	MR/LA	SW3545A
Total Metals Digest	Completed				12/31/19	JJ/AG	SW3050B

Polynuclear Aromatic HC

2-Methylnaphthalene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Acenaphthene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Acenaphthylene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Anthracene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Benz(a)anthracene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(a)pyrene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(b)fluoranthene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(ghi)perylene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Benzo(k)fluoranthene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Chrysene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Dibenz(a,h)anthracene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Fluoranthene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Fluorene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Naphthalene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Phenanthrene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D
Pyrene	ND	310	ug/Kg	1	01/01/20	WB	SW8270D

QA/QC Surrogates

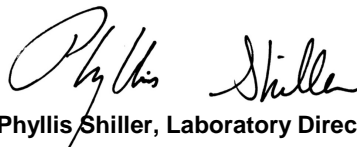
% 2-Fluorobiphenyl	62		%	1	01/01/20	WB	30 - 130 %
% Nitrobenzene-d5	58		%	1	01/01/20	WB	30 - 130 %
% Terphenyl-d14	60		%	1	01/01/20	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

January 02, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

January 02, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

10:10
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87485

Project ID: 2019-096 WESTPORT
 Client ID: PL-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.44	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	10.5	0.88	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	0.63	0.35	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	0.63	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	21.8	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Copper	33.0	0.9	mg/kg	1	12/16/19	TH	SW6010D
Mercury	0.19	0.09	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	16.4	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Lead	172	0.44	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 4.4	4.4	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.8	1.8	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 4.0	4.0	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	82.0	0.9	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	71		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	GR/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	12	1.9	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDE	18	9.3	ug/Kg	2	12/17/19	CG	SW8081B
4,4' -DDT	23	9.3	ug/Kg	2	12/17/19	CG	SW8081B
a-BHC	ND	1.9	ug/Kg	2	12/17/19	CG	SW8081B
Alachlor	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Aldrin	ND	1.9	ug/Kg	2	12/17/19	CG	SW8081B
b-BHC	ND	1.9	ug/Kg	2	12/17/19	CG	SW8081B
Chlordane	ND	47	ug/Kg	2	12/17/19	CG	SW8081B

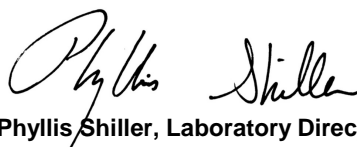
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	1.9	ug/Kg	2	12/17/19	CG	SW8081B
Dieldrin	ND	4.7	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan I	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan II	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Endosulfan sulfate	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Endrin	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Endrin aldehyde	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Endrin ketone	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
g-BHC	ND	1.9	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Heptachlor epoxide	ND	9.3	ug/Kg	2	12/17/19	CG	SW8081B
Methoxychlor	ND	47	ug/Kg	2	12/17/19	CG	SW8081B
Toxaphene	ND	190	ug/Kg	2	12/17/19	CG	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	80		%	2	12/17/19	CG	30 - 150 %
% DCBP (Confirmation)	44		%	2	12/17/19	CG	30 - 150 %
% TCMX	64		%	2	12/17/19	CG	30 - 150 %
% TCMX (Confirmation)	47		%	2	12/17/19	CG	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	9.5	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	95		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	94		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	96		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Acenaphthene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Acenaphthylene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Anthracene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Benz(a)anthracene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(a)pyrene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(b)fluoranthene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(ghi)perylene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Benzo(k)fluoranthene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Chrysene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Fluoranthene	380	330	ug/Kg	1	12/18/19	WB	SW8270D
Fluorene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Naphthalene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Phenanthrene	ND	330	ug/Kg	1	12/18/19	WB	SW8270D
Pyrene	340	330	ug/Kg	1	12/18/19	WB	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	51		%	1	12/18/19	WB	30 - 130 %
% Nitrobenzene-d5	42		%	1	12/18/19	WB	30 - 130 %
% Terphenyl-d14	38		%	1	12/18/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

January 02, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

January 02, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

10:30
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87487

Project ID: 2019-096 WESTPORT
 Client ID: PL-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.37	0.37	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	21.8	0.74	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	0.83	0.30	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	0.54	0.37	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	23.5	0.37	mg/Kg	1	12/16/19	TH	SW6010D
Copper	26.6	0.7	mg/kg	1	12/16/19	TH	SW6010D
Mercury	0.13	0.07	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	14.3	0.37	mg/Kg	1	12/16/19	TH	SW6010D
Lead	189	0.37	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 3.7	3.7	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.5	1.5	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 3.4	3.4	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	143	0.7	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	85		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	GR/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	50	ug/Kg	10	12/18/19	CG	SW8081B
4,4' -DDE	ND	150	ug/Kg	10	12/18/19	CG	SW8081B
4,4' -DDT	ND	400	ug/Kg	10	12/18/19	CG	SW8081B
a-BHC	ND	7.6	ug/Kg	10	12/18/19	CG	SW8081B
Alachlor	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Aldrin	ND	7.6	ug/Kg	10	12/18/19	CG	SW8081B
b-BHC	ND	7.6	ug/Kg	10	12/18/19	CG	SW8081B
Chlordane	ND	76	ug/Kg	10	12/18/19	CG	SW8081B

Client ID: PL-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	7.6	ug/Kg	10	12/18/19	CG	SW8081B
Dieldrin	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Endosulfan I	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Endosulfan II	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Endosulfan sulfate	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Endrin	ND	38	ug/Kg	10	12/18/19	CG	SW8081B
Endrin aldehyde	ND	60	ug/Kg	10	12/18/19	CG	SW8081B
Endrin ketone	ND	50	ug/Kg	10	12/18/19	CG	SW8081B
g-BHC	ND	7.6	ug/Kg	10	12/18/19	CG	SW8081B
Heptachlor	ND	19	ug/Kg	10	12/18/19	CG	SW8081B
Heptachlor epoxide	ND	19	ug/Kg	10	12/18/19	CG	SW8081B
Methoxychlor	ND	190	ug/Kg	10	12/18/19	CG	SW8081B
Toxaphene	ND	760	ug/Kg	10	12/18/19	CG	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	68		%	10	12/18/19	CG	30 - 150 %
% DCBP (Confirmation)	67		%	10	12/18/19	CG	30 - 150 %
% TCMX	76		%	10	12/18/19	CG	30 - 150 %
% TCMX (Confirmation)	71		%	10	12/18/19	CG	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	6.0	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	99		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	94		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	97		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Acenaphthene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Anthracene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Benz(a)anthracene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Benzo(a)pyrene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Benzo(b)fluoranthene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Benzo(ghi)perylene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Benzo(k)fluoranthene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Chrysene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Fluoranthene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Fluorene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Naphthalene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Phenanthrene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
Pyrene	ND	270	ug/Kg	1	12/17/19	AW	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	47		%	1	12/17/19	AW	30 - 130 %
% Nitrobenzene-d5	50		%	1	12/17/19	AW	30 - 130 %
% Terphenyl-d14	44		%	1	12/17/19	AW	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:

Pesticide Comment:
 Due to matrix interference caused by the presence of suspected 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 you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

January 02, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

January 02, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

10:50
 15:40

Laboratory Data

SDG ID: GCE87479
 Phoenix ID: CE87489

Project ID: 2019-096 WESTPORT
 Client ID: PL-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.32	0.32	mg/Kg	1	12/16/19	TH	SW6010D
Arsenic	1.77	0.65	mg/Kg	1	12/16/19	TH	SW6010D
Beryllium	< 0.26	0.26	mg/Kg	1	12/16/19	TH	SW6010D
Cadmium	0.33	0.32	mg/Kg	1	12/16/19	TH	SW6010D
Chromium	11.5	0.32	mg/Kg	1	12/16/19	TH	SW6010D
Copper	17.7	0.6	mg/kg	1	12/16/19	TH	SW6010D
Mercury	< 0.06	0.06	mg/Kg	5	12/16/19	RS	SW7471B
Nickel	7.00	0.32	mg/Kg	1	12/16/19	TH	SW6010D
Lead	20.7	0.32	mg/Kg	1	12/16/19	TH	SW6010D
Antimony	< 3.2	3.2	mg/Kg	1	12/16/19	TH	SW6010D
Selenium	< 1.3	1.3	mg/Kg	1	12/16/19	TH	SW6010D
Thallium	< 2.9	2.9	mg/Kg	1	12/16/19	TH	SW6010D
Zinc	41.0	0.6	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	95		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Soil Extraction SVOA PAH	Completed				12/16/19	KK/AL	SW3545A
Mercury Digestion	Completed				12/16/19	Q/Q	SW7471B
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDE	ND	6.0	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDT	ND	17	ug/Kg	2	12/18/19	CG	SW8081B
a-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Alachlor	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Aldrin	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
b-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Chlordane	ND	34	ug/Kg	2	12/18/19	CG	SW8081B

Client ID: PL-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
d-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Dieldrin	ND	3.4	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan I	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan II	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan sulfate	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Endrin	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Endrin aldehyde	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Endrin ketone	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
g-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor epoxide	ND	6.8	ug/Kg	2	12/18/19	CG	SW8081B
Methoxychlor	ND	34	ug/Kg	2	12/18/19	CG	SW8081B
Toxaphene	ND	140	ug/Kg	2	12/18/19	CG	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	62		%	2	12/18/19	CG	30 - 150 %
% DCBP (Confirmation)	45		%	2	12/18/19	CG	30 - 150 %
% TCMX	51		%	2	12/18/19	CG	30 - 150 %
% TCMX (Confirmation)	47		%	2	12/18/19	CG	30 - 150 %
<u>Aromatic Volatiles</u>							
1,2,3-Trichlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Benzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Chlorobenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Ethylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Isopropylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
m&p-Xylene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Naphthalene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
n-Butylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
n-Propylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
o-Xylene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
p-Isopropyltoluene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
sec-Butylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Styrene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
tert-Butylbenzene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Toluene	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
Total Xylenes	ND	4.8	ug/Kg	1	12/16/19	JLI	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	96		%	1	12/16/19	JLI	70 - 130 %
% Bromofluorobenzene	97		%	1	12/16/19	JLI	70 - 130 %
% Dibromofluoromethane	95		%	1	12/16/19	JLI	70 - 130 %
% Toluene-d8	96		%	1	12/16/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>Polynuclear Aromatic HC</u>							
2-Methylnaphthalene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Acenaphthene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Acenaphthylene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Anthracene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Benz(a)anthracene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Benzo(a)pyrene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Chrysene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Fluoranthene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Fluorene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Naphthalene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Phenanthrene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
Pyrene	ND	240	ug/Kg	1	12/16/19	WB	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	51		%	1	12/16/19	WB	30 - 130 %
% Nitrobenzene-d5	55		%	1	12/16/19	WB	30 - 130 %
% Terphenyl-d14	53		%	1	12/16/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
 QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Pesticide Comment:
 Due to matrix interference caused by the presence of suspected 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 you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

January 02, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

January 02, 2020

QA/QC Data

SDG I.D.: GCE87479

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 510372 (mg/kg), QC Sample No: CE87173 2X (CE87479, CE87481, CE87483, CE87485, CE87487, CE87489)

Mercury - Soil	BRL	0.02	0.09	0.07	NC	100	104	3.9				70 - 130	30
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Comment:

This batch consists of a Blank, LCS, LCSD and sample Duplicate.

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

QA/QC Batch 510274 (mg/kg), QC Sample No: CE87333 (CE87479, CE87481, CE87483, CE87485, CE87487, CE87489)

ICP Metals - Soil

Antimony	BRL	3.3	<3.5	<3.8	NC	97.5	102	4.5	95.1			75 - 125	30
Arsenic	BRL	0.67	13.2	13.9	5.20	98.8	110	10.7	94.7			75 - 125	30
Beryllium	BRL	0.27	0.40	0.40	NC	101	108	6.7	102			75 - 125	30
Cadmium	BRL	0.33	<0.35	<0.38	NC	89.4	88.7	0.8	98.3			75 - 125	30
Chromium	BRL	0.33	13.2	12.7	3.90	109	121	10.4	102			75 - 125	30
Copper	BRL	0.67	13.4	14.6	8.60	110	124	12.0	113			75 - 125	30
Lead	BRL	0.33	30.1	32.7	8.30	98.8	120	19.4	97.4			75 - 125	30
Nickel	BRL	0.33	8.66	9.00	3.90	99.8	109	8.8	101			75 - 125	30
Selenium	BRL	1.3	<1.4	<1.5	NC	83.8	89.8	6.9	80.8			75 - 125	30
Silver	BRL	0.33	<0.35	<0.38	NC	105	119	12.5	102			75 - 125	30
Thallium	BRL	3.0	<3.1	<3.4	NC	104	110	5.6	99.7			75 - 125	30
Zinc	BRL	0.67	47.0	49.9	6.00	100	110	9.5	104			75 - 125	30

QA/QC Batch 512361 (mg/kg), QC Sample No: CE87480 (CE87480, CE87482, CE87484)

ICP Metals - Soil

Arsenic	BRL	0.67	6.85	6.71	2.10	114	113	0.9	96.9			75 - 125	30
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QA/QC Report

January 02, 2020

QA/QC Data

SDG I.D.: GCE87479

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 510239 (ug/Kg), QC Sample No: CE87483 2X (CE87479, CE87481, CE87483, CE87485, CE87487, CE87489)

Pesticides - Soil

4,4' -DDD	ND	1.7	78	84	7.4	70	62	12.1	40 - 140	30
4,4' -DDE	ND	1.7	67	76	12.6	71	64	10.4	40 - 140	30
4,4' -DDT	ND	1.7	77	88	13.3	74	69	7.0	40 - 140	30
a-BHC	ND	1.0	69	77	11.0	66	63	4.7	40 - 140	30
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30
Aldrin	ND	1.0	65	73	11.6	62	59	5.0	40 - 140	30
b-BHC	ND	1.0	100	108	7.7	105	96	9.0	40 - 140	30
Chlordane	ND	33	73	80	9.2	75	63	17.4	40 - 140	30
d-BHC	ND	3.3	81	86	6.0	72	67	7.2	40 - 140	30
Dieldrin	ND	1.0	77	82	6.3	69	61	12.3	40 - 140	30
Endosulfan I	ND	3.3	71	80	11.9	69	64	7.5	40 - 140	30
Endosulfan II	ND	3.3	70	75	6.9	65	57	13.1	40 - 140	30
Endosulfan sulfate	ND	3.3	100	103	3.0	85	75	12.5	40 - 140	30
Endrin	ND	3.3	92	98	6.3	85	73	15.2	40 - 140	30
Endrin aldehyde	ND	3.3	82	85	3.6	76	63	18.7	40 - 140	30
Endrin ketone	ND	3.3	78	85	8.6	68	62	9.2	40 - 140	30
g-BHC	ND	1.0	72	80	10.5	67	64	4.6	40 - 140	30
Heptachlor	ND	3.3	70	78	10.8	65	67	3.0	40 - 140	30
Heptachlor epoxide	ND	3.3	73	79	7.9	67	63	6.2	40 - 140	30
Methoxychlor	ND	3.3	86	95	9.9	81	72	11.8	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	113	%	91	96	5.3	77	71	8.1	30 - 150	30
% DCBP (Confirmation)	67	%	87	65	28.9	52	47	10.1	30 - 150	30
% TCMX	81	%	73	84	14.0	67	67	0.0	30 - 150	30
% TCMX (Confirmation)	78	%	96	76	23.3	71	83	15.6	30 - 150	30

QA/QC Batch 510339 (ug/kg), QC Sample No: CE87487 (CE87479, CE87481, CE87483, CE87485, CE87487)

Polynuclear Aromatic HC - Soil

2-Methylnaphthalene	ND	230	58	45	25.2	44	53	18.6	30 - 130	30
Acenaphthene	ND	230	59	48	20.6	44	53	18.6	30 - 130	30
Acenaphthylene	ND	230	58	47	21.0	44	52	16.7	30 - 130	30
Anthracene	ND	230	61	49	21.8	46	53	14.1	30 - 130	30
Benz(a)anthracene	ND	230	65	52	22.2	49	57	15.1	30 - 130	30
Benzo(a)pyrene	ND	230	62	51	19.5	46	53	14.1	30 - 130	30
Benzo(b)fluoranthene	ND	230	67	56	17.9	58	65	11.4	30 - 130	30
Benzo(ghi)perylene	ND	230	53	46	14.1	34	40	16.2	30 - 130	30
Benzo(k)fluoranthene	ND	230	66	54	20.0	56	66	16.4	30 - 130	30
Chrysene	ND	230	63	50	23.0	47	53	12.0	30 - 130	30
Dibenz(a,h)anthracene	ND	230	68	57	17.6	43	50	15.1	30 - 130	30
Fluoranthene	ND	230	58	48	18.9	47	54	13.9	30 - 130	30
Fluorene	ND	230	62	49	23.4	46	54	16.0	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	67	57	16.1	45	52	14.4	30 - 130	30

QA/QC Data

SDG I.D.: GCE87479

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Naphthalene	ND	230	55	39	34.0	40	50	22.2	30 - 130	30
Phenanthrene	ND	230	60	49	20.2	47	52	10.1	30 - 130	30
Pyrene	ND	230	59	48	20.6	48	56	15.4	30 - 130	30
% 2-Fluorobiphenyl	52	%	54	45	18.2	40	47	16.1	30 - 130	30
% Nitrobenzene-d5	54	%	56	39	35.8	42	50	17.4	30 - 130	30
% Terphenyl-d14	52	%	49	42	15.4	39	45	14.3	30 - 130	30

Comment:

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

QA/QC Batch 510462 (ug/kg), QC Sample No: CE87489 (CE87489)

Polynuclear Aromatic HC - Soil

2-Methylnaphthalene	ND	230	65	61	6.3	56	56	0.0	30 - 130	30
Acenaphthene	ND	230	70	67	4.4	62	62	0.0	30 - 130	30
Acenaphthylene	ND	230	70	69	1.4	64	63	1.6	30 - 130	30
Anthracene	ND	230	71	69	2.9	64	65	1.6	30 - 130	30
Benz(a)anthracene	ND	230	76	71	6.8	68	69	1.5	30 - 130	30
Benzo(a)pyrene	ND	230	80	76	5.1	73	73	0.0	30 - 130	30
Benzo(b)fluoranthene	ND	230	74	70	5.6	69	65	6.0	30 - 130	30
Benzo(ghi)perylene	ND	230	70	71	1.4	60	66	9.5	30 - 130	30
Benzo(k)fluoranthene	ND	230	74	70	5.6	67	70	4.4	30 - 130	30
Chrysene	ND	230	74	69	7.0	67	67	0.0	30 - 130	30
Dibenz(a,h)anthracene	ND	230	82	78	5.0	68	73	7.1	30 - 130	30
Fluoranthene	ND	230	72	68	5.7	68	66	3.0	30 - 130	30
Fluorene	ND	230	70	68	2.9	63	63	0.0	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	72	70	2.8	61	66	7.9	30 - 130	30
Naphthalene	ND	230	61	60	1.7	52	51	1.9	30 - 130	30
Phenanthrene	ND	230	70	69	1.4	64	63	1.6	30 - 130	30
Pyrene	ND	230	75	70	6.9	70	68	2.9	30 - 130	30
% 2-Fluorobiphenyl	62	%	60	62	3.3	55	55	0.0	30 - 130	30
% Nitrobenzene-d5	69	%	64	59	8.1	55	54	1.8	30 - 130	30
% Terphenyl-d14	61	%	58	58	0.0	56	55	1.8	30 - 130	30

Comment:

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

QA/QC Batch 512359 (ug/kg), QC Sample No: CE95380 (CE87480, CE87482, CE87484)

Semivolatiles - Soil

2-Methylnaphthalene	ND	230	50	52	3.9	63	60	4.9	30 - 130	30
Acenaphthene	ND	230	59	58	1.7	71	63	11.9	30 - 130	30
Acenaphthylene	ND	130	57	59	3.4	70	64	9.0	30 - 130	30
Anthracene	ND	230	58	65	11.4	68	64	6.1	30 - 130	30
Benz(a)anthracene	ND	230	66	69	4.4	75	70	6.9	30 - 130	30
Benzo(a)pyrene	ND	130	67	69	2.9	75	71	5.5	30 - 130	30
Benzo(b)fluoranthene	ND	160	61	67	9.4	76	70	8.2	30 - 130	30
Benzo(ghi)perylene	ND	230	62	54	13.8	54	58	7.1	30 - 130	30
Benzo(k)fluoranthene	ND	230	66	71	7.3	81	72	11.8	30 - 130	30
Chrysene	ND	230	63	67	6.2	72	65	10.2	30 - 130	30
Dibenz(a,h)anthracene	ND	130	69	63	9.1	60	68	12.5	30 - 130	30
Fluoranthene	ND	230	59	66	11.2	60	55	8.7	30 - 130	30
Fluorene	ND	230	63	63	0.0	75	68	9.8	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	70	67	4.4	59	68	14.2	30 - 130	30
Naphthalene	ND	230	47	47	0.0	61	56	8.5	30 - 130	30
Phenanthrene	ND	130	59	65	9.7	71	65	8.8	30 - 130	30

QA/QC Data

SDG I.D.: GCE87479

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Pyrene	ND	230	62	68	9.2	63	56	11.8	30 - 130	30
% 2-Fluorobiphenyl	52	%	52	54	3.8	66	59	11.2	30 - 130	30
% Nitrobenzene-d5	48	%	47	49	4.2	66	57	14.6	30 - 130	30
% Terphenyl-d14	57	%	53	58	9.0	50	44	12.8	30 - 130	30

Comment:

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

QA/QC Batch 510627 (ug/kg), QC Sample No: CE87827 (CE87479, CE87481, CE87483, CE87485, CE87487, CE87489)

Volatiles - Soil (Low Level)

1,2,3-Trichlorobenzene	ND	5.0	82	82	0.0				70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	82	83	1.2				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	81	81	0.0				70 - 130	30
1,2-Dichlorobenzene	ND	5.0	79	80	1.3				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	83	83	0.0				70 - 130	30
1,3-Dichlorobenzene	ND	5.0	82	82	0.0				70 - 130	30
1,4-Dichlorobenzene	ND	5.0	80	82	2.5				70 - 130	30
Benzene	ND	1.0	81	82	1.2				70 - 130	30
Chlorobenzene	ND	5.0	82	83	1.2				70 - 130	30
Ethylbenzene	ND	1.0	82	84	2.4				70 - 130	30
Isopropylbenzene	ND	1.0	81	81	0.0				70 - 130	30
m&p-Xylene	ND	2.0	84	84	0.0				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	99	103	4.0				70 - 130	30
Naphthalene	ND	5.0	81	84	3.6				70 - 130	30
n-Butylbenzene	ND	1.0	80	80	0.0				70 - 130	30
n-Propylbenzene	ND	1.0	82	82	0.0				70 - 130	30
o-Xylene	ND	2.0	83	86	3.6				70 - 130	30
p-Isopropyltoluene	ND	1.0	84	84	0.0				70 - 130	30
sec-Butylbenzene	ND	1.0	87	88	1.1				70 - 130	30
Styrene	ND	5.0	83	85	2.4				70 - 130	30
tert-Butylbenzene	ND	1.0	84	85	1.2				70 - 130	30
Toluene	ND	1.0	81	85	4.8				70 - 130	30
% 1,2-dichlorobenzene-d4	99	%	99	96	3.1				70 - 130	30
% Bromofluorobenzene	95	%	98	99	1.0				70 - 130	30
% Dibromofluoromethane	96	%	100	103	3.0				70 - 130	30
% Toluene-d8	96	%	98	98	0.0				70 - 130	30

Comment:

The Low Level MS/MSD are not reported for this batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

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

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

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

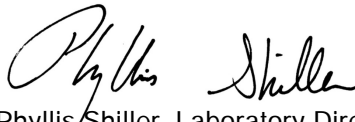
LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference


 Phyllis Shiller, Laboratory Director
 January 02, 2020

Thursday, January 02, 2020

Criteria: CT: GAM, I/C, RC

State: CT

Sample Criteria Exceedances Report

GCE87479 - THUNDER

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria	RL	Analysis Units
CE87479	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	4.2	1.8	3	3	3	ug/Kg
CE87479	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	17	8.8	3	3	3	ug/Kg
CE87479	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	3.7	1.8	3	3	3	ug/Kg
CE87481	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / APS Organics	350	220	66	66	66	ug/Kg
CE87481	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	350	220	66	66	66	ug/Kg
CE87481	\$PEST_SMR	Heptachlor epoxide	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	64	8.8	20	20	20	ug/Kg
CE87485	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	12	1.9	3	3	3	ug/Kg
CE87485	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	18	9.3	3	3	3	ug/Kg
CE87485	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	23	9.3	3	3	3	ug/Kg
CE87485	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	10.5	0.88	10	10	10	mg/Kg
CE87485	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	10.5	0.88	10	10	10	mg/Kg
CE87487	\$PEST_SMR	Toxaphene	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	760	560	560	560	ug/Kg
CE87487	\$PEST_SMR	Aldrin	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	2	ug/Kg
CE87487	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	50	3	3	3	ug/Kg
CE87487	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	150	3	3	3	ug/Kg
CE87487	\$PEST_SMR	a-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	2	ug/Kg
CE87487	\$PEST_SMR	b-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	2	ug/Kg
CE87487	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	76	66	66	66	ug/Kg
CE87487	\$PEST_SMR	d-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	2	ug/Kg
CE87487	\$PEST_SMR	Endrin aldehyde	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	60	40	40	40	ug/Kg
CE87487	\$PEST_SMR	Endrin ketone	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	50	40	40	40	ug/Kg
CE87487	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	400	3	3	3	ug/Kg
CE87487	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	76	66	66	66	ug/Kg
CE87487	\$PEST_SMR	Dieldrin	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	38	7	7	7	ug/Kg
CE87487	\$PEST_SMR	Heptachlor	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	19	13	13	13	ug/Kg
CE87487	\$PEST_SMR	Toxaphene	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	760	330	330	330	ug/Kg
CE87487	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	21.8	0.74	10	10	10	mg/Kg
CE87487	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	21.8	0.74	10	10	10	mg/Kg
CE87489	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	17	3	3	3	ug/Kg
CE87489	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	6.0	3	3	3	ug/Kg

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



REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc.

Client: Thunderbird Environmental

Project Location: 2019-096 WESTPORT

Project Number:

Laboratory Sample ID(s): CE87479,
CE87481, CE87483, CE87485, CE87487, CE87489

Sampling Date(s): 12/13/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 7470/7471, 8081, 8260, 8270

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input checked="" type="checkbox"/> Yes <input 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: Rashmi Makol **Position:** Project Manager

Printed Name: Rashmi Makol **Date:** Thursday, January 02, 2020

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

January 02, 2020

SDG I.D.: GCE87479

SDG Comments

Metals Analysis:

The client requested a site specific list of elements which is shorter than the 6010 RCP list.

8260 Volatile Organics:

The client requested a short list for 8260 RCP Volatiles. Only the volatile aromatic constituents are reported as requested on the chain-of-custody.

8270 Semi-volatile Organics:

The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

Metals Analysis:

The client requested a site specific list of elements which is shorter than the 6010 RCP list.

Sample(CE87487, CE87489) required a dilution for Pesticides due to a matrix interference and/or the presence of non-target material in the sample. This resulted in elevated reporting limits that exceed the requested criteria for one or more analytes.

Mercury Narration

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

Instrument:

MERLIN 12/16/19 07:49 Rick Schweitzer, Chemist 12/16/19

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

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 510372 (CE87173)

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

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.

This batch consists of a Blank, LCS, LCSD and sample Duplicate.

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

ICP Metals Narration

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

Instrument:

ARCOS 01/02/20 08:01 Emily Kolominskaya, Chemist 01/02/20



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Certification Report

January 02, 2020

SDG I.D.: GCE87479

ICP Metals Narration

CE87480, CE87482, CE87484

Additional criteria for CCV and ICSAB:

Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB). The linear range is defined daily by the calibration range.

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

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

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

ARCOS 12/16/19 11:25 Tina Hall, Chemist 12/16/19

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

Additional criteria for CCV and ICSAB:

Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB). The linear range is defined daily by the calibration range.

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

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

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

QC (Batch Specific):

Batch 510274 (CE87333)

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

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

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

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

QC (Site Specific):

Batch 512361 (CE87480)

CE87480, CE87482, CE87484

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

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

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

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

PEST Narration

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

Instrument:

AU-ECD35 12/17/19-1 Chelsey Guerette, Chemist 12/17/19

CE87487

The initial calibration (PSD09AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSD09BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds: None.

AU-ECD4 12/17/19-1 Chelsey Guerette, Chemist 12/17/19

CE87479, CE87481, CE87483, CE87485, CE87489



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RCP Certification Report

January 02, 2020

SDG I.D.: GCE87479

PEST Narration

The initial calibration (PSN20AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PSN20BI) RSD for the compound list was less than 20% except for the following compounds: None.
The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.
The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.
The continuing calibration %D for the compound list was less than 20% except for the following compounds:
Samples: CE87479, CE87481, CE87483, CE87485
Preceding CC D17A029 - Endrin 25%H (20%)
Succeeding CC D17A042 - Endrin 22%H (20%)
Samples: CE87489
Preceding CC D17A042 - Endrin 22%H (20%)
Succeeding CC D17A056 - None.

AU-ECD4 12/18/19-1 Chelsey Guerette, Chemist 12/18/19

CE87481

The initial calibration (PSD11AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PSD11BI) RSD for the compound list was less than 20% except for the following compounds: None.
The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.
The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.
The continuing calibration %D for the compound list was less than 20% except for the following compounds:None.

QC (Site Specific):

Batch 510239 (CE87483)

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

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.
All MS recoveries were within 30 - 150 with the following exceptions: None.
All MSD recoveries were within 30 - 150 with the following exceptions: None.
All MS/MSD RPDs were less than 30% with the following exceptions: None.

SVOA Narration

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

QC Batch 510339 (Samples: CE87479, CE87481, CE87483, CE87485, CE87487): -----

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (Naphthalene)

The LCS/LCSD RPD exceeds the method criteria for one or more surrogates, therefore there may be variability in the reported result. (% Nitrobenzene-d5)

Instrument:

CHEM06 12/16/19-2 Matt Richard, Chemist 12/16/19

CE87489

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.



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RCP Certification Report

January 02, 2020

SDG I.D.: GCE87479

SVOA Narration

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM06/6_BN_1203):

100% of target compounds met criteria.

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

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

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

Continuing Calibration Verification (CHEM06/1216_26-6_BN_1203):

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.

CHEM19 12/16/19-1

Matt Richard, Chemist 12/16/19

CE87479, CE87483

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM19/19_BN_1112):

100% of target compounds met criteria.

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

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

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

Continuing Calibration Verification (CHEM19/1216_10-19_BN_1112):

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.

CHEM19 12/17/19-1

Matt Richard, Chemist 12/17/19

CE87481, CE87485

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM19/19_BN_1112):

100% of target compounds met criteria.

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

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

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

Continuing Calibration Verification (CHEM19/1217_06-19_BN_1112):

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



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

January 02, 2020

SDG I.D.: GCE87479

SVOA Narration

100% of target compounds met criteria.

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

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

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

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

CHEM28 12/16/19-1

Matt Richard, Chemist 12/16/19

CE87487

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM28/28_BN_1206):

100% of target compounds met criteria.

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

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

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

Continuing Calibration Verification (CHEM28/1216_04-28_BN_1206):

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.

CHEM28 12/31/19-1

Paul Marshall, Chemist 12/31/19

CE87480, CE87482, CE87484

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM28/28_SPLIT_1206):

100% of target compounds met criteria.

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

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

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

Continuing Calibration Verification (CHEM28/1231_03-28_SPLIT_1206):

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

97% 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 512359 (CE95380)

CE87480, CE87482, CE87484



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Tel. (860) 645-1102 Fax (860) 645-0823



RCP Certification Report

January 02, 2020

SDG I.D.: GCE87479

SVOA Narration

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QC (Site Specific):

Batch 510339 (CE87487)

CE87479, CE87481, CE87483, CE87485, CE87487

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: % Nitrobenzene-d5(35.8%), Naphthalene(34.0%)
All MS recoveries were within 30 - 130 with the following exceptions: None.
All MSD recoveries were within 30 - 130 with the following exceptions: None.
All MS/MSD RPDs were less than 30% with the following exceptions: None.
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

Batch 510462 (CE87489)

CE87489

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 30 - 130 with the following exceptions: None.
All MSD recoveries were within 30 - 130 with the following exceptions: None.
All MS/MSD RPDs were less than 30% with the following exceptions: None.
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

VOA Narration

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

Instrument:

CHEM18 12/16/19-1

Jane Li, Chemist 12/16/19

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

Initial Calibration Evaluation (CHEM18/VT-M120419):

96% of target compounds met criteria.

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

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

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

Continuing Calibration Verification (CHEM18/1216M02-VT-M120419):

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.



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Tel. (860) 645-1102 Fax (860) 645-0823



RCP Certification Report

January 02, 2020

SDG I.D.: GCE87479

VOA Narration

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

QC (Batch Specific):

Batch 510627 (CE87827) CHEM18 12/16/2019-1

CE87479, CE87481, CE87483, CE87485, CE87487, CE87489

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

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

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

The Low Level MS/MSD are not reported for this batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

Temperature Narration

The samples were received at 3.8C with cooling initiated.

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

PHOENIX



Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040

Email: info@phoenixlabs.com Fax (860) 645-0823

Client Services (860) 645-8726

CHAIN OF CUSTODY RECORD

Coolant: YPK ICE No

Temp: 38.8 C

Data Delivery/Contact Options:

Fax:

Phone:

Email:

laura@tbirdenv.com

Project P.O.

This section MUST be completed with Bottle Quantities.

Customer: Thunderbird Environmental
Address: 14 Left Wall Road
Clinton CT 06413

Project: 2019-096 Westport
Report to: Laura Lomas
Invoice to: laura@tbirdenv.com
QUOTE #

Sampler's Signature: [Signature]

Client Sample - Information - Identification

Date: 12/13/18

Analysis Request

MATRIX CODE: DM=Drinking Water GM=Ground Water SW=Surface Water WM=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe Oil=Oil
B=Bulk L=Liquid X = (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request	RI	CT	MA	Data Format
874799	PO-1	S	12/13	11:50	X	X	X	3	X
874800	PO-2*	S	12/13	12:00	X	X	X	3	X
874811	PO-3	S	12/13	12:10	X	X	X	3	X
874822	PO-4*	S	12/13	12:20	X	X	X	3	X
874833	PO-5	S	12/13	12:30	X	X	X	3	X
874844	PO-6*	S	12/13	12:40	X	X	X	3	X
874855	PL-1	S	12/13	10:10	X	X	X	3	X
874866	PL-2*	S	12/13	10:20	X	X	X	3	X
874877	PL-3	S	12/13	10:30	X	X	X	3	X
874888	PL-4*	S	12/13	10:40	X	X	X	3	X
874889	PL-5	S	12/13	10:50	X	X	X	3	X
874900	PL-6*	S	12/13	11:00	X	X	X	3	X

Relinquished by: [Signature] Accepted by: Kayla Lomas
Date: 12/13/18 Time: 15:40

Comments, Special Requirements or Regulations:

* Hold Samples
Revised C.I.O.C.

Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

RI: Residential Direct Exposure
 Commercial Direct Exposure
 GA Leachability
 GB Leachability
 GA-GW Objectives
 GB-GW Objectives

CT: RCP Cert
 GW Protection
 SW Protection
 GA Mobility
 GB Mobility
 Residential DEC
 IC DEC
 Other

MA: MCP Certification
 GW-1
 GW-2
 GW-3
 S-1 GW-1
 S-1 GW-2
 S-1 GW-3
 S-2 GW-1
 S-2 GW-2
 S-2 GW-3
 S-3 GW-1
 S-3 GW-2
 S-3 GW-3
 SW Protection

Data Format: Excel
 PDF
 GIS/Key
 EQUIS
 Other

Data Package: Tier II Checklist
 Full Data Package*
 Phoenix Std Report
 Other

GCE 87479

Shannon Wilhelm

Subject: FW: Question on samples received
Attachments: img20191213_16365130.pdf

From: Lauren Lomax [<mailto:lauren@tbirdenv.com>]
Sent: Friday, December 13, 2019 4:38 PM
To: Shannon Wilhelm
Subject: RE: Question on samples received

Hi Shannon,
I modified the chain to make it clear. Please hold all samples marked with a "*" . The rest are to be analyzed.

Thank you

Lauren Lomax
Project Manager
Thunderbird Environmental, LLC
678.463.1970 | lauren@tbirdenv.com



From: Shannon Wilhelm <shannon@phoenixlabs.com>
Sent: Friday, December 13, 2019 4:12 PM
To: Lauren Lomax <lauren@tbirdenv.com>
Subject: Question on samples received
Importance: High

Hi Lauren,
Please see attached. On the ones with * Hold marked, are we holding the entire sample and not running anything? Please let me know.

Thank you,

Shannon Wilhelm
Client Services Representative
Phoenix Environmental Laboratories

GCE 87479

Shannon Wilhelm

From: Shannon Wilhelm
Sent: Friday, December 13, 2019 04:12 PM
To: lauren@tbirdenv.com
Subject: Question on samples received
Attachments: 20191213160750.pdf
Importance: High

Hi Lauren,
Please see attached. On the ones with *Hold marked, are we holding the entire sample and not running anything? Please let me know.

Thank you,

Shannon Wilhelm
Client Services Representative
Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester CT 06040
860-645-1102

GCE 87480

Shannon Wilhelm

From: Lauren Lomax <lauren@tbirdenv.com>
Sent: Tuesday, December 31, 2019 10:48 AM
To: Shannon Wilhelm
Subject: RE: Additional Analysis

Yes, please proceed. Thanks

From: Shannon Wilhelm <shannon@phoenixlabs.com>
Sent: Tuesday, December 31, 2019 10:48 AM
To: Lauren Lomax <lauren@tbirdenv.com>
Subject: RE: Additional Analysis

PAH's are past holding time. Please confirm it is okay to proceed.

Thank you,
Shannon Wilhelm
Client Services Representative
Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester CT 06040
860-645-1102

From: Lauren Lomax [mailto:lauren@tbirdenv.com]
Sent: Tuesday, December 31, 2019 10:42 AM
To: Shannon Wilhelm
Subject: RE: Additional Analysis

Thank you.

Please also see the revised attached CoC for additional analysis.

Thanks and Happy New Year!

CHAIN OF CUSTODY RECORD



567 East Middle Turnpike, P. O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax: (860) 645-0823
 Client Services (860) 645-8726

Cooler: Yes No
 Cooldown: IFC ICE No
 Temp: 3.8 Pg. 1 of 1
 Data Delivery/Contact Options:
 Fax:
 Phone:
 Email: Lauren@birdenv.com

Project: 2018-096 - Westport
 Report to: Lauren Lomax
 Invoice to: Lauren@birdenv.com
 QUOTE #

Customer: Inverbird Environmental
 Address: 14 Lefferswell Road
Clinton, CT 06413

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request	SI	RI	GT	MA	Data Format
87479	P0-1	S	12/13	11:30	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
87480	P0-2	S	12/13	12:00	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
87481	P0-3	S	12/13	12:10	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
87482	P0-4	S	12/13	12:20	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
87483	P0-5	S	12/13	12:30	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
87484	P0-6	S	12/13	12:40	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
87485	DL-1	S	12/13	10:00	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
87486	DL-2	S	12/13	10:00	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
87487	DL-3	S	12/13	10:30	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
87488	DL-4	S	12/13	10:46	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
87489	DL-5	S	12/13	10:50	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
87490	DL-6	S	12/13	11:00	PHS - 8270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Relinquished by: [Signature] Accepted by: [Signature]
 Date: 12/13/19 Time: 15:40
 Comments, Special Requirements or Regulations:
 Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other
 *SURCHARGE APPLIES

State where samples were collected: CT
 * SURCHARGE APPLIES



Monday, January 06, 2020

Attn: Ms. Lauren Lomax
Thunderbird Environmental
14 Leffingwell Rd
Clinton, CT 06413

Project ID: 2019-096 WESTPORT
SDG ID: GCE87491
Sample ID#s: CE87491 - CE87506

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

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

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

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

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301



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



SDG Comments

January 06, 2020

SDG I.D.: GCE87491

Version 2: Per client request SPLP Pesticides were added on.



Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

January 06, 2020

SDG I.D.: GCE87491

Project ID: 2019-096 WESTPORT

Client Id	Lab Id	Matrix
TP-5A	CE87491	SOIL
TP-5B	CE87492	SOIL
TP-5C	CE87493	SOIL
TP-5D	CE87494	SOIL
TP-6A	CE87495	SOIL
TP-6B	CE87496	SOIL
TP-6C	CE87497	SOIL
TP-6D	CE87498	SOIL
TP-7A	CE87499	SOIL
TP-7B	CE87500	SOIL
TP-7C	CE87501	SOIL
TP-7D	CE87502	SOIL
TP-8A	CE87503	SOIL
TP-8B	CE87504	SOIL
TP-8C	CE87505	SOIL
TP-8D	CE87506	SOIL



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

Analysis Report

January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:15
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87491

Project ID: 2019-096 WESTPORT
 Client ID: TP-5A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	13.7	0.76	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	86		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
SPLP Extraction for Organics	Completed				12/31/19	LS	SW1312
SPLP Pesticides Ext. (LDL)	Completed				01/02/20	AT/AT	SW3510C
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	61	7.6	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDE	40	7.6	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDT	740	190	ug/Kg	50	12/19/19	CG	SW8081B
a-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Alachlor	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Aldrin	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
b-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Chlordane	57	38	ug/Kg	2	12/18/19	CG	SW8081B
d-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Dieldrin	ND	3.8	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan I	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan II	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan sulfate	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Endrin	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Endrin aldehyde	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Endrin ketone	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
g-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor epoxide	ND	7.6	ug/Kg	2	12/18/19	CG	SW8081B
Methoxychlor	ND	38	ug/Kg	2	12/18/19	CG	SW8081B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Toxaphene	ND	150	ug/Kg	2	12/18/19	CG	SW8081B
<u>QA/QC Surrogates</u>							
% DCBP	89		%	2	12/18/19	CG	30 - 150 %
% DCBP (Confirmation)	54		%	2	12/18/19	CG	30 - 150 %
% TCMX	76		%	2	12/18/19	CG	30 - 150 %
% TCMX (Confirmation)	65		%	2	12/18/19	CG	30 - 150 %
<u>SPLP Pesticides (GA Criteria)</u>							
4,4' -DDD	ND	0.011	ug/L	1	01/03/20	CG	SW8081B
4,4' -DDE	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
4,4' -DDT	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
a-BHC	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
Alachlor	ND	0.010	ug/L	1	01/03/20	CG	SW8081B
Aldrin	ND	0.003	ug/L	1	01/03/20	CG	SW8081B
b-BHC	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
Chlordane	ND	0.048	ug/L	1	01/03/20	CG	SW8081B
d-BHC	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
Dieldrin	ND	0.002	ug/L	1	01/03/20	CG	SW8081B
Endosulfan I	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
Endosulfan II	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
Endosulfan sulfate	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
Endrin	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
Endrin aldehyde	ND	0.009	ug/L	1	01/03/20	CG	SW8081B
Endrin Ketone	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
g-BHC	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
Heptachlor	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
Heptachlor epoxide	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
Methoxychlor	ND	0.005	ug/L	1	01/03/20	CG	SW8081B
Toxaphene	ND	0.19	ug/L	1	01/03/20	CG	SW8081B
<u>QA/QC Surrogates</u>							
%DCBP (Surrogate Rec)	49		%	1	01/03/20	CG	30 - 150 %
%DCBP (Surrogate Rec) (Confirmation)	34		%	1	01/03/20	CG	30 - 150 %
%TCMX (Surrogate Rec)	76		%	1	01/03/20	CG	30 - 150 %
%TCMX (Surrogate Rec) (Confirmation)	74		%	1	01/03/20	CG	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:15
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87492

Project ID: 2019-096 WESTPORT
 Client ID: TP-5B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	13.4	0.70	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	87		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:15
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87493

Project ID: 2019-096 WESTPORT
 Client ID: TP-5C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	13.9	0.71	mg/Kg	1	12/16/19	TH	SW6010D
SPLP Arsenic	0.005	0.004	mg/L	1	12/31/19	TH	SW6010D
SPLP Metals Digestion	Completed				12/31/19	LS/LS	SW3010A
Percent Solid	88		%		12/13/19	JS	SW846-%Solid
SPLP Extraction for Metals	Completed				12/30/19	LS	SW1312
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

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Phyllis Shiller, Laboratory Director
 January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:15
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87494

Project ID: 2019-096 WESTPORT
 Client ID: TP-5D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	11.0	0.68	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	89		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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Analysis Report

January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:00
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87495

Project ID: 2019-096 WESTPORT
 Client ID: TP-6A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	12.0	0.72	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	86		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	40	ug/Kg	10	12/18/19	AW	SW8081B
4,4' -DDE	ND	65	ug/Kg	10	12/18/19	AW	SW8081B
4,4' -DDT	ND	35	ug/Kg	10	12/18/19	AW	SW8081B
a-BHC	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
Alachlor	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Aldrin	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
b-BHC	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
Chlordane	ND	76	ug/Kg	10	12/18/19	AW	SW8081B
d-BHC	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
Dieldrin	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
Endosulfan I	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Endosulfan II	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Endosulfan sulfate	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Endrin	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Endrin aldehyde	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
Endrin ketone	ND	38	ug/Kg	10	12/18/19	AW	SW8081B
g-BHC	ND	7.6	ug/Kg	10	12/18/19	AW	SW8081B
Heptachlor	ND	19	ug/Kg	10	12/18/19	AW	SW8081B
Heptachlor epoxide	ND	19	ug/Kg	10	12/18/19	AW	SW8081B
Methoxychlor	ND	190	ug/Kg	10	12/18/19	AW	SW8081B
Toxaphene	ND	760	ug/Kg	10	12/18/19	AW	SW8081B

QA/QC Surrogates

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP	68		%	10	12/18/19	AW	30 - 150 %
% DCBP (Confirmation)	60		%	10	12/18/19	AW	30 - 150 %
% TCMX	64		%	10	12/18/19	AW	30 - 150 %
% TCMX (Confirmation)	77		%	10	12/18/19	AW	30 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

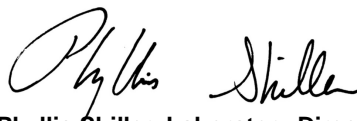
Comments:

Pesticide Comment:

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

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:00
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87496

Project ID: 2019-096 WESTPORT
 Client ID: TP-6B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	11.2	0.74	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	86		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:00
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87497

Project ID: 2019-096 WESTPORT
 Client ID: TP-6C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	12.0	0.77	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	85		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

9:00
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87498

Project ID: 2019-096 WESTPORT
 Client ID: TP-6D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	11.0	0.69	mg/Kg	1	12/16/19	TH	SW6010D
Percent Solid	85		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:45
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87499

Project ID: 2019-096 WESTPORT
 Client ID: TP-7A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	6.12	0.70	mg/Kg	1	12/17/19	TH	SW6010D
Percent Solid	91		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	15	7.1	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDE	29	7.1	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDT	14	7.1	ug/Kg	2	12/18/19	CG	SW8081B
a-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Alachlor	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Aldrin	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
b-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Chlordane	60	36	ug/Kg	2	12/18/19	CG	SW8081B
d-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Dieldrin	ND	3.6	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan I	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan II	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan sulfate	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Endrin	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Endrin aldehyde	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Endrin ketone	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
g-BHC	ND	1.4	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor epoxide	ND	7.1	ug/Kg	2	12/18/19	CG	SW8081B
Methoxychlor	ND	36	ug/Kg	2	12/18/19	CG	SW8081B
Toxaphene	ND	140	ug/Kg	2	12/18/19	CG	SW8081B

QA/QC Surrogates

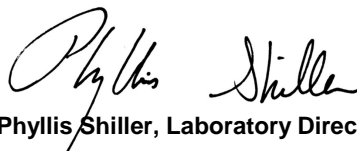
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP	92		%	2	12/18/19	CG	30 - 150 %
% DCBP (Confirmation)	62		%	2	12/18/19	CG	30 - 150 %
% TCMX	80		%	2	12/18/19	CG	30 - 150 %
% TCMX (Confirmation)	69		%	2	12/18/19	CG	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:45
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87500

Project ID: 2019-096 WESTPORT
 Client ID: TP-7B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	7.75	0.72	mg/Kg	1	12/17/19	TH	SW6010D
Percent Solid	85		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:45
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87501

Project ID: 2019-096 WESTPORT
 Client ID: TP-7C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	7.68	0.75	mg/Kg	1	12/17/19	TH	SW6010D
Percent Solid	84		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:45
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87502

Project ID: 2019-096 WESTPORT
 Client ID: TP-7D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	7.60	0.75	mg/Kg	1	12/17/19	TH	SW6010D
Percent Solid	86		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:30
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87503

Project ID: 2019-096 WESTPORT
 Client ID: TP-8A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	7.86	0.69	mg/Kg	1	12/17/19	TH	SW6010D
Percent Solid	88		%		12/13/19	JS	SW846-%Solid
Soil Extraction for Pesticide	Completed				12/13/19	MM/LL	SW3545A
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

Pesticides

4,4' -DDD	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDE	ND	11	ug/Kg	2	12/18/19	CG	SW8081B
4,4' -DDT	ND	8.0	ug/Kg	2	12/18/19	CG	SW8081B
a-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Alachlor	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Aldrin	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
b-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Chlordane	ND	37	ug/Kg	2	12/18/19	CG	SW8081B
d-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Dieldrin	ND	3.7	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan I	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan II	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Endosulfan sulfate	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Endrin	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Endrin aldehyde	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Endrin ketone	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
g-BHC	ND	1.5	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Heptachlor epoxide	ND	7.5	ug/Kg	2	12/18/19	CG	SW8081B
Methoxychlor	ND	37	ug/Kg	2	12/18/19	CG	SW8081B
Toxaphene	ND	150	ug/Kg	2	12/18/19	CG	SW8081B

QA/QC Surrogates

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP	72		%	2	12/18/19	CG	30 - 150 %
% DCBP (Confirmation)	53		%	2	12/18/19	CG	30 - 150 %
% TCMX	64		%	2	12/18/19	CG	30 - 150 %
% TCMX (Confirmation)	61		%	2	12/18/19	CG	30 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

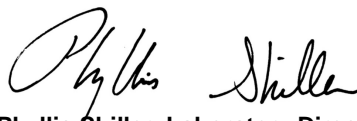
Comments:

Pesticide Comment:

Due to matrix interference caused by the presence of suspected 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 you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:30
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87504

Project ID: 2019-096 WESTPORT
 Client ID: TP-8B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	10.0	0.72	mg/Kg	1	12/17/19	EK	SW6010D
Percent Solid	87		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:30
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87505

Project ID: 2019-096 WESTPORT
 Client ID: TP-8C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	9.34	0.68	mg/Kg	1	12/17/19	EK	SW6010D
Percent Solid	87		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 January 06, 2020

FOR: Attn: Ms. Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

12/13/19
 12/13/19

Time

8:30
 15:41

Laboratory Data

SDG ID: GCE87491
 Phoenix ID: CE87506

Project ID: 2019-096 WESTPORT
 Client ID: TP-8D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	8.88	0.70	mg/Kg	1	12/17/19	EK	SW6010D
Percent Solid	87		%		12/13/19	JS	SW846-%Solid
Total Metals Digest	Completed				12/13/19	JJ/AG	SW3050B

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

January 06, 2020

QA/QC Data

SDG I.D.: GCE87491

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 510274 (mg/kg), QC Sample No: CE87333 (CE87491, CE87492, CE87493, CE87494, CE87495, CE87496, CE87497, CE87498, CE87499, CE87500, CE87501, CE87502, CE87503)													
<u>ICP Metals - Soil</u>													
Arsenic	BRL	0.67	13.2	13.9	5.20	98.8	110	10.7	94.7			75 - 125	30
QA/QC Batch 512320 (mg/L), QC Sample No: CE87493 (CE87493)													
<u>ICP Metals - SPLP Extraction</u>													
Arsenic	BRL	0.004	0.005	0.005	NC	102	100	2.0	102			75 - 125	20
QA/QC Batch 510275 (mg/kg), QC Sample No: CE87504 (CE87504, CE87505, CE87506)													
<u>ICP Metals - Soil</u>													
Arsenic	BRL	0.67	10.0	8.00	22.2	96.7	103	6.3	96.1			75 - 125	30



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QA/QC Report

January 06, 2020

QA/QC Data

SDG I.D.: GCE87491

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 510239 (ug/Kg), QC Sample No: CE87483 2X (CE87491, CE87495, CE87499, CE87503)

Pesticides - Soil

4,4' -DDD	ND	1.7	78	84	7.4	70	62	12.1	40 - 140	30
4,4' -DDE	ND	1.7	67	76	12.6	71	64	10.4	40 - 140	30
4,4' -DDT	ND	1.7	77	88	13.3	74	69	7.0	40 - 140	30
a-BHC	ND	1.0	69	77	11.0	66	63	4.7	40 - 140	30
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30
Aldrin	ND	1.0	65	73	11.6	62	59	5.0	40 - 140	30
b-BHC	ND	1.0	100	108	7.7	105	96	9.0	40 - 140	30
Chlordane	ND	33	73	80	9.2	75	63	17.4	40 - 140	30
d-BHC	ND	3.3	81	86	6.0	72	67	7.2	40 - 140	30
Dieldrin	ND	1.0	77	82	6.3	69	61	12.3	40 - 140	30
Endosulfan I	ND	3.3	71	80	11.9	69	64	7.5	40 - 140	30
Endosulfan II	ND	3.3	70	75	6.9	65	57	13.1	40 - 140	30
Endosulfan sulfate	ND	3.3	100	103	3.0	85	75	12.5	40 - 140	30
Endrin	ND	3.3	92	98	6.3	85	73	15.2	40 - 140	30
Endrin aldehyde	ND	3.3	82	85	3.6	76	63	18.7	40 - 140	30
Endrin ketone	ND	3.3	78	85	8.6	68	62	9.2	40 - 140	30
g-BHC	ND	1.0	72	80	10.5	67	64	4.6	40 - 140	30
Heptachlor	ND	3.3	70	78	10.8	65	67	3.0	40 - 140	30
Heptachlor epoxide	ND	3.3	73	79	7.9	67	63	6.2	40 - 140	30
Methoxychlor	ND	3.3	86	95	9.9	81	72	11.8	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	113	%	91	96	5.3	77	71	8.1	30 - 150	30
% DCBP (Confirmation)	67	%	87	65	28.9	52	47	10.1	30 - 150	30
% TCMX	81	%	73	84	14.0	67	67	0.0	30 - 150	30
% TCMX (Confirmation)	78	%	96	76	23.3	71	83	15.6	30 - 150	30

QA/QC Batch 512486 (ug/L), QC Sample No: CE87491 (CE87491)

Pesticides

4,4' -DDD	ND	0.003	108	111	2.7				40 - 140	20
4,4' -DDE	ND	0.003	100	100	0.0				40 - 140	20
4,4' -DDT	ND	0.003	102	104	1.9				40 - 140	20
a-BHC	ND	0.002	90	91	1.1				40 - 140	20
Alachlor	ND	0.005	NA	NA	NC				40 - 140	20
Aldrin	ND	0.002	77	78	1.3				40 - 140	20
b-BHC	ND	0.002	137	140	2.2				40 - 140	20
Chlordane	ND	0.050	96	100	4.1				40 - 140	20
d-BHC	ND	0.005	60	62	3.3				40 - 140	20
Dieldrin	ND	0.002	87	89	2.3				40 - 140	20
Endosulfan I	ND	0.005	106	110	3.7				40 - 140	20
Endosulfan II	ND	0.005	110	113	2.7				40 - 140	20
Endosulfan sulfate	ND	0.005	104	110	5.6				40 - 140	20
Endrin	ND	0.005	93	94	1.1				40 - 140	20

QA/QC Data

SDG I.D.: GCE87491

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Endrin aldehyde	ND	0.005	138	110	22.6				40 - 140	20
Endrin ketone	ND	0.005	119	127	6.5				40 - 140	20
g-BHC	ND	0.002	90	91	1.1				40 - 140	20
Heptachlor	ND	0.005	85	89	4.6				40 - 140	20
Heptachlor epoxide	ND	0.005	100	105	4.9				40 - 140	20
Methoxychlor	ND	0.005	100	102	2.0				40 - 140	20
Toxaphene	ND	0.20	NA	NA	NC				40 - 140	20
% DCBP	96	%	102	95	7.1				30 - 150	20
% DCBP (Confirmation)	83	%	90	79	13.0				30 - 150	20
% TCMX	79	%	88	89	1.1				30 - 150	20
% TCMX (Confirmation)	76	%	83	86	3.6				30 - 150	20


Comment:

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

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

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

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


 Phyllis Shiller, Laboratory Director
 January 06, 2020

Monday, January 06, 2020

Criteria: CT: GAM, I/C, RC

State: CT

Sample Criteria Exceedances Report

GCE87491 - THUNDER

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria	Analysis Units
CE87491	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	40	7.6	3	3	ug/Kg
CE87491	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	740	190	3	3	ug/Kg
CE87491	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	61	7.6	3	3	ug/Kg
CE87491	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	13.7	0.76	10	10	mg/Kg
CE87491	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	13.7	0.76	10	10	mg/Kg
CE87492	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	13.4	0.70	10	10	mg/Kg
CE87492	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	13.4	0.70	10	10	mg/Kg
CE87493	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	13.9	0.71	10	10	mg/Kg
CE87493	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	13.9	0.71	10	10	mg/Kg
CE87494	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	11.0	0.68	10	10	mg/Kg
CE87494	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	11.0	0.68	10	10	mg/Kg
CE87495	\$PEST_SMR	Toxaphene	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	760	560	560	ug/Kg
CE87495	\$PEST_SMR	d-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	ug/Kg
CE87495	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	40	3	3	ug/Kg
CE87495	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	65	3	3	ug/Kg
CE87495	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	35	3	3	ug/Kg
CE87495	\$PEST_SMR	a-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	ug/Kg
CE87495	\$PEST_SMR	Aldrin	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	ug/Kg
CE87495	\$PEST_SMR	b-BHC	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	7.6	2	2	ug/Kg
CE87495	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	76	66	66	ug/Kg
CE87495	\$PEST_SMR	Chlordane	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	76	66	66	ug/Kg
CE87495	\$PEST_SMR	Dieldrin	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	7.6	7	7	ug/Kg
CE87495	\$PEST_SMR	Heptachlor	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	19	13	13	ug/Kg
CE87495	\$PEST_SMR	Toxaphene	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	ND	760	330	330	ug/Kg
CE87495	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	12.0	0.72	10	10	mg/Kg
CE87495	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	12.0	0.72	10	10	mg/Kg
CE87496	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	11.2	0.74	10	10	mg/Kg
CE87496	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	11.2	0.74	10	10	mg/Kg
CE87497	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	12.0	0.77	10	10	mg/Kg
CE87497	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	12.0	0.77	10	10	mg/Kg
CE87498	AS-SM	Arsenic	CT / RSR DEC I/C (mg/kg) / Inorganics	11.0	0.69	10	10	mg/Kg
CE87498	AS-SM	Arsenic	CT / RSR DEC RES (mg/kg) / Inorganics	11.0	0.69	10	10	mg/Kg
CE87499	\$PEST_SMR	4,4' -DDD	CT / RSR GA,GAA (mg/kg) / APS Organics	15	7.1	3	3	ug/Kg
CE87499	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	29	7.1	3	3	ug/Kg
CE87499	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	14	7.1	3	3	ug/Kg

Monday, January 06, 2020

Criteria: CT: GAM, I/C, RC

State: CT

Sample Criteria Exceedances Report

GCE87491 - THUNDER

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE87503	\$PEST_SMR	4,4' -DDT	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	8.0	3	3	ug/Kg
CE87503	\$PEST_SMR	4,4' -DDE	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	11	3	3	ug/Kg

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



REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc.

Client: Thunderbird Environmental

Project Location: 2019-096 WESTPORT

Project Number:

Laboratory Sample ID(s): CE87491-CE87506

Sampling Date(s): 12/13/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 1311/1312, 6010, 8081

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><i>VPH and EPH methods only:</i></u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
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 CTDEP Reasonable Confidence Protocol documents achieved?	<input checked="" type="checkbox"/> Yes <input 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input checked="" type="checkbox"/> Yes <input 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: Rashmi Makol **Position:** Project Manager

Printed Name: Rashmi Makol **Date:** Monday, January 06, 2020

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

January 06, 2020

SDG I.D.: GCE87491

SDG Comments

Metals Analysis:

The client requested a shorter list of elements than the 6010 RCP list. Only Arsenic is reported as requested on the chain of custody.

Sample(s) required a dilution for Pesticides due to a matrix interference and/or the presence of non-target material in the sample. This resulted in elevated reporting limits that exceed the requested criteria for one or more analytes.

ICP Metals Narration

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

Instrument:

ARCOS 12/16/19 11:25 Emily Kolominskaya, Tina Hall, Chemist 12/16/19

CE87491, CE87492, CE87493, CE87494, CE87495, CE87496, CE87497, CE87498, CE87499, CE87500, CE87501, CE87502, CE87503, CE87504, CE87505, CE87506

Additional criteria for CCV and ICSAB:

Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB). The linear range is defined daily by the calibration range.

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

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

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

BLUE 12/31/19 09:02 Tina Hall, Chemist 12/31/19

CE87493

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria. The linear range is defined daily by the calibration range.

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

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

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

QC (Batch Specific):

Batch 510274 (CE87333)

CE87491, CE87492, CE87493, CE87494, CE87495, CE87496, CE87497, CE87498, CE87499, CE87500, CE87501, CE87502, CE87503

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

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

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

QC (Site Specific):

Batch 510275 (CE87504)

CE87504, CE87505, CE87506

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

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

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



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



Certification Report

January 06, 2020

SDG I.D.: GCE87491

ICP Metals Narration

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

Batch 512320 (CE87493)

CE87493

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

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

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

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

PEST Narration

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

Instrument:

AU-ECD4 01/03/20-1

Chelsey Guerette, Chemist 01/03/20

CE87491

The initial calibration (PS102AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PS0102BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:None.

AU-ECD4 12/17/19-1

Chelsey Guerette, Chemist 12/17/19

CE87499, CE87503

The initial calibration (PSD11AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSD11BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CE87499, CE87503

Preceding CC D17A042 - Endrin 22%H (20%)

Succeeding CC D17A056 - None.

AU-ECD4 12/18/19-1

Chelsey Guerette, Chemist 12/18/19

CE87491, CE87495

The initial calibration (PSD11AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSD11BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CE87491, CE87495

Preceding CC D18A016 - Endrin 26%H (20%)

Succeeding CC D18A030 - None.

AU-ECD7 12/19/19-1

Chelsey Guerette, Chemist 12/19/19

CE87491

The initial calibration (PSD18AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PSD18BI) RSD for the compound list was less than 20% except for the following compounds: None.

The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.



Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823



RCP Certification Report

January 06, 2020

SDG I.D.: GCE87491

PEST Narration

The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.
The continuing calibration %D for the compound list was less than 20% except for the following compounds:None.

QC (Batch Specific):

Batch 510239 (CE87483)

CE87491, CE87495, CE87499, CE87503

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.

Batch 512486 (CE87491)

CE87491

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: Endrin aldehyde(22.6%)
A LCS and LCS duplicate were performed instead of a MS and MSD. Alpha and gamma chlordane were spiked and analyzed instead of technical chlordane. Gamma chlordane recovery is reported as chlordane in the LCS and LCSD

Temperature Narration

The samples were received at 3.8C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)



CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
 Client Services (860) 645-8726

Coolant: Yes No
 IPK ICE
 Temp 56.8 Pg of

Data Delivery/Contact Options:

Fax:
 Phone:
 Email: Lauren@PhoenixLabs.com

Project P.O.:

Project: 2019-0960: Westport
 Report to: LAUREN LOMAX
 Invoice to: LAUREN LOMAX
 QUOTE #

This section MUST be completed with Bottle Quantities.

Sampler's Signature: *AGZ* Date: 12/13/19

Client Sample - Information - Identification
 Matrix Code: GW=Ground Water SW=Surface Water WW=Waste Water
 DW=Drinking Water RW=Raw Water SE=Sludge S=Soil SD=Solid W=Wipe Oil=Oil
 B=Bulk L=Liquid X=(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
875003	TP-8A	S	12/13	8:30
875004	TP-8B	S	12/13	8:30
875005	TP-8C	S	12/13	8:30
875006	TP-8D	S	12/13	8:30

Analysis Request

TOTAL RS-COIDS
 *HPLC for Pesticides
 *HPLC for AS + Pesticides

Analysis Request	GL Amber 8 oz. WH3P04	GL Soil container (1 methanol) 1 H2O	GL Amber 100ml Vial (As Is) (HCl)	PL AS Is (1250ml) (As Is) (H2SO4)	PL H2SO4 (1250ml) (As Is) (H2SO4)	PL HNO3 250ml (1500ml) (500ml)	PL HNO3 250ml (1500ml) (1000ml)	Bacteria Bottle white
X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X

Relinquished by: *[Signature]* Accepted by: *[Signature]* Date: 12/13/19 15:41

Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

Comments, Special Requirements or Regulations:

RI Direct Exposure (Residential) GW Other

CT RCP Cert GW Protection SW Protection GA Mobility GB Mobility Residential DEC I/C DEC Other

MA MCP Certification GW-1 GW-2 GW-3 S-1 GW-1 S-1 GW-2 S-1 GW-3 S-2 GW-1 S-2 GW-2 S-2 GW-3 S-3 GW-1 S-3 GW-2 S-3 GW-3 MWRA eSMART Other

Data Format: Excel PDF GIS/Key EQUIS Other

Data Package: Tier II Checklist Full Data Package* Phoenix Std Report Other

* SURCHARGE APPLIES

State where samples were collected: CT

* SURCHARGE APPLIES

Bobbi Aloisa

From: Lisa Arnold
Sent: Monday, December 30, 2019 10:50 AM
To: Bobbi Aloisa
Subject: FW: Additional Analysis
Attachments: img20191230_10424377.pdf

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

Hey there...

Please help with request below.

Thank you...

From: Lauren Lomax [<mailto:lauren@tbirdenv.com>]
Sent: Monday, December 30, 2019 10:46 AM
To: Lisa Arnold
Subject: Additional Analysis

Hi Lisa,

I would like to request additional analysis for two samples as amended on the attached CoC. Is this something you could assist with?

Thank you!

Lauren Lomax
Project Manager
Thunderbird Environmental, LLC
678.463.1970 | lauren@tbirdenv.com



COOLER: Yes No
 ICE: Yes No
 Temp: 50°C Pg. 1 of 1

Project P.O.: 2019-0916: Westport
 Report to: LAUREN LOMAX lauren@lmax.com
 Invoice to: LAUREN LOMAX
 QUOTE # _____

Client Services (860) 645-8726
 Email: info@phoenixlabs.com
 Phone: _____
 Fax: _____

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax: (860) 645-0823
 Client Services (860) 645-8726

PHOENIX
 Environmental Laboratories, Inc.

Customer: THUNDERBIRD ENVIRONMENTAL
 Address: 14 LEEFINGWELL ROAD
CLINTON, CT 06413

Client Sample Information - Identification
 Signature: [Signature] Date: 12/13/19

Matrix Code:
 DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe Oil=Oil
 B=Bulk L=Liquid X=(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
87491	TP-5A	S	12/13	9:15
87492	TP-5B	S	12/13	9:15
87493	TP-5C	S	12/13	9:15
87494	TP-5D	S	12/13	9:15
87495	TP-6A	S	12/13	9:00
87496	TP-6B	S	12/13	9:00
87497	TP-6C	S	12/13	9:00
87498	TP-6D	S	12/13	9:00
87499	TP-7A	S	12/13	8:45
87500	TP-7B	S	12/13	8:45
87501	TP-7C	S	12/13	8:45
87502	TP-7D	S	12/13	8:45

Analysis Request
 SP1 PESTICIDES
 SP2 PESTICIDES
 SP3 PESTICIDES
 SP4 PESTICIDES
 SP5 PESTICIDES
 SP6 PESTICIDES
 SP7 PESTICIDES
 SP8 PESTICIDES
 SP9 PESTICIDES
 SP10 PESTICIDES
 SP11 PESTICIDES
 SP12 PESTICIDES
 SP13 PESTICIDES
 SP14 PESTICIDES
 SP15 PESTICIDES
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 SP95 PESTICIDES
 SP96 PESTICIDES
 SP97 PESTICIDES
 SP98 PESTICIDES
 SP99 PESTICIDES
 SP100 PESTICIDES

Accepted by: [Signature] Date: 12/13/19 Time: 15:40

Comments, Special Requirements or Regulations:
 Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other
 * SURCHARGE APPLIES

State where samples were collected: CT
 * SURCHARGE APPLIES

RI Direct Exposure (Residential)
 GW
 Other

CT RCP Cert
 GW Protection
 SW Protection
 GA Mobility
 GB Mobility
 Residential DEC
 IC DEC
 Other

MA MCP Certification
 GW-1
 GW-2
 GW-3
 S-1 GW-1 S-1 GW-2 S-1 GW-3
 S-2 GW-1 S-2 GW-2 S-2 GW-3
 S-3 GW-1 S-3 GW-2 S-3 GW-3
 MWRA eSMART Other

Data Format
 Excel
 PDF
 GIS/Key
 EQUIS
 Other
 Data Package
 Tier II Checklist
 Full Data Package*
 Phoenix Std Report
 Other

Cooler: Yes No
 IPK ICE

Temp 38.5 Pg 3 of 4

CHAIN OF CUSTODY RECORD



587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
 Client Services (860) 645-8726

Data Delivery/Contact Options:
 Fax:
 Phone:
 Email: lauren@phoenixlabs.com

Project: 2019-0916: Westport
 Report to: LAUREN LOMAX
 Invoice to: LAUREN LOMAX
 QUOTE # _____

Customer: THUNDERBIRD ENVIRONMENTAL
 Address: 14 LEFFINGWELL ROAD
CLINTON, CT 06413

This section MUST be completed with Bottle Quantities.

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request
81500	TP-8A	S	12/13/19	0930	XX
81501	TP-8B	S	12/13/19	0930	XX
81502	TP-8C	S	12/13/19	0930	XX
81503	TP-8D	S	12/13/19	0930	XX

Sampler's Signature: [Signature] Date: 12/13/19

Client Sample - Information - Identification

Matrix Code:
 DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe Oil=Oil
 B=Bulk L=Liquid X= (Other)

Analysis Request: LAUREN LOMAX

RI Direct Exposure (Residential) GW Other

CI RCP Cert GW Protection SW Protection GA Mobility GB Mobility Residential DEC I/C DEC Other

MA MCP Certification GW-1 GW-2 GW-3 S-1 GW-1 S-1 GW-2 S-1 GW-3 S-2 GW-1 S-2 GW-2 S-2 GW-3 S-3 GW-1 S-3 GW-2 S-3 GW-3 MWRA eSMART Other

Data Format: Excel PDF GIS/Key EQUIS Other

Data Package: Tier I Checklist: Full Data Package* Phoenix Std Report Other

State where samples were collected: CT

Turnaround Time: 1 Day* 2 Days* 3 Days* Standard Other

* SURCHARGE APPLIES

Bobbi Aloisa

From: Lauren Lomax <lauren@tbirdenv.com>
Sent: Monday, December 30, 2019 1:47 PM
To: Bobbi Aloisa
Subject: RE: Additional Analysis

Hi Bobbi,

Please proceed with the SPLP arsenic sample for now. Thanks

From: Bobbi Aloisa <bobbi@phoenixlabs.com>
Sent: Monday, December 30, 2019 12:18 PM
To: Lauren Lomax <lauren@tbirdenv.com>; Lisa Arnold <lisa@phoenixlabs.com>
Subject: Additional Analysis
Importance: High

Lauren

The SPLP Pesticides are past the 14 day holdtime, would you still like to proceed with the test?

Bobbi

From: Lauren Lomax [<mailto:lauren@tbirdenv.com>]
Sent: Monday, December 30, 2019 10:46 AM
To: Lisa Arnold
Subject: Additional Analysis

Hi Lisa,

I would like to request additional analysis for two samples as amended on the attached CoC. Is this something you could assist with?

Thank you!

Lauren Lomax
Project Manager
Thunderbird Environmental, LLC
678.463.1970 | lauren@tbirdenv.com



GCE 87491

Shannon Wilhelm

From: Lauren Lomax <lauren@tbirdenv.com>
Sent: Tuesday, December 31, 2019 10:21 AM
To: Bobbi Aloisa; Shannon Wilhelm
Subject: RE: Additional Analysis
Attachments: img20191230_10424377.pdf

Good Morning,

We would like to analyze the sample (TP-5A) on the attached chain for SPLP pesticides despite the hold time.

Thank you!

From: Bobbi Aloisa <bobbi@phoenixlabs.com>
Sent: Monday, December 30, 2019 3:24 PM
To: Lauren Lomax <lauren@tbirdenv.com>
Subject: RE: Additional Analysis

Will do

From: Lauren Lomax [mailto:lauren@tbirdenv.com]
Sent: Monday, December 30, 2019 1:47 PM
To: Bobbi Aloisa
Subject: RE: Additional Analysis

Hi Bobbi,

Please proceed with the SPLP arsenic sample for now. Thanks

From: Bobbi Aloisa <bobbi@phoenixlabs.com>
Sent: Monday, December 30, 2019 12:18 PM
To: Lauren Lomax <lauren@tbirdenv.com>; Lisa Arnold <lisa@phoenixlabs.com>
Subject: Additional Analysis
Importance: High

Lauren



Monday, January 06, 2020

Attn: Lauren Lomax
Thunderbird Environmental
14 Leffingwell Rd
Clinton, CT 06413

Project ID: 21 IMPERIAL AVE, WESTPORT CT
SDG ID: GCE96903
Sample ID#s: CE96903 - CE96912

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

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

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

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

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis/Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301



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

Sample Id Cross Reference

January 06, 2020

SDG I.D.: GCE96903

Project ID: 21 IMPERIAL AVE, WESTPORT CT

Client Id	Lab Id	Matrix
TP-9A	CE96903	SOIL
TP-9B	CE96904	SOIL
TP-9C	CE96905	SOIL
TP-9D	CE96906	SOIL
TP-9E	CE96907	SOIL
TP-10A	CE96908	SOIL
TP-10B	CE96909	SOIL
TP-10C	CE96910	SOIL
TP-10D	CE96911	SOIL
TP-10E	CE96912	SOIL



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

Analysis Report
 January 06, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date Time
 01/03/20 8:55
 01/03/20 13:46

Laboratory Data

SDG ID: GCE96903
 Phoenix ID: CE96903

Project ID: 21 IMPERIAL AVE, WESTPORT CT
 Client ID: TP-9A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	17.5	0.69	mg/Kg	1	01/04/20	EK	SW6010D
Percent Solid	86		%		01/03/20	VT	SW846-%Solid
Total Metals Digest	Completed				01/03/20	JJ/AG	SW3050B

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 January 06, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

01/03/20
 01/03/20

Time

8:56
 13:46

Laboratory Data

SDG ID: GCE96903
 Phoenix ID: CE96904

Project ID: 21 IMPERIAL AVE, WESTPORT CT
 Client ID: TP-9B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	14.1	0.74	mg/Kg	1	01/04/20	EK	SW6010D
Percent Solid	86		%		01/03/20	VT	SW846-%Solid
Total Metals Digest	Completed				01/03/20	JJ/AG	SW3050B

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 January 06, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

01/03/20
 01/03/20

Time

8:57
 13:46

Laboratory Data

SDG ID: GCE96903
 Phoenix ID: CE96905

Project ID: 21 IMPERIAL AVE, WESTPORT CT
 Client ID: TP-9C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	14.1	0.74	mg/Kg	1	01/04/20	EK	SW6010D
Percent Solid	86		%		01/03/20	VT	SW846-%Solid
Total Metals Digest	Completed				01/03/20	JJ/AG	SW3050B

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 January 06, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

01/03/20
 01/03/20

Time

8:58
 13:46

Laboratory Data

SDG ID: GCE96903
 Phoenix ID: CE96906

Project ID: 21 IMPERIAL AVE, WESTPORT CT
 Client ID: TP-9D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	13.9	0.76	mg/Kg	1	01/04/20	EK	SW6010D
Percent Solid	85		%		01/03/20	VT	SW846-%Solid
Total Metals Digest	Completed				01/03/20	JJ/AG	SW3050B

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
 If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
 The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report
 January 06, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

01/03/20
 01/03/20

Time

8:59
 13:46

Laboratory Data

SDG ID: GCE96903
 Phoenix ID: CE96907

Project ID: 21 IMPERIAL AVE, WESTPORT CT
 Client ID: TP-9E

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	9.54	0.78	mg/Kg	1	01/04/20	EK	SW6010D
Percent Solid	82		%		01/03/20	VT	SW846-%Solid
Total Metals Digest	Completed				01/03/20	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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Analysis Report
 January 06, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

01/03/20
 01/03/20

Time

9:15
 13:46

Laboratory Data

SDG ID: GCE96903
 Phoenix ID: CE96908

Project ID: 21 IMPERIAL AVE, WESTPORT CT
 Client ID: TP-10A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	8.09	0.75	mg/Kg	1	01/04/20	EK	SW6010D
Percent Solid	81		%		01/03/20	VT	SW846-%Solid
Total Metals Digest	Completed				01/03/20	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 06, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date Time
 01/03/20 9:16
 01/03/20 13:46

Laboratory Data

SDG ID: GCE96903
 Phoenix ID: CE96909

Project ID: 21 IMPERIAL AVE, WESTPORT CT
 Client ID: TP-10B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	10.6	0.76	mg/Kg	1	01/04/20	EK	SW6010D
Percent Solid	81		%		01/03/20	VT	SW846-%Solid
Total Metals Digest	Completed				01/03/20	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 06, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

01/03/20
 01/03/20

Time

9:17
 13:46

Laboratory Data

SDG ID: GCE96903
 Phoenix ID: CE96910

Project ID: 21 IMPERIAL AVE, WESTPORT CT
 Client ID: TP-10C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	8.67	0.74	mg/Kg	1	01/04/20	EK	SW6010D
Percent Solid	84		%		01/03/20	VT	SW846-%Solid
Total Metals Digest	Completed				01/03/20	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 06, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

01/03/20
 01/03/20

Time

9:18
 13:46

Laboratory Data

SDG ID: GCE96903
 Phoenix ID: CE96911

Project ID: 21 IMPERIAL AVE, WESTPORT CT
 Client ID: TP-10D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	8.96	0.73	mg/Kg	1	01/04/20	EK	SW6010D
Percent Solid	81		%		01/03/20	VT	SW846-%Solid
Total Metals Digest	Completed				01/03/20	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 06, 2020

FOR: Attn: Lauren Lomax
 Thunderbird Environmental
 14 Leffingwell Rd
 Clinton, CT 06413

Sample Information

Matrix: SOIL
 Location Code: THUNDER
 Rush Request: Standard
 P.O.#:

Custody Information

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

Date

01/03/20
 01/03/20

Time

9:19
 13:46

Laboratory Data

SDG ID: GCE96903
 Phoenix ID: CE96912

Project ID: 21 IMPERIAL AVE, WESTPORT CT
 Client ID: TP-10E

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	7.70	0.75	mg/Kg	1	01/04/20	EK	SW6010D
Percent Solid	83		%		01/03/20	VT	SW846-%Solid
Total Metals Digest	Completed				01/03/20	JJ/AG	SW3050B

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

Comments:

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Phyllis Shiller, Laboratory Director

January 06, 2020

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

January 06, 2020

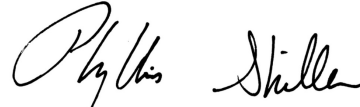
QA/QC Data

SDG I.D.: GCE96903

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 512676 (mg/kg), QC Sample No: CE97016 (CE96903, CE96904, CE96905, CE96906, CE96907, CE96908, CE96909, CE96910, CE96911, CE96912)													
<u>ICP Metals - Soil</u>													
Arsenic	BRL	0.67	5.29	6.85	25.7	104	97.9	6.0	97.2			75 - 125	30

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
 January 06, 2020

Monday, January 06, 2020

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCE96903 - THUNDER

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
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*** No Data to Display ***

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



REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc.

Client: Thunderbird Environmental

Project Location: 21 IMPERIAL AVE, WESTPORT CT

Project Number:

Laboratory Sample ID(s): CE96903-CE96912

Sampling Date(s): 1/3/2020

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010

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>YPH and EPH methods only:</u> Was the YPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
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 CTDEP Reasonable Confidence Protocol documents achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input 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 type="checkbox"/> Yes <input checked="" 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: Rashmi Makol **Position:** Project Manager

Printed Name: Rashmi Makol **Date:** Monday, January 06, 2020

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

January 06, 2020

SDG I.D.: GCE96903

SDG Comments

Metals Analysis:

The client requested a shorter list of elements than the 6010 RCP list. Only Arsenic is reported as requested on the chain of custody.

ICP Metals Narration

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

Instrument:

ARCOS 01/04/20 09:42

Emily Kolominskaya, Chemist 01/04/20

CE96903, CE96904, CE96905, CE96906, CE96907, CE96908, CE96909, CE96910, CE96911, CE96912

Additional criteria for CCV and ICSAB:

Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB). The linear range is defined daily by the calibration range.

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

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

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

QC (Batch Specific):

Batch 512676 (CE97016)

CE96903, CE96904, CE96905, CE96906, CE96907, CE96908, CE96909, CE96910, CE96911, CE96912

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

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

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

Temperature Narration

The samples were received at 1.8C with cooling initiated.

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

