



November 25, 2020

Mr. Steven Venincasa
Casa Builders
P.O. Box 1205
Westborough, MA 01581
Submitted via email to: SV@SVcasa.com

Re: **Supplemental Assessment Report**
Map 45 Lot 207A
Near 23 Canal Street
Millbury, Massachusetts
CEA File 0955-20

Dear Mr. Venincasa:

Pursuant to your authorization, Corporate Environmental Advisors (CEA) has prepared this Supplemental Assessment Report to summarize additional assessment activities conducted at the above-referenced property (the Site). The primary objective of the assessment activities was to assess the volume of soil impacted by lead and arsenic above MassDEP MCP RCS-1 Reportable Concentrations. To achieve this objective 12 test pits were excavated centered around SB(MW)-102 (5-7') with one representative sample of the fill material soils collected from each test pit for total arsenic and total lead analyses. One set of representative soil samples were also collected for intended disposal facility required analyses. The opinions included in this letter report are subject to modification based upon additional information obtained by CEA or provided to CEA by other parties and the Limitations provided in **Appendix A**.

BACKGROUND

The subject property is located at Map 45, Lot 207A in Millbury, Massachusetts (hereafter collectively referred to as "the Site"). The Site is currently an undeveloped lot without any structures and consists of approximately 2.76 acres of land. The Assessor's card indicates the Site is zoned as industrial land for development. **Figure 1**, a Site Locus Map, presents the geographical location of the Site relative to topography, surface drainage and the surrounding area.

Based on the outcome of ASTM Phase I Environmental Site Assessment activities, three *Recognized Environmental Conditions* (RECs) were identified as follows:

- REC 1. The former presence of railroad corridor and railroad lines formerly present at the Site from south to north along the western and central portion of the Site.
- REC 2. The former presence of a locomotive house from at least 1894 through at least 1924 on the central portion of the Site.
- REC 3. An apparent pile of railroad ties located on the eastern portion of the Site from at least 1894 through at least 1899.

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WEB www.cea-inc.com

Phase II Limited Subsurface Investigation (LSI) activities were performed in October 2020 and November 2020 to assess subsurface conditions and determine if the rail corridor historically located at the Site and if past Site uses have impacted current soil and groundwater conditions at the Site. The assessment activities included a total of five (5) soil borings, and four (4) groundwater monitoring wells, and the collection and analysis of soil and groundwater samples. Soil samples were collected for analysis of extractable petroleum hydrocarbons (EPH), Total RCRA 8 metals, TCLP lead, and submitted for forensic analysis of possible coal, coal ash, and lead. Water samples were collected for volatile organic compounds (VOCs), EPH and dissolved metals. Please refer to **Figure 2** for a plan depicting pertinent Site features and the soil data is summarized in **Table 1**.

Phase II LSI activities did not indicate EPH or VOCs at concentrations above Massachusetts Contingency Plan (MCP) RCS-1 Reportable Concentrations in any soil samples. Concentrations of Total RCRA 8 metals were identified in all soil samples, the majority of which were less than RCS-1 Reportable Concentrations. However, arsenic and lead were above their respective MCP RCS-1 Reportable Concentrations in one sample [SB(MW)-102 (5-7')] collected proximate to the former locomotive house location. Additional forensic analysis of that sample revealed that the arsenic and lead concentrations are not attributable solely to the coal and ash observed in the sample. Given past site uses and activities, the arsenic and lead detections do not appear to be attributable to Historic Fill, as defined in the MCP, and represents a 120-Day reporting condition that:

1. warrants additional assessment and response actions in accordance with the MCP (310 CMR 40.0000) under the oversight of a Licensed Site Professional (LSP);
2. triggers an obligation for persons required to notify MassDEP under 310 CMR 40.0331 to notify MassDEP within 120 days of obtaining knowledge of the reportable condition, unless the concentrations are found to meet one or more of the requirements for a release that does not require notification identified at 310 CMR 40.0317, or if the Reportable Condition is addressed via a Limited Removal Action; and
3. may require assessment and response actions in accordance with the MCP under the oversight of an LSP until a Permanent Solution is achieved.

SUPPLEMENTAL ASSESSMENT ACTIVITIES

Supplemental assessment activities were performed to estimate the volume of soil with concentrations of arsenic and/or lead impacts above MassDEP MCP RCS-1 Reportable Concentrations, and to collect a representative soil sample for disposal facility required analyses. Activities included the following:

- A. advancement of 12 test pit locations with soil samples collected from each to assess the volume of soil with arsenic and/or lead impacts above MassDEP MCP RCS-1 Reportable Concentrations.
- B. one representative soil sample collected for disposal facility required analyses.

These actions are described in the sections below.

DELINEATION ASSESSMENT AND SOIL ANALYSES

On November 9, 2020, Casa Builders under the observation of Corporate Environmental Advisors (CEA) excavated exploratory test pits at the Site. A total of twelve (12) test pits were advanced in the vicinity of SB(MW)-102 (5-7'). Four test pits (identified as 1N, 1E, 1S and 1W) were advanced

five (5) feet horizontally from SB(MW)-102 (5-7'). Four test pits (identified as 2NE, 2SE, 2SW and 2NW) were advanced ten (10) feet horizontally from SB(MW)-102 (5-7'). Four test pits (identified as 3N, 3E, 3S and 3W) were advanced fifteen (15) feet horizontally from SB(MW)-102 (5-7'). The test pits were advanced vertically to native material, which ranged from 5 feet to 9.5 feet below grade. The approximate locations of these test pits is displayed on **Figure 2A, Test Pit Locations**. Twelve (12) samples of the identified fill material were collected in appropriate laboratory provided containers, preserved inside a cooler with ice, and transported under a chain-of-custody protocol to New England Testing Laboratory (NETLab) for total arsenic and total lead analyses. A composite of the fill material identified in test pits 1N, 1E, 1S, and 1W were collected and also submitted to NETLabs for the intended disposal facility required analyses.

Soil sample S-1E (8-8.5') detected arsenic at a concentration of 23.4 milligrams per kilogram (mg/kg), above the MCP RCS-1 Reportable Concentration of 20 mg/kg. Lead was reported below its MCP RCS-1 Reportable Concentration of 200 mg/kg in sample S-1E (8-8.5'). Lead and arsenic were reported at concentrations above the laboratory reporting limits in the remaining 11 delineation assessment soil samples collected on November 9th and below the RCS-1 Reportable Concentrations. These soil analytical results are summarized in **Table 2**, and detailed in the laboratory analytical report provided as **Appendix B**.

Based upon the laboratory analytical results for the delineation assessment soil samples collected at the Site, the arsenic and/or lead impacts to soil above MCP RCS-1 Reportable Concentrations are estimated to be present in an area approximately 12 feet long by 5 feet wide by up to 8.5 feet deep. The estimated volume of soil within that area is 19 cubic yards.

DISPOSAL FACILITY ANALYSES

Grab samples of the fill material encountered in test pits 1N, 1E, 1S, and 1W were collected, composited, and submitted to NETLabs in order to determine the off-site management options for the lead and arsenic impacted soil. Consistent with MassDEP protocol, the sample for VOC analysis was collected as a grab sample to ensure the integrity of the sample and representativeness of the data.

The pre-characterization analytical data is compared to reuse levels for lined and unlined Massachusetts landfills in **Table 2A** and compared to acceptance levels for an out-of-state special waste disposal facility in **Table 2B**. As shown in Tables 2A and 2B, the pre-characterization analytical results are below acceptance levels for lined and unlined Massachusetts landfills, and below acceptance levels for an out-of-state special waste disposal facility. Soil laboratory analytical results are provided as **Appendix B**.

CONCLUSIONS

Supplemental assessment activities have determined that concentrations of arsenic and/or lead are present in Site soils at and near soil boring SB(MW)-102 above MCP RCS-1 Reportable Concentrations. The arsenic and lead impacts to fill material soil appear to be localized in an area approximately 12 feet long by 5 feet wide and up to 8.5 feet on the eastern portion of the property. The estimated volume of soil within that area is 19 cubic yards. Based upon the pre-characterization data, the soils would be acceptable for reuse at a Massachusetts landfill, or an out-of-state special waste disposal facility.

RECOMMENDATIONS

CEA recommends that a targeted Limited Removal Action (LRA) be performed to remove the arsenic and lead impacted soils, in accordance with 310 CMR 40.0318 and within 120 days of Casa Builders becoming a person required to notify, as defined in Section 40.0331 of the MCP. Assessment activities performed to date indicate that the arsenic and lead impacts are limited to soil and that the estimated volume of impacted soil is less than 20 cubic yards. To confirm the effectiveness of the LRA activities, upon completion post-excavation soil sampling is recommended. The impacted soil shall require off-site reuse or disposal at a permitted disposal facility. The Soils should be loaded into trucks and transported to the appropriately permitted facility(ies) in accordance with applicable local, state and federal requirements under LSP-approved Bills-of-Lading or waste manifest. The Bills-of-Lading shall be prepared and executed in accordance with the requirements of the Massachusetts Contingency Plan (310 CMR 40.0000).

In lieu of LRA activities, additional assessment and response actions shall be required in accordance with the MCP (310 CMR 40.0000) under the oversight of a Licensed Site Professional (LSP) until a Permanent Solution is achieved and submitted to MassDEP.

Thank you for the opportunity to be of assistance. If you have any questions regarding this report or if you require additional information, please contact Adam Last via telephone at (508) 400-7944 or via e-mail at Adam.Last@cea-inc.com.

Sincerely,



Adam J. Last, P.E., LSP
Principal Engineer



Ross Candor, E.I.T.
Environmental Engineer

Attachments

Figures

Figure 1, Site Locus Map
Figure 2, Site Layout
Figure 2A, Test Pit Locations

Tables

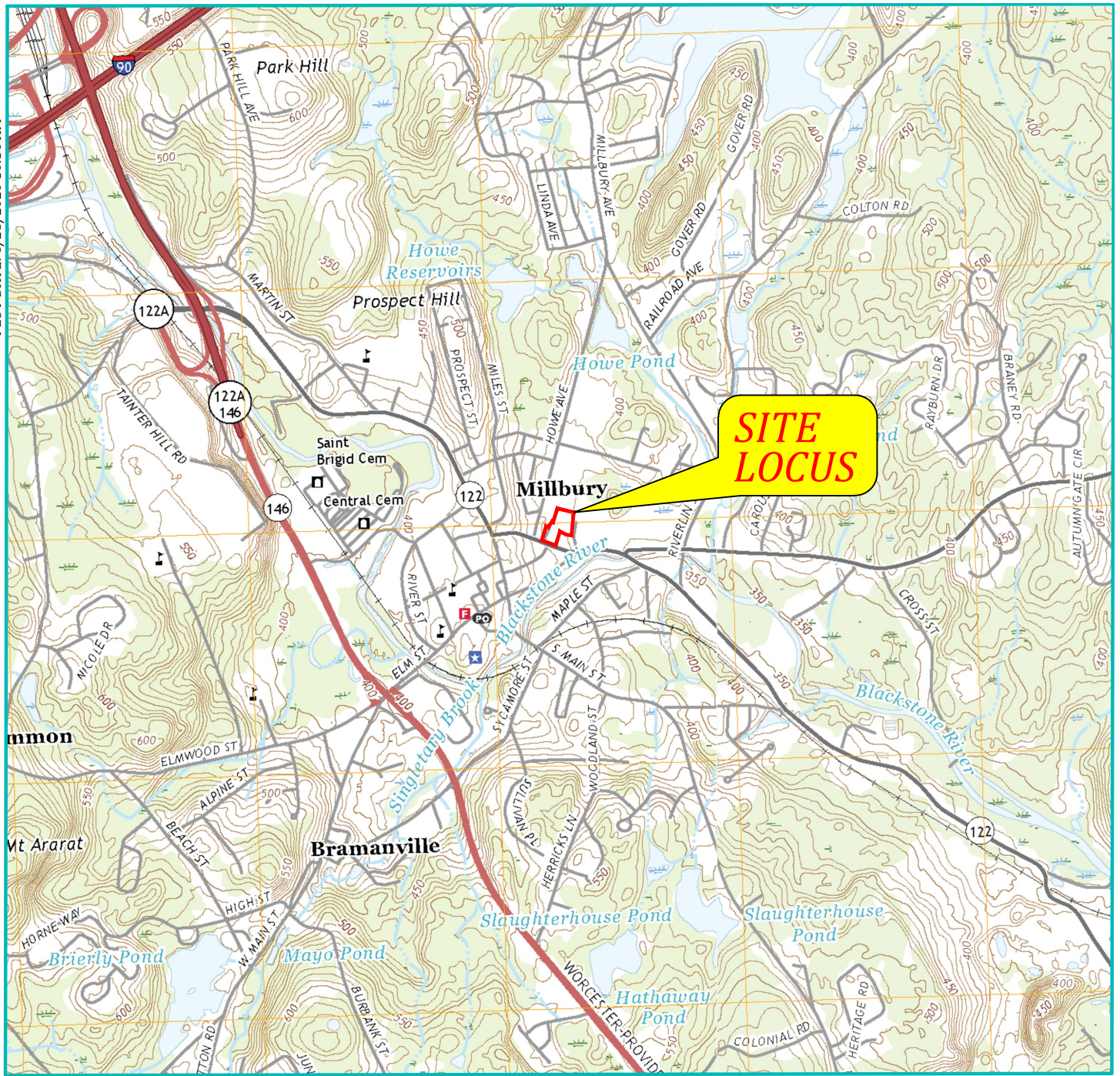
Table 1, Summary of Soil Analytical Results
Table 2, Summary of Soil Arsenic and Lead Results
Table 2A, Soil Data Summary, Comparison to Massachusetts Landfill Reuse Levels
Table 2B, Soil Data Summary, Comparison to Turkey Facility Disposal Limits

Appendices

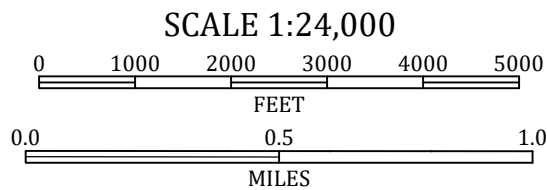
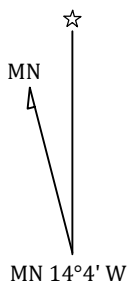
Appendix A, Limitations
Appendix B, Soil Laboratory Analytical Reports

FIGURES

PLOT DATE: 8/25/2020 10:16 AM



WORCESTER SOUTH, MA Topographic 2018 USGSX24K49873 & GRAFTON, MA Topographic 2018 USGSX24K17917
 North American Vertical Datum of 1988

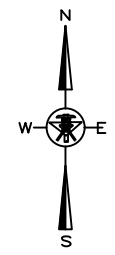
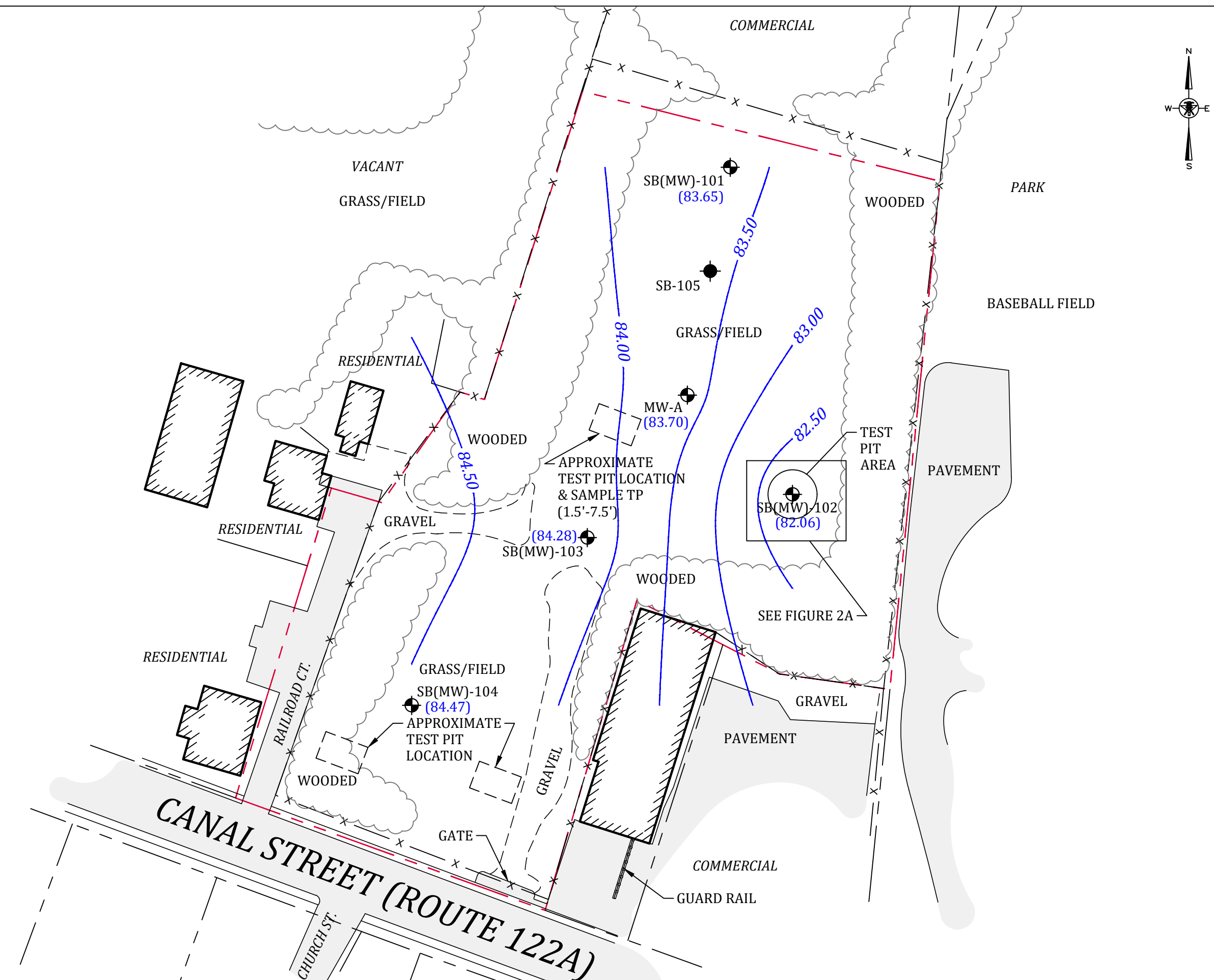


Site Coordinates:
 42° 11' 37" N
 71° 45' 30" W
 Site Location:
 Map 45, Lot 207A
 Canal Street
 Millbury, MA



Corporate Environmental Advisors
 21 East Main Street Westborough, MA
 1-800-358-7960

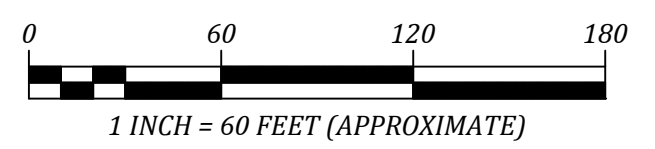
Figure 1
 Site Locus Map



LEGEND

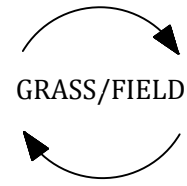
- PROPERTY BOUNDARY
- PARCEL BOUNDARIES
- BUILDINGS
- PAVEMENT
- TREELINE
- CHAIN LINK FENCE
- SOIL BORING
- GROUNDWATER MONITORING WELL/ SOIL BORING (GW ELEV. IN FEET)
- GROUNDWATER CONTOUR (ELEV. IN FEET)

SCALE

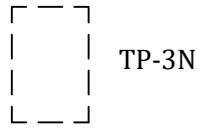


NOTE:
SITE LAYOUT AND FEATURES ARE APPROXIMATE.
SITE LAYOUT IS BASED ON AERIAL IMAGERY AND
FIELD OBSERVATIONS.

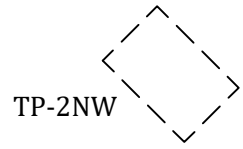
CORPORATE ENVIRONMENTAL ADVISORS <small>Consultants - Engineers - Scientists</small> 21 EAST MAIN STREET WESTBOROUGH, MA 01581		
SCALE: AS SHOWN		DR. BY: L. HAYDEN
DATE: 11/18/2020	APP. BY: WHH	JOB NO.: 0955-20
SITE LAYOUT W/ GROUNDWATER CONTOURS (OCTOBER 8, 2020 DATA)		
CASA BUILDERS MAP 45, LOT 207A CANAL STREET		MILLBURY, MA FIGURE-2



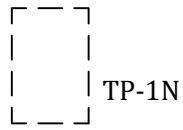
GRASS/FIELD



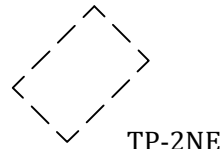
TP-3N



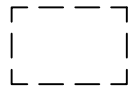
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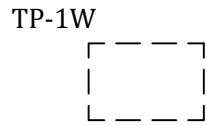
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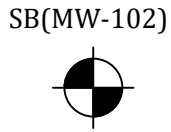
TP-2NE



TP-3W



TP-1W



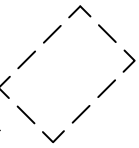
SB(MW-102)



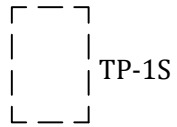
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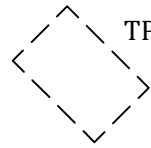
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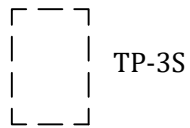
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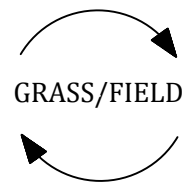
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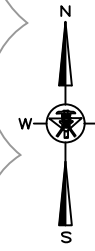
TP-2SE






TP-3S



GRASS/FIELD



LEGEND

-  SOIL BORING/
MONITORING WELL
-  TEST PIT LOCATION
-  TREELINE

SCALE



WOODED

CEA CORPORATE ENVIRONMENTAL ADVISORS
 Consultants - Engineers - Scientists
 21 EAST MAIN STREET WESTBOROUGH, MA 01581

SCALE: AS SHOWN		DR. BY: L. HAYDEN
DATE: 11/18/2020	APP. BY: WHH	JOB NO.: 0955-20

TEST PIT LOCATIONS

CASA BUILDERS MAP 45, LOT 207A CANAL STREET	MILLBURY, MA	FIGURE-2A
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TABLES

Table 1
Summary of Soil Analytical Results
Map 45, Lot 207A
Millbury, Massachusetts

Sample ID: Depth: Date Sampled: Headspace Reading (ppmv) Parameter	TP 1.5-7.5 1.5-7.5'		SB(MW)-101 5-7' 5-7' 10/1/2020		SB(MW)-102 5-7' 5-7' 10/1/2020		SB(MW)-103 5-7' 5-7' 10/1/2020		SB(MW)-104 5-7' 5-7' 10/1/2020		SB-105 5-7' 5-7' 10/1/2020		Units	MCP Reportable Concentrations	MCP Method 1 Risk Characterization Standards							MCP Concentration Ranges of the Coal and Coal Ash Exemption			RCRA Hazardous Waste Limit	
	--		0		0		13.9		1.1		3.4				RCS-1	Unrestricted Future			Current Applicable				Coal Fly Ash	Coal Bottom Ash		Coal
	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit				S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3					
Extractable Petroleum Hydrocarbons (MADEP-EPH)																										
Naphthalene	ND	0.35	ND	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	4	20	500	20	1000	20	3000	--	--	--	--		
2-Methylnaphthalene	ND	0.35	ND	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	1	80	300	80	500	80	500	--	--	--	--		
Phenanthrene	0.92	0.35	0.61	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	10	500	500	1000	1000	3000	3000	--	--	--	--		
Acenaphthene	ND	0.35	ND	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	4	1000	1000	3000	3000	5000	5000	--	--	--	--		
Acenaphthylene	ND	0.35	ND	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	1	600	10	600	10	600	10	--	--	--	--		
Fluorene	ND	0.35	ND	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	1000	1000	1000	3000	3000	5000	5000	--	--	--	--		
Anthracene	ND	0.35	ND	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	1000	1000	1000	3000	3000	5000	5000	--	--	--	--		
Fluoranthene	1.57	0.35	0.73	0.35	0.49	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	1000	1000	1000	3000	3000	5000	5000	--	--	--	--		
Pyrene	1.13	0.35	0.64	0.35	0.45	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	1000	1000	1000	3000	3000	5000	5000	--	--	--	--		
Benzo(a)anthracene	1.13	0.35	0.43	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	7	7	7	40	40	300	300	--	--	--	--		
Chrysene	2.02	0.35	0.65	0.35	0.4	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	70	70	70	400	400	3000	3000	--	--	--	--		
Benzo(b)fluoranthene	1.42	0.35	0.37	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	7	7	7	40	40	300	300	--	--	--	--		
Benzo(k)fluoranthene	1.03	0.35	0.36	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	70	70	70	400	400	3000	3000	--	--	--	--		
Benzo(a)pyrene	0.7	0.35	ND	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	2	2	2	7	7	30	30	--	--	--	--		
Indeno(1,2,3-cd)pyrene	0.48	0.35	ND	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	7	7	7	40	40	300	300	--	--	--	--		
Dibenz(a,h)anthracene	ND	0.35	ND	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	1	1	1	4	4	30	30	--	--	--	--		
Benzo(g,h,i)perylene	0.37	0.35	ND	0.35	ND	0.38	ND	0.41	ND	0.36	ND	0.37	mg/kg	1000	1000	1000	3000	3000	5000	5000	--	--	--	--		
C9-C18 Aliphatic Hydrocarbons	ND	13.9	ND	14	ND	15.3	ND	16.6	ND	14.4	ND	14.8	mg/kg	1000	1000	1000	3000	3000	5000	5000	--	--	--	--		
C19-C36 Aliphatic Hydrocarbons	17.9	13.9	31.5	14	45.7	15.3	ND	16.6	ND	14.4	ND	14.8	mg/kg	3000	3000	3000	5000	5000	5000	5000	--	--	--	--		
C11-C22 Aromatic Hydrocarbons	73.3	6.98	67.6	7.04	40.7	7.66	13.4	8.34	ND	7.21	ND	7.44	mg/kg	1000	1000	1000	3000	3000	5000	5000	--	--	--	--		
Total Metals																										
Antimony	0.95	0.66	--	--	--	--	--	--	--	--	--	--	mg/kg	20	20	20	30	30	30	30	--	--	--	--		
Arsenic	11.6	0.66	8.21	0.45	20.7	0.55	9.02	0.5	8.03	0.45	16.6	0.43	mg/kg	20	20	20	20	20	50	50	2 - 440	0.02 - 168	0.5 - 106	--		
Barium	38.2	0.33	42.7	0.23	151	0.27	105	0.25	42.6	0.22	57.1	0.22	mg/kg	1000	1000	1000	3000	3000	5000	5000	1 - 13800	110 - 9360	150	--		
Beryllium	ND	0.33	--	--	--	--	--	--	--	--	--	--	mg/kg	90	90	90	200	200	200	200	--	--	--	--		
Cadmium	1.59	0.33	1.89	0.23	5.29	0.27	2.38	0.25	1.78	0.22	3.69	0.22	mg/kg	70	70	70	100	100	100	100	0.1 - 130	0.1 - 4.7	0.1 - 6.5	--		
Chromium	5.31	0.33	7.87	0.23	19	0.27	20.2	0.25	17.4	0.22	27.4	0.22	mg/kg	100	100	100	200	200	200	200	4 - 900	0.2 - 5820	0 - 610	--		
Lead	49.7	0.33	186	0.23	363	0.27	13.2	0.25	7.69	0.22	12.1	0.22	mg/kg	200	200	200	600	600	600	600	3 - 2100	0.4 - 1100	4 - 220	--		
Nickel	11.9	0.33	--	--	--	--	--	--	--	--	--	--	mg/kg	600	600	600	1000	1000	1000	1000	2 - 4300	<10 - 2900	0.4 - 104	--		
Selenium	ND	0.66	ND	0.45	ND	0.55	ND	0.5	ND	0.45	ND	0.43	mg/kg	400	400	400	700	700	700	700	0.2 - 130	0.1 - 10	0.4 - 8	--		
Silver	ND	0.33	ND	0.23	ND	0.27	ND	0.25	ND	0.22	ND	0.22	mg/kg	100	100	100	200	200	200	200	--	--	--	--		
Thallium	ND	0.33	--	--	--	--	--	--	--	--	--	--	mg/kg	8	8	8	60	60	80	80	--	--	--	--		
Vanadium	25.4	0.33	--	--	--	--	--	--	--	--	--	--	mg/kg	400	400	400	700	700	700	700	--	--	--	--		
Zinc	68.2	1.3	--	--	--	--	--	--	--	--	--	--	mg/kg	1000	1000	1000	3000	3000	5000	5000	14 - 3500	4 - 1800	0 - 5600	--		
Mercury	ND	0.054	ND	0.065	0.147	0.069	ND	0.072	ND	0.057	ND	0.062	mg/kg	20	20	20	30	30	30	30	0.01 - 12	0.01 - 4	0.01 - 1.6	--		
TCLP Metals																										
Lead	--	--	--	--	0.057	0.025	--	--	--	--	--	--	mg/L	--	--	--	--	--	--	--	--	--	--	5		
Volatile Organic Compounds																										
Benzene	--	--	--	--	--	--	ND	59	ND	25	--	--	ug/kg	2000	40000	40000	200000	200000	400000	1000000	--	--	--	--		
Methyl t-butyl ether (MTBE)	--	--	--	--	--	--	ND	59	ND	25	--	--	ug/kg	100	100000	100000	100000	500000	100000	500000	--	--	--	--		
cis-1,2-Dichloroethene	--	--	--	--	--	--	ND	59	ND	25	--	--	ug/kg	100	100	100000	100	500000	100	500000	--	--	--	--		
Ethylbenzene	--	--	--	--	--	--	ND	59	ND	25	--	--	ug/kg	40000	500000	500000	1000000	1000000	1000000	3000000	--	--	--	--		
Naphthalene	--	--	--	--	--	--	ND	59	ND	25	--	--	ug/kg	4000	20000	500000	20000	1000000	20000	3000000	--	--	--	--		
Tetrachloroethene	--	--	--	--	--	--	ND	59	ND	25	--	--	ug/kg	1000	10000	30000	10000	200000	10000	1000000	--	--	--	--		
Toluene	--	--	--	--	--	--	ND	59	ND	25	--	--	ug/kg	30000	500000	500000	1000000	1000000	2000000	3000000	--	--	--	--		
Trichloroethene	--	--	--	--	--	--	ND	59	ND	25	--	--	ug/kg	300	300	30000	300	60000	300	60000	--	--	--	--		
Vinyl Chloride	--	--	--	--	--	--	ND	59	ND	25	--	--	ug/kg	700	700	1000	700	7000	700	60000	--	--	--	--		
Total xylenes	--	--	--	--	--	--	ND	59	ND	25	--	--	ug/kg	100000	100000	500000	100000	1000000	100000	3000000	--	--	--	--		
VPH + BTEX																										
C5 - C8 Aliphatics	ND	5.6	--	--	--	--	--	--	--	--	--	--	mg/kg	100	100	100	500	500	500	500	--	--	--	--		
C9 - C12 Aliphatics	ND	5.6	--	--	--	--	--	--	--	--	--	--	mg/kg	1000	1000	1000	3000	3000	5000	5000	--	--	--	--		
C9 - C10 Aromatics	ND	5.6	--	--	--	--	--	--	--	--	--	--	mg/kg	100	100	100	500	500	500	500	--	--	--	--		
Benzene	ND	0.3	--	--	--	--	--	--	--	--	--	--	mg/kg	2	40	40	200	200	400	1000	--	--	--	--		
Toluene	ND	0.3	--	--	--	--	--	--	--	--	--	--	mg/kg	30	500	500	1000	1000	2000	3000	--	--	--	--		
Ethylbenzene	ND	0.3	--	--	--	--	--	--	--	--	--	--	mg/kg	40	500	500	1000	1000	1000	3000	--	--	--	--		
Methyl tert-Butyl Ether (MTBE)	ND	0.06	--	--	--	--	--	--	--	--	--	--	mg/kg	0	100	100	100	500	100	500	--	--	--	--		
Naphthalene	ND	0.6	--	--	--	--	--	--	--	--	--	--	mg/kg	4	20	500	20	1000	20	3000	--	--	--	--		
Total Xylenes	ND	0.6	--	--	--	--	--	--	--	--	--	--	mg/kg	100	100	500	100	1000	100	3000	--	--	--	--		
PCBs																										

Table 2A
Soil Characterization Analytical Data Summary
Comparison to Massachusetts Landfill Reuse Levels
 Map 45, Lot 207A, Canal Street, Millbury, MA

Analytical Parameters	Disposal (soil disposal composite)	SB(MW)-102 (5-7 feet)	Massachusetts Landfills Reuse Levels ¹	
			Lined	Unlined
Sample Collection Date	11/9/2020	10/1/2020		
Total VOCs by EPA Method 8260				
Naphthalene	0.031	--		
All other VOCs	ND	--		
Total VOCs by 8260	0.03	--	10*	4*
SVOCs by EPA Method 8270				
2-Methylnaphthalene	0.571	<0.38		
Anthracene	0.388	<0.38		
Benzo(a)anthracene	1.22	<0.38		
Benzo(a)pyrene	0.933	<0.38		
Benzo(b)fluoranthene	1.88	<0.38		
Benzo(g,h,i)perylene	0.645	<0.38		
Benzo(k)fluoranthene	0.65	<0.38		
Chrysene	1.88	0.4		
Fluoranthene	2.26	0.49		
Indeno(1,2,3-cd)pyrene	0.82	<0.38		
Naphthalene	0.563	<0.38		
Phenanthrene	1.68	<0.38		
Pyrene	1.92	0.45		
Total SVOCs by 8270	15.41	1.34	100	100
TPH – EPA Method 8100M				
Unidentified	744	--	5,000	2,500
PCBs – EPA Method 8082				
Total PCBs	<0.079	--	<2	<2
Total Metals				
Arsenic	21	20.7	40	40
Barium	84.5	151	NL	NL
Cadmium	1.7	5.29	80	30
Chromium (total)	11	19	1,000	1,000
Mercury	0.138	0.147	10	10
Lead	176	363	2,000	1,000
TCLP Lead	0.047	0.057	5	5
Selenium	<0.7	<0.27	NL	NL
Silver	<0.35	<0.55	NL	NL
Misc. Parameters				
Reactivity	Non-Reactive	--	Non-Reactive	
Reactive Cyanide	<0.2	--		
Reactive Sulfide	<0.1	--		
Conductivity (umhos/cm) ²	--	--	8,000	4,000
pH	6.2	--	2 to 12.5	
Ignitability / Flashpoint	>200	--	> 140 ° F	

Notes:

1 – Source: Table 1, Contaminant Levels for Soil Reuse at Landfills, MassDEP Policy #COMM-97-001: Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, August 15, 1997.

2 - Analysis required for soil which may be expected to contain elevated sodium chloride (NaCl).

Concentrations identified in milligrams per kilogram (mg/kg) or parts per million (ppm) unless otherwise noted.

* Total Concentration

CS - Compound Specific

Table 2B
Soil Characterization Analytical Data Summary
Comparison to Waste Management Turnkey Facility Acceptance Limits
Map 45, Lot 27A, Canal Street, Millbury, MA

Sample Number:		OK10049-01
Field ID:		Disposal
Sample Date:		11/9/2020
RCRA 8 METALS		
<i>TCLP trigger=100</i>	Total Arsenic	21
<i>TCLP trigger=2000</i>	Total Barium	84.5
<i>TCLP trigger=20</i>	Total Cadmium	1.7
<i>TCLP trigger=100</i>	Total Chromium	11
<i>TCLP trigger=100</i>	Total Lead	176
<i>TCLP trigger=4</i>	Total Mercury	0.138
<i>TCLP trigger=20</i>	Total Selenium	<0.7
<i>TCLP trigger=100</i>	Total Silver	<0.35
<i>Reg limit=5</i>	TCLP Arsenic	-
<i>Reg limit=100</i>	TCLP Barium	-
<i>Reg limit=1</i>	TCLP Cadmium	-
<i>Reg limit=5</i>	TCLP Chromium	-
<i>Reg limit=5</i>	TCLP Lead	0.047
<i>Reg limit=0.2</i>	TCLP Mercury	-
<i>Reg limit=1</i>	TCLP Selenium	-
<i>Reg limit=5</i>	TCLP Silver	-
VOLATILE ORGANIC COMPOUNDS		
<i>TCLP trigger=10</i>	Total Benzene	<0.026
<i>TCLP trigger=10</i>	Total Carbon Tetrachloride	<0.026
<i>TCLP trigger=2000</i>	Total Chlorobenzene	<0.026
<i>TCLP trigger=120</i>	Total Chloroform	<0.026
<i>TCLP trigger=10</i>	Total 1,2-Dichloroethane	<0.026
<i>TCLP trigger=14</i>	Total 1,1-Dichloroethylene	<0.026
<i>TCLP trigger=4000</i>	Total Methyl Ethyl Ketone	<0.130
<i>TCLP trigger=14</i>	Total Tetrachloroethylene	<0.026
<i>TCLP trigger=10</i>	Total Trichloroethylene	<0.026
<i>TCLP trigger=4</i>	Total Vinyl Chloride	<0.026
<i>Reg limit=0.5</i>	TCLP Benzene	-
<i>Reg limit=0.5</i>	TCLP Carbon Tetrachloride	-
<i>Reg limit=100</i>	TCLP Chlorobenzene	-
<i>Reg limit=6</i>	TCLP Chloroform	-
<i>Reg limit=0.5</i>	TCLP 1,2-Dichloroethane	-
<i>Reg limit=0.7</i>	TCLP 1,1-Dichloroethylene	-
<i>Reg limit=200</i>	TCLP Methyl Ethyl Ketone	-
<i>Reg limit=0.7</i>	TCLP Tetrachloroethylene	-
<i>Reg limit=0.5</i>	TCLP Trichloroethylene	-
<i>Reg limit=0.2</i>	TCLP Vinyl Chloride	-
SEMI-VOLATILE ORGANIC COMPOUNDS		
<i>TCLP trigger=4000</i>	Total o-Cresol (a.k.a. 2-methylphenol)	<0.309
<i>TCLP trigger=4000</i>	Total m-Cresol (a.k.a. 3-methylphenol)	<0.309
<i>TCLP trigger=4000</i>	Total p-Cresol (a.k.a. 4-methylphenol)	<0.309
<i>TCLP trigger=2000</i>	Total Pentachlorophenol	<0.783
<i>TCLP trigger=8000</i>	Total 2,4,5-Trichlorophenol	<0.309
<i>TCLP trigger=40</i>	Total 2,4,6-Trichlorophenol	<0.309
<i>TCLP trigger=150</i>	Total 1,4-Dichlorobenzene	<0.309
<i>TCLP trigger=2.6</i>	Total 2,4-Dinitrotoluene	<0.309

<i>TCLP trigger=2.6</i>	Total Hexachlorobenzene	<0.309
<i>TCLP trigger=10</i>	Total Hexachlorobutadiene	<0.309
<i>TCLP trigger=60</i>	Total Hexachloroethane	<0.309
<i>TCLP trigger=40</i>	Total Nitrobenzene	<0.309
<i>TCLP trigger=100</i>	Total Pyridine	<0.309
<i>Reg limit=200</i>	TCLP o-Cresol	-
<i>Reg limit=200</i>	TCLP m-Cresol	-
<i>Reg limit=200</i>	TCLP p-Cresol	-
<i>Reg limit=100</i>	TCLP Pentachlorophenol	-
<i>Reg limit=400</i>	TCLP 2,4,5-Trichlorophenol	-
<i>Reg limit=2</i>	TCLP 2,4,6-Trichlorophenol	-
<i>Reg limit=7.5</i>	TCLP 1,4-Dichlorobenzene	-
<i>Reg limit=0.13</i>	TCLP 2,4-Dinitrotoluene	-
<i>Reg limit=0.13</i>	TCLP Hexachlorobenzene	-
<i>Reg limit=0.5</i>	TCLP Hexachlorobutadiene	-
<i>Reg limit=3</i>	TCLP Hexachloroethane	-
<i>Reg limit=2</i>	TCLP Nitrobenzene	-
<i>Reg limit=5</i>	TCLP Pyridine	-

PCBs & WASTE CHARACTERISTICS

<i><50 and/or approved for Sub D</i>	Total PCBs (all arochlors)	<0.079
<i>Acceptable >140</i>	Flashpoint	>200
<i>Acceptable <250</i>	Reactive CN	<0.2
<i>Acceptable <500</i>	Reactive S	<0.1
<i>Acceptable >2 and <12.5</i>	pH	6.2
<i>Acceptable <5% if liquid</i>	TPH	744
<i>Negative for direct LF</i>	Paint Filter Test	-
<i>No standard</i>	Percent Solids	-

Lab Sample Number:

OK10049-01

Field ID:

Disposal

Sample Date:

11/9/2020

PESTICIDES

ND

<i>TCLP trigger=0.6</i>	Total Chlordane	<0.020
<i>TCLP trigger=0.4</i>	Total Endrin	<0.002
<i>TCLP trigger=0.16</i>	Total Heptachlor	<0.002
<i>TCLP trigger=0.16</i>	Total Heptachlor Epoxide	<0.002
<i>TCLP trigger=8</i>	Total Lindane	<0.002
<i>TCLP trigger=200</i>	Total Methoxychlor	<0.00398
<i>TCLP trigger=10</i>	Total Toxaphene	<0.0182
<i>Reg limit=0.03</i>	TCLP Chlordane	-
<i>Reg limit=0.02</i>	TCLP Endrin	-
<i>Reg limit=0.008</i>	TCLP Heptachlor	-
<i>Reg limit=0.008</i>	TCLP Heptachlor Epoxide	-
<i>Reg limit=0.4</i>	TCLP Lindane	-
<i>Reg limit=100</i>	TCLP Methoxychlor	-
<i>Reg limit=0.5</i>	TCLP Toxaphene	-

HERBICIDES

ND

<i>TCLP trigger=200</i>	Total 2,4-D	<0.060
<i>TCLP trigger=20</i>	Total 2,4,5-TP	<0.060
<i>Reg limit=10</i>	TCLP 2,4-D	-
<i>Reg limit=1</i>	TCLP 2,4,5-TP	-

All concentrations expressed in parts per million
NR= not required

Appendix A

Limitations

Limitations

This Statement of Limitations is an integral part of, and is incorporated by reference into, the **Supplemental Assessment Report**.

Corporate Environmental Advisors (hereinafter CEA) prepared this Report and Opinions pursuant to an Agreement between the Client, **Casa Builders**, and CEA. All uses of and reliance upon this Report are subject to and deemed acceptance of, the Terms and Conditions contained therein. This Report was prepared for the sole and exclusive use of the Client, **Casa Builders**. No other party is entitled to rely in any way on the conclusions, observations, specifications, or data contained herein without the express written consent of CEA. Any use of this Report by anyone other than the Client without review and the written authorization of CEA, shall be at the user's sole risk, and CEA shall not have any liability or responsibility therefore.

This Report is based upon, but not limited to: visual inspections of existing physical conditions; review and interpretation of site history and site usage information which was made available or obtained within the scope of work authorized by the Client; information provided by the Client; information and/or analyses for designated substances or parameters provided by an independent testing service or laboratory on a limited number of samples; and a limited number of subsurface explorations made on dates indicated in this Report upon which CEA has relied and presumed accurate, and upon which CEA is entitled to reasonably rely. CEA was not authorized and did not attempt to independently verify the accuracy or completeness of information or materials received from the Client and/or from laboratories and other third parties during the performance of its services. CEA shall not be liable for any condition, information, or conclusion, the discovery of which required information not available to CEA or for independent investigation of information provided to CEA by the Client and/or independent third parties. CEA has not attempted to verify all data received or reviewed. The findings and conclusions contained in this report should not be considered as scientific certainties, but as probabilities and/or professional opinions based on professional judgment concerning the significance of the limited data obtained and reviewed during this evaluation. Any figures, plans, drawings or sketches accompanying the Report are intended to present the general, relative locations of features on, and surrounding the site.

The passage of time may result in changes in technology, economic conditions or regulatory standards, manifestations of latent conditions, or the occurrence of future events which would render this Report inaccurate or otherwise inapplicable. CEA shall not be liable or responsible for the consequences of any such changed circumstances or conditions on the accuracy of this Report. In addition, under no circumstances shall the Client nor any other person or entity rely on the information or conclusions contained in this Report after six months from its date of submission without the express written consent of CEA. Reliance on the Report after such period of time shall be at the user's sole risk.

Should CEA be required or requested to review or authorize others to use this Report after its date of submission, CEA shall be entitled to additional compensation at the existing rates or such other terms as may be agreed upon between CEA and the Client. Nothing herein contained shall be deemed to require CEA to undertake any such review or authorize others to use this Report.

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| Massachusetts | Maine | New Hampshire |

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The Opinions are rendered for the limited purpose stated above, and are not and should not be deemed to be an opinion concerning the compliance of any past or present owner or operator of the site with any federal, state or local law or regulation. No warranty or guarantee, whether express or implied, is made by this Report, and any implied warranties of merchantability or fitness for a particular purpose are expressly disclaimed. Without limiting the generality of the foregoing, no warranty or guarantee is made that all contamination at a site or sources or contamination has been detected or identified, that any action or recommended action will achieve all of its objectives, or that this Report or any action as to which the Report relates will be upheld by any audit conducted by the MassDEP or any other party.

Appendix B

Soil Analytical Reports



New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 0K10047
Client Project: 0955-20 Map 45, Lot 207A

Report Date: 17-November-2020

Prepared for:

William Hopper
Corporate Environmental Advisors
21 East Main Street
Westborough, MA 01581

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
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Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 11/10/20. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 0K10047. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
0K10047-01	S-1E (8-8.5')	Soil	11/09/2020	11/10/2020
0K10047-02	S-3E (6-9.5')	Soil	11/09/2020	11/10/2020
0K10047-03	S-2SE (5-8')	Soil	11/09/2020	11/10/2020
0K10047-04	S-1S (5-8')	Soil	11/09/2020	11/10/2020
0K10047-05	S-3S (5-9')	Soil	11/09/2020	11/10/2020
0K10047-06	S-2SW (5-9')	Soil	11/09/2020	11/10/2020
0K10047-07	S-1W (7-8.5')	Soil	11/09/2020	11/10/2020
0K10047-08	S-3W (6-8')	Soil	11/09/2020	11/10/2020
0K10047-09	S-2NE (5-6')	Soil	11/09/2020	11/10/2020
0K10047-10	S-2NW (6-8')	Soil	11/09/2020	11/10/2020
0K10047-11	S-1N (5.5-9')	Soil	11/09/2020	11/10/2020
0K10047-12	S-3N (5.5-8')	Soil	11/09/2020	11/10/2020

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

S-1E (8-8.5') (Lab Number: 0K10047-01)

Analysis

Arsenic
Lead

Method

EPA 6010C
EPA 6010C

S-1N (5.5-9') (Lab Number: 0K10047-11)

Analysis

Arsenic
Lead

Method

EPA 6010C
EPA 6010C

S-1S (5-8') (Lab Number: 0K10047-04)

Analysis

Arsenic
Lead

Method

EPA 6010C
EPA 6010C

S-1W (7-8.5') (Lab Number: 0K10047-07)

Analysis

Arsenic
Lead

Method

EPA 6010C
EPA 6010C

S-2NE (5-6') (Lab Number: 0K10047-09)

Analysis

Arsenic
Lead

Method

EPA 6010C
EPA 6010C

S-2NW (6-8') (Lab Number: 0K10047-10)

Analysis

Arsenic
Lead

Method

EPA 6010C
EPA 6010C

S-2SE (5-8') (Lab Number: 0K10047-03)

Analysis

Arsenic
Lead

Method

EPA 6010C
EPA 6010C

S-2SW (5-9') (Lab Number: 0K10047-06)

Analysis

Arsenic
Lead

Method

EPA 6010C
EPA 6010C

S-3E (6-9.5') (Lab Number: 0K10047-02)

Analysis

Arsenic
Lead

Method

EPA 6010C
EPA 6010C

S-3N (5.5-8') (Lab Number: 0K10047-12)

Analysis

Arsenic

Method

EPA 6010C

Request for Analysis (continued)

S-3N (5.5-8') (Lab Number: 0K10047-12) (continued)

Analysis

Lead

Method

EPA 6010C

S-3S (5-9') (Lab Number: 0K10047-05)

Analysis

Arsenic

Lead

Method

EPA 6010C

EPA 6010C

S-3W (6-8') (Lab Number: 0K10047-08)

Analysis

Arsenic

Lead

Method

EPA 6010C

EPA 6010C

Method References

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: Total Metals

Sample: S-1E (8-8.5')
Lab Number: OK10047-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	23.4		0.70	mg/kg	11/11/20	11/13/20
Lead	10.5		0.35	mg/kg	11/11/20	11/13/20

Results: Total Metals

Sample: S-3E (6-9.5')
Lab Number: OK10047-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	16.9		0.52	mg/kg	11/11/20	11/13/20
Lead	142		0.26	mg/kg	11/11/20	11/13/20

Results: Total Metals

Sample: S-2SE (5-8')

Lab Number: 0K10047-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	16.0		0.55	mg/kg	11/11/20	11/13/20
Lead	133		0.28	mg/kg	11/11/20	11/13/20

Results: Total Metals

Sample: S-1S (5-8')
Lab Number: 0K10047-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	3.90		0.59	mg/kg	11/11/20	11/13/20
Lead	23.2		0.29	mg/kg	11/11/20	11/13/20

Results: Total Metals

Sample: S-3S (5-9')

Lab Number: OK10047-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	8.05		0.56	mg/kg	11/11/20	11/13/20
Lead	10.4		0.28	mg/kg	11/11/20	11/13/20

Results: Total Metals

Sample: S-2SW (5-9')
Lab Number: OK10047-06 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	6.47		0.52	mg/kg	11/11/20	11/13/20
Lead	52.4		0.26	mg/kg	11/11/20	11/13/20

Results: Total Metals

Sample: S-1W (7-8.5')
Lab Number: 0K10047-07 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	15.3		0.67	mg/kg	11/11/20	11/13/20
Lead	168		0.34	mg/kg	11/11/20	11/13/20

Results: Total Metals

Sample: S-3W (6-8')

Lab Number: 0K10047-08 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	4.83		0.46	mg/kg	11/11/20	11/13/20
Lead	31.1		0.23	mg/kg	11/11/20	11/13/20

Results: Total Metals

Sample: S-2NE (5-6')
Lab Number: 0K10047-09 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	11.3		0.47	mg/kg	11/11/20	11/13/20
Lead	196		0.23	mg/kg	11/11/20	11/13/20

Results: Total Metals

Sample: S-2NW (6-8')
Lab Number: OK10047-10 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	7.14		0.51	mg/kg	11/11/20	11/13/20
Lead	47.1		0.26	mg/kg	11/11/20	11/13/20

Results: Total Metals

Sample: S-1N (5.5-9')
Lab Number: OK10047-11 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	15.0		0.46	mg/kg	11/11/20	11/13/20
Lead	161		0.23	mg/kg	11/11/20	11/13/20

Results: Total Metals

Sample: S-3N (5.5-8')
Lab Number: 0K10047-12 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	13.5		0.58	mg/kg	11/11/20	11/13/20
Lead	117		0.29	mg/kg	11/11/20	11/13/20

Quality Control

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0446 - Metals Digestion Soils										
Blank (B0K0446-BLK1)										
					Prepared: 11/11/20 Analyzed: 11/13/20					
Lead	ND		0.33	mg/kg						
Arsenic	ND		0.66	mg/kg						
LCS (B0K0446-BS1)										
					Prepared: 11/11/20 Analyzed: 11/13/20					
Lead	99.0		0.33	mg/kg	100		99.0	85-115		
Arsenic	20.6		0.66	mg/kg	20.0		103	85-115		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

NEW ENGLAND TESTING LABORATORY, INC.
 59 Greenhill Street
 West Warwick, RI 02893
 1-888-863-8522



OK1 0047 C

PROJ. NO.	PROJECT NAME/LOCATION	SCORING		NO. OF CONTAINERS	REMARKS
		SOIL	OTHER		
0955-20	Map 45, Lot 207 A				
CLIENT: Corporate Environmental Advisors (CEA)					
REPORT TO: 21E Main St, Westborough, MA					
INVOICE TO: 0955-20					
DATE	TIME	GRA B	SAMPLE ID	TESTS**	REMARKS
11/9/20	8:30	X	S-1E (8-8.5')	X	
	8:50	X	S-2E (6-9.5')	X	
	9:45	X	S-2SE (5-8')	X	
	10:30	X	S-1S (5-8')	X	
	11:30	X	S-3S (5-9')	X	
	12:00	X	S-2SW (5-9')	X	
	12:30	X	S-1W (7-8.5')	X	
	1:00pm	X	S-3W (6-8')	X	
	1:45pm	X	S-2NE (5-6')	X	
	2:20pm	X	S-2NW (6-8')	X	
	3:00pm	X	S-1N (5.5-9')	X	
	3:45pm	X	S-3N (5.5-8')	X	
Sampled by (Signature): <i>[Signature]</i> Date/Time: 11/9/20 4:30pm Received by (Signature): <i>[Signature]</i> Relinquished by (Signature): <i>[Signature]</i> Date/Time: 11/10/20 16:45 Received by (Signature): <i>[Signature]</i> Relinquished by (Signature): <i>[Signature]</i> Date/Time: 11/10/20 12:34 Received by (Signature): <i>[Signature]</i>					
Laboratory Remarks: 5				Special Instructions: List Specific Detection Limit Requirements:	
Temp. received: Cooled <input type="checkbox"/>				Turnaround (Business Days): 5	

**Nelab subcontracts the following tests: Radiologicals, Radon, Asbestos, USMPS, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates, CT ETPH

CP

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.

Project #: 0955-20

Project Location: Map 45

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
OK10047

Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water Air Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH (GC/PID/FID) CAM IV A <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP VPH (GC/MS) CAM IV C <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
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Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

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

Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 11/17/2020



New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 0K10049
Client Project: 0955-20 Map 45, Lot 207A

Report Date: 17-November-2020

Prepared for:

William Hopper
Corporate Environmental Advisors
21 East Main Street
Westborough, MA 01581

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 11/10/20. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 0K10049. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
0K10049-01	Disposal	Soil	11/09/2020	11/10/2020

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

Disposal (Lab Number: 0K10049-01)

<u>Analysis</u>	<u>Method</u>
Arsenic	EPA 6010C
Barium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Flashpoint	EPA 1010A-Mod
Herbicides	EPA 8151A
Lead	EPA 6010C
Mercury	EPA 7471B
PCBs	EPA 8082A
Pesticides	EPA 8081B
pH	SM4500-H-B (11)
Reactive Cyanide	NETL Internal
Reactive Sulfide	NETL Internal
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270D
Silver	EPA 6010C
TCLP Lead	EPA 6010C
Total Petroleum Hydrocarbons	EPA-8100-mod
Volatile Organic Compounds	EPA 8260C

Method References

Reactive Cyanide, Standard Operating Procedure 407, New England Testing Laboratory Inc.

Reactive Sulfide, Standard Operating Procedure 426, New England Testing Laboratory Inc.

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: General Chemistry**Sample: Disposal****Lab Number: OK10049-01 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Flashpoint	> 200		70	degrees F	11/16/20	11/16/20
pH	6.2			SU	11/12/20	11/12/20

Results: Reactivity

Sample: Disposal
Lab Number: OK10049-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Reactive Cyanide	ND		0.2	mg/kg	11/12/20	11/12/20
Reactive Sulfide	ND		0.1	mg/kg	11/12/20	11/12/20

Results: Total Metals**Sample: Disposal****Lab Number: OK10049-01 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	21.0		0.70	mg/kg	11/11/20	11/13/20
Barium	84.5		0.35	mg/kg	11/11/20	11/13/20
Cadmium	1.70		0.35	mg/kg	11/11/20	11/13/20
Chromium	11.0		0.35	mg/kg	11/11/20	11/13/20
Lead	176		0.35	mg/kg	11/11/20	11/13/20
Mercury	0.138		0.065	mg/kg	11/11/20	11/11/20
Selenium	ND		0.70	mg/kg	11/11/20	11/13/20
Silver	ND		0.35	mg/kg	11/11/20	11/13/20

Results: Volatile Organic Compounds

Sample: Disposal
Lab Number: 0K10049-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		130	ug/kg	11/13/20	11/13/20
Benzene	ND		26	ug/kg	11/13/20	11/13/20
Bromobenzene	ND		26	ug/kg	11/13/20	11/13/20
Bromochloromethane	ND		26	ug/kg	11/13/20	11/13/20
Bromodichloromethane	ND		26	ug/kg	11/13/20	11/13/20
Bromoform	ND		26	ug/kg	11/13/20	11/13/20
Bromomethane	ND		26	ug/kg	11/13/20	11/13/20
2-Butanone	ND		130	ug/kg	11/13/20	11/13/20
tert-Butyl alcohol	ND		130	ug/kg	11/13/20	11/13/20
sec-Butylbenzene	ND		26	ug/kg	11/13/20	11/13/20
n-Butylbenzene	ND		26	ug/kg	11/13/20	11/13/20
tert-Butylbenzene	ND		26	ug/kg	11/13/20	11/13/20
Methyl t-butyl ether (MTBE)	ND		26	ug/kg	11/13/20	11/13/20
Carbon Disulfide	ND		26	ug/kg	11/13/20	11/13/20
Carbon Tetrachloride	ND		26	ug/kg	11/13/20	11/13/20
Chlorobenzene	ND		26	ug/kg	11/13/20	11/13/20
Chloroethane	ND		26	ug/kg	11/13/20	11/13/20
Chloroform	ND		26	ug/kg	11/13/20	11/13/20
Chloromethane	ND		26	ug/kg	11/13/20	11/13/20
4-Chlorotoluene	ND		26	ug/kg	11/13/20	11/13/20
2-Chlorotoluene	ND		26	ug/kg	11/13/20	11/13/20
1,2-Dibromo-3-chloropropane (DBCP)	ND		26	ug/kg	11/13/20	11/13/20
Dibromochloromethane	ND		26	ug/kg	11/13/20	11/13/20
1,2-Dibromoethane (EDB)	ND		26	ug/kg	11/13/20	11/13/20
Dibromomethane	ND		26	ug/kg	11/13/20	11/13/20
1,2-Dichlorobenzene	ND		26	ug/kg	11/13/20	11/13/20
1,3-Dichlorobenzene	ND		26	ug/kg	11/13/20	11/13/20
1,4-Dichlorobenzene	ND		26	ug/kg	11/13/20	11/13/20
1,1-Dichloroethane	ND		26	ug/kg	11/13/20	11/13/20
1,2-Dichloroethane	ND		26	ug/kg	11/13/20	11/13/20
trans-1,2-Dichloroethene	ND		26	ug/kg	11/13/20	11/13/20
cis-1,2-Dichloroethene	ND		26	ug/kg	11/13/20	11/13/20
1,1-Dichloroethene	ND		26	ug/kg	11/13/20	11/13/20
1,2-Dichloropropane	ND		26	ug/kg	11/13/20	11/13/20
2,2-Dichloropropane	ND		26	ug/kg	11/13/20	11/13/20
cis-1,3-Dichloropropene	ND		26	ug/kg	11/13/20	11/13/20
trans-1,3-Dichloropropene	ND		26	ug/kg	11/13/20	11/13/20
1,1-Dichloropropene	ND		26	ug/kg	11/13/20	11/13/20
1,3-Dichloropropene (cis + trans)	ND		52	ug/kg	11/13/20	11/13/20
Diethyl ether	ND		130	ug/kg	11/13/20	11/13/20
1,4-Dioxane	ND		13000	ug/kg	11/13/20	11/13/20
Ethylbenzene	ND		26	ug/kg	11/13/20	11/13/20
Hexachlorobutadiene	ND		26	ug/kg	11/13/20	11/13/20
2-Hexanone	ND		130	ug/kg	11/13/20	11/13/20
Isopropylbenzene	ND		26	ug/kg	11/13/20	11/13/20
p-Isopropyltoluene	ND		26	ug/kg	11/13/20	11/13/20
Methylene Chloride	ND		674	ug/kg	11/13/20	11/13/20
4-Methyl-2-pentanone	ND		130	ug/kg	11/13/20	11/13/20

Results: Volatile Organic Compounds (Continued)

Sample: Disposal (Continued)

Lab Number: OK10049-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Naphthalene	31		26	ug/kg	11/13/20	11/13/20
n-Propylbenzene	ND		26	ug/kg	11/13/20	11/13/20
Styrene	ND		26	ug/kg	11/13/20	11/13/20
1,1,1,2-Tetrachloroethane	ND		26	ug/kg	11/13/20	11/13/20
Tetrachloroethene	ND		26	ug/kg	11/13/20	11/13/20
Tetrahydrofuran	ND		130	ug/kg	11/13/20	11/13/20
Toluene	ND		26	ug/kg	11/13/20	11/13/20
1,2,4-Trichlorobenzene	ND		26	ug/kg	11/13/20	11/13/20
1,2,3-Trichlorobenzene	ND		26	ug/kg	11/13/20	11/13/20
1,1,2-Trichloroethane	ND		26	ug/kg	11/13/20	11/13/20
1,1,1-Trichloroethane	ND		26	ug/kg	11/13/20	11/13/20
Trichloroethene	ND		26	ug/kg	11/13/20	11/13/20
1,2,3-Trichloropropane	ND		26	ug/kg	11/13/20	11/13/20
1,3,5-Trimethylbenzene	ND		26	ug/kg	11/13/20	11/13/20
1,2,4-Trimethylbenzene	ND		26	ug/kg	11/13/20	11/13/20
Vinyl Chloride	ND		26	ug/kg	11/13/20	11/13/20
o-Xylene	ND		26	ug/kg	11/13/20	11/13/20
m&p-Xylene	ND		52	ug/kg	11/13/20	11/13/20
Total xylenes	ND		26	ug/kg	11/13/20	11/13/20
1,1,2,2-Tetrachloroethane	ND		26	ug/kg	11/13/20	11/13/20
tert-Amyl methyl ether	ND		26	ug/kg	11/13/20	11/13/20
1,3-Dichloropropane	ND		26	ug/kg	11/13/20	11/13/20
Ethyl tert-butyl ether	ND		26	ug/kg	11/13/20	11/13/20
Diisopropyl ether	ND		26	ug/kg	11/13/20	11/13/20
Trichlorofluoromethane	ND		26	ug/kg	11/13/20	11/13/20
Dichlorodifluoromethane	ND		26	ug/kg	11/13/20	11/13/20
Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	<i>95.1%</i>		<i>70-130</i>		11/13/20	11/13/20
<i>1,2-Dichloroethane-d4</i>	<i>104%</i>		<i>70-130</i>		11/13/20	11/13/20
<i>Toluene-d8</i>	<i>99.7%</i>		<i>70-130</i>		11/13/20	11/13/20

Results: Semivolatile organic compounds

Sample: Disposal

Lab Number: 0K10049-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		309	ug/kg	11/11/20	11/13/20
1,2-Dichlorobenzene	ND		309	ug/kg	11/11/20	11/13/20
1,3-Dichlorobenzene	ND		309	ug/kg	11/11/20	11/13/20
1,4-Dichlorobenzene	ND		309	ug/kg	11/11/20	11/13/20
Phenol	ND		309	ug/kg	11/11/20	11/13/20
2,4,5-Trichlorophenol	ND		309	ug/kg	11/11/20	11/13/20
2,4,6-Trichlorophenol	ND		309	ug/kg	11/11/20	11/13/20
2,4-Dichlorophenol	ND		309	ug/kg	11/11/20	11/13/20
2,4-Dimethylphenol	ND		783	ug/kg	11/11/20	11/13/20
2,4-Dinitrophenol	ND		783	ug/kg	11/11/20	11/13/20
2,4-Dinitrotoluene	ND		309	ug/kg	11/11/20	11/13/20
2,6-Dinitrotoluene	ND		309	ug/kg	11/11/20	11/13/20
2-Chloronaphthalene	ND		309	ug/kg	11/11/20	11/13/20
2-Chlorophenol	ND		309	ug/kg	11/11/20	11/13/20
2-Methylnaphthalene	571		309	ug/kg	11/11/20	11/13/20
Nitrobenzene	ND		309	ug/kg	11/11/20	11/13/20
2-Methylphenol	ND		309	ug/kg	11/11/20	11/13/20
2-Nitroaniline	ND		309	ug/kg	11/11/20	11/13/20
2-Nitrophenol	ND		783	ug/kg	11/11/20	11/13/20
3,3'-Dichlorobenzidine	ND		783	ug/kg	11/11/20	11/13/20
3-Nitroaniline	ND		309	ug/kg	11/11/20	11/13/20
4,6-Dinitro-2-methylphenol	ND		783	ug/kg	11/11/20	11/13/20
4-Bromophenyl phenyl ether	ND		309	ug/kg	11/11/20	11/13/20
4-Chloro-3-methylphenol	ND		309	ug/kg	11/11/20	11/13/20
4-Chloroaniline	ND		309	ug/kg	11/11/20	11/13/20
4-Chlorophenyl phenyl ether	ND		309	ug/kg	11/11/20	11/13/20
4-Nitroaniline	ND		309	ug/kg	11/11/20	11/13/20
4-Nitrophenol	ND		783	ug/kg	11/11/20	11/13/20
Acenaphthene	ND		309	ug/kg	11/11/20	11/13/20
Acenaphthylene	ND		309	ug/kg	11/11/20	11/13/20
Aniline	ND		309	ug/kg	11/11/20	11/13/20
Anthracene	388		309	ug/kg	11/11/20	11/13/20
Benzo(a)anthracene	1220		309	ug/kg	11/11/20	11/13/20
Benzo(a)pyrene	933		309	ug/kg	11/11/20	11/13/20
Benzo(b)fluoranthene	1880		309	ug/kg	11/11/20	11/13/20
Benzo(g,h,i)perylene	645		309	ug/kg	11/11/20	11/13/20
Benzo(k)fluoranthene	650		309	ug/kg	11/11/20	11/13/20
Benzoic acid	ND		2370	ug/kg	11/11/20	11/13/20
Bis(2-chloroethoxy)methane	ND		309	ug/kg	11/11/20	11/13/20
Bis(2-chloroethyl)ether	ND		309	ug/kg	11/11/20	11/13/20
Bis(2-chloroisopropyl)ether	ND		309	ug/kg	11/11/20	11/13/20
Bis(2-ethylhexyl)phthalate	ND		949	ug/kg	11/11/20	11/13/20
Butyl benzyl phthalate	ND		309	ug/kg	11/11/20	11/13/20
Chrysene	1880		309	ug/kg	11/11/20	11/13/20
Di(n)octyl phthalate	ND		475	ug/kg	11/11/20	11/13/20
Dibenz(a,h)anthracene	ND		309	ug/kg	11/11/20	11/13/20
Dibenzofuran	ND		309	ug/kg	11/11/20	11/13/20
Diethyl phthalate	ND		309	ug/kg	11/11/20	11/13/20

Results: Semivolatile organic compounds (Continued)

Sample: Disposal (Continued)

Lab Number: 0K10049-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Dimethyl phthalate	ND		783	ug/kg	11/11/20	11/13/20
Di-n-butylphthalate	ND		475	ug/kg	11/11/20	11/13/20
Fluoranthene	2260		309	ug/kg	11/11/20	11/13/20
Fluorene	ND		309	ug/kg	11/11/20	11/13/20
Hexachlorobenzene	ND		309	ug/kg	11/11/20	11/13/20
Hexachlorobutadiene	ND		309	ug/kg	11/11/20	11/13/20
Hexachlorocyclopentadiene	ND		783	ug/kg	11/11/20	11/13/20
Hexachloroethane	ND		309	ug/kg	11/11/20	11/13/20
Indeno(1,2,3-cd)pyrene	820		309	ug/kg	11/11/20	11/13/20
Isophorone	ND		309	ug/kg	11/11/20	11/13/20
Naphthalene	563		309	ug/kg	11/11/20	11/13/20
N-Nitrosodimethylamine	ND		309	ug/kg	11/11/20	11/13/20
N-Nitrosodi-n-propylamine	ND		309	ug/kg	11/11/20	11/13/20
N-Nitrosodiphenylamine	ND		309	ug/kg	11/11/20	11/13/20
Pentachlorophenol	ND		783	ug/kg	11/11/20	11/13/20
Phenanthrene	1680		309	ug/kg	11/11/20	11/13/20
Pyrene	1920		309	ug/kg	11/11/20	11/13/20
m&p-Cresol	ND		617	ug/kg	11/11/20	11/13/20
Pyridine	ND		309	ug/kg	11/11/20	11/13/20
<hr style="border-top: 1px dashed black;"/>						
Surrogate(s)	Recovery%		Limits			
<i>Nitrobenzene-d5</i>	87.3%		30-126		11/11/20	11/13/20
<i>p-Terphenyl-d14</i>	104%		47-130		11/11/20	11/13/20
<i>2-Fluorobiphenyl</i>	93.4%		34-130		11/11/20	11/13/20
<i>Phenol-d6</i>	82.6%		30-130		11/11/20	11/13/20
<i>2,4,6-Tribromophenol</i>	90.9%		30-130		11/11/20	11/13/20
<i>2-Fluorophenol</i>	81.8%		30-130		11/11/20	11/13/20

Results: Pesticides

Sample: Disposal
Lab Number: OK10049-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
alpha-BHC	ND		2.00	ug/kg	11/16/20	11/17/20
gamma-BHC (Lindane)	ND		2.00	ug/kg	11/16/20	11/17/20
beta-BHC	ND		2.00	ug/kg	11/16/20	11/17/20
delta-BHC	ND		2.00	ug/kg	11/16/20	11/17/20
Heptachlor	ND		2.00	ug/kg	11/16/20	11/17/20
Aldrin	ND		2.00	ug/kg	11/16/20	11/17/20
Heptachlor epoxide	ND		2.00	ug/kg	11/16/20	11/17/20
gamma-Chlordane	ND		2.00	ug/kg	11/16/20	11/17/20
alpha-Chlordane	ND		2.00	ug/kg	11/16/20	11/17/20
Chlordane	ND		20.0	ug/kg	11/16/20	11/17/20
4,4'-DDE	11.0		3.98	ug/kg	11/16/20	11/17/20
Endosulfan I	ND		2.00	ug/kg	11/16/20	11/17/20
Dieldrin	ND		2.00	ug/kg	11/16/20	11/17/20
Endrin	ND		2.00	ug/kg	11/16/20	11/17/20
4,4'-DDD	4.28		3.98	ug/kg	11/16/20	11/17/20
Endosulfan II	ND		2.00	ug/kg	11/16/20	11/17/20
Endrin aldehyde	ND		2.00	ug/kg	11/16/20	11/17/20
4,4'-DDT	55.7		15.9	ug/kg	11/16/20	11/17/20
Methoxychlor	ND		3.98	ug/kg	11/16/20	11/17/20
Endosulfan sulfate	ND		2.00	ug/kg	11/16/20	11/17/20
Endrin Ketone	ND		2.00	ug/kg	11/16/20	11/17/20
Toxaphene	ND		20.0	ug/kg	11/16/20	11/17/20
Surrogate(s)	Recovery%		Limits			
<i>2,4,5,6-Tetrachloro-m-xylene (TCMX)</i>	72.5%		30-106		11/16/20	11/17/20
<i>Decachlorobiphenyl (DCBP)</i>	76.6%		32-110		11/16/20	11/17/20

Results: Polychlorinated Biphenyls (PCBs)

Sample: Disposal

Lab Number: 0K10049-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		79	ug/kg	11/16/20	11/17/20
Aroclor-1221	ND		79	ug/kg	11/16/20	11/17/20
Aroclor-1232	ND		79	ug/kg	11/16/20	11/17/20
Aroclor-1242	ND		79	ug/kg	11/16/20	11/17/20
Aroclor-1248	ND		79	ug/kg	11/16/20	11/17/20
Aroclor-1254	ND		79	ug/kg	11/16/20	11/17/20
Aroclor-1260	ND		79	ug/kg	11/16/20	11/17/20
Aroclor-1262	ND		79	ug/kg	11/16/20	11/17/20
Aroclor-1268	ND		79	ug/kg	11/16/20	11/17/20
PCBs (Total)	ND		79	ug/kg	11/16/20	11/17/20
Surrogate(s)	Recovery%		Limits			
<i>2,4,5,6-Tetrachloro-m-xylene (TCMX)</i>	<i>60.5%</i>		<i>36.2-130</i>		11/16/20	11/17/20
<i>Decachlorobiphenyl (DCBP)</i>	<i>63.1%</i>		<i>43.3-130</i>		11/16/20	11/17/20

Results: Herbicides**Sample: Disposal****Lab Number: 0K10049-01 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Dalapon	ND		119	ug/kg	11/17/20	11/17/20
Dicamba	ND		60	ug/kg	11/17/20	11/17/20
Dichloroprop	ND		60	ug/kg	11/17/20	11/17/20
2,4-D	ND		60	ug/kg	11/17/20	11/17/20
2,4,5-TP (Silvex)	ND		60	ug/kg	11/17/20	11/17/20
2,4,5-T	ND		60	ug/kg	11/17/20	11/17/20
2,4-DB	ND		60	ug/kg	11/17/20	11/17/20
Dinoseb	ND		119	ug/kg	11/17/20	11/17/20
Surrogate(s)	Recovery%		Limits			
<i>2,4-Dichlorophenyl acetic acid</i>	<i>71.2%</i>		<i>41-145</i>		<i>11/17/20</i>	<i>11/17/20</i>

Results: Total Petroleum Hydrocarbons**Sample: Disposal****Lab Number: OK10049-01 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Total Petroleum Hydrocarbons	744		126	mg/kg	11/13/20	11/15/20
Surrogate(s)	Recovery%		Limits			
<i>Chlorooctadecane</i>	<i>95.5%</i>		<i>56.5-114</i>		11/13/20	11/15/20

Results: TCLP Metals

Sample: Disposal
Lab Number: OK10049-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Lead	0.047		0.025	mg/L	11/17/20	11/17/20

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0241 - Flashpoint-EPA 1010A-Mod										
LCS (B0K0241-BS1)										
Flashpoint	77		70	degrees F	80.0		96.8	90-110		
Duplicate (B0K0241-DUP1) Source: 0J30035-01										
Flashpoint	117		70	degrees F		122			4.17	20
Batch: B0K0555 - pH										
LCS (B0K0555-BS1)										
pH	7.0			SU	7.00		101	0-200		
LCS (B0K0555-BS2)										
pH	7.0			SU	7.00		100	0-200		
Duplicate (B0K0555-DUP1) Source: 0K10022-01										
pH	7.5			SU		7.5			0.666	200

Quality Control
(Continued)

Reactivity

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0514 - Reactivity										
Blank (B0K0514-BLK1)										
Sulfide	ND		0.1	mg/kg						Prepared & Analyzed: 11/12/20
Blank (B0K0514-BLK2)										
Sulfide	ND		0.1	mg/kg						Prepared & Analyzed: 11/12/20
LCS (B0K0514-BS1)										
Sulfide	3.7		0.1	mg/kg	4.00		91.5	90-110		Prepared & Analyzed: 11/12/20
LCS (B0K0514-BS2)										
Sulfide	3.7		0.1	mg/kg	4.00		91.5	90-110		Prepared & Analyzed: 11/12/20
Duplicate (B0K0514-DUP1)										
Sulfide	ND		0.1	mg/kg dry		ND				Source: 0K11009-01 Prepared & Analyzed: 11/12/20
Matrix Spike (B0K0514-MS1)										
Sulfide	4.2		0.1	mg/kg dry	4.74	ND	88.0	80-120		Prepared & Analyzed: 11/12/20
Batch: B0K0517 - Reactivity										
Blank (B0K0517-BLK1)										
Cyanide	ND		0.2	mg/kg						Prepared & Analyzed: 11/12/20
Blank (B0K0517-BLK2)										
Cyanide	ND		0.2	mg/kg						Prepared & Analyzed: 11/12/20
Duplicate (B0K0517-DUP1)										
Cyanide	ND		0.2	mg/kg dry		ND				Source: 0K11009-01 Prepared & Analyzed: 11/12/20

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0446 - Metals Digestion Soils										
Blank (B0K0446-BLK1)										
					Prepared: 11/11/20 Analyzed: 11/13/20					
Silver	ND		0.33	mg/kg						
Arsenic	ND		0.66	mg/kg						
Cadmium	ND		0.33	mg/kg						
Barium	ND		0.33	mg/kg						
Chromium	ND		0.33	mg/kg						
Selenium	ND		0.66	mg/kg						
Lead	ND		0.33	mg/kg						
LCS (B0K0446-BS1)										
					Prepared: 11/11/20 Analyzed: 11/13/20					
Cadmium	102		0.33	mg/kg	100		102	85-115		
Selenium	20.2		0.66	mg/kg	20.0		101	85-115		
Chromium	100		0.33	mg/kg	100		100	85-115		
Barium	98.1		0.33	mg/kg	100		98.1	85-115		
Silver	40.2		0.33	mg/kg	40.0		100	85-115		
Lead	99.0		0.33	mg/kg	100		99.0	85-115		
Arsenic	20.6		0.66	mg/kg	20.0		103	85-115		
Batch: B0K0470 - Metals Cold-Vapor Mercury										
Blank (B0K0470-BLK1)										
					Prepared & Analyzed: 11/11/20					
Mercury	ND		0.071	mg/kg						
LCS (B0K0470-BS1)										
					Prepared & Analyzed: 11/11/20					
Mercury	0.133		0.071	mg/kg	0.143		93.1	93-114		

Quality Control
(Continued)

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0670 - Purge-Trap					Prepared & Analyzed: 11/13/20					
Blank (B0K0670-BLK1)										
Acetone	ND		5	ug/kg						
Benzene	ND		1	ug/kg						
Bromobenzene	ND		1	ug/kg						
Bromochloromethane	ND		1	ug/kg						
Bromodichloromethane	ND		1	ug/kg						
Bromoform	ND		1	ug/kg						
Bromomethane	ND		1	ug/kg						
2-Butanone	ND		5	ug/kg						
tert-Butyl alcohol	ND		5	ug/kg						
sec-Butylbenzene	ND		1	ug/kg						
n-Butylbenzene	ND		1	ug/kg						
tert-Butylbenzene	ND		1	ug/kg						
Methyl t-butyl ether (MTBE)	ND		1	ug/kg						
Carbon Disulfide	ND		1	ug/kg						
Carbon Tetrachloride	ND		1	ug/kg						
Chlorobenzene	ND		1	ug/kg						
Chloroethane	ND		1	ug/kg						
Chloroform	ND		1	ug/kg						
Chloromethane	ND		1	ug/kg						
4-Chlorotoluene	ND		1	ug/kg						
2-Chlorotoluene	ND		1	ug/kg						
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/kg						
Dibromochloromethane	ND		1	ug/kg						
1,2-Dibromoethane (EDB)	ND		1	ug/kg						
Dibromomethane	ND		1	ug/kg						
1,2-Dichlorobenzene	ND		1	ug/kg						
1,3-Dichlorobenzene	ND		1	ug/kg						
1,4-Dichlorobenzene	ND		1	ug/kg						
1,1-Dichloroethane	ND		1	ug/kg						
1,2-Dichloroethane	ND		1	ug/kg						
trans-1,2-Dichloroethene	ND		1	ug/kg						
cis-1,2-Dichloroethene	ND		1	ug/kg						
1,1-Dichloroethene	ND		1	ug/kg						
1,2-Dichloropropane	ND		1	ug/kg						
2,2-Dichloropropane	ND		1	ug/kg						
cis-1,3-Dichloropropene	ND		1	ug/kg						
trans-1,3-Dichloropropene	ND		1	ug/kg						
1,1-Dichloropropene	ND		1	ug/kg						
1,3-Dichloropropene (cis + trans)	ND		2	ug/kg						
Diethyl ether	ND		5	ug/kg						
1,4-Dioxane	ND		500	ug/kg						
Ethylbenzene	ND		1	ug/kg						
Hexachlorobutadiene	ND		1	ug/kg						
2-Hexanone	ND		5	ug/kg						
Isopropylbenzene	ND		1	ug/kg						
p-Isopropyltoluene	ND		1	ug/kg						
Methylene Chloride	ND		26	ug/kg						
4-Methyl-2-pentanone	ND		5	ug/kg						
Naphthalene	ND		1	ug/kg						
n-Propylbenzene	ND		1	ug/kg						
Styrene	ND		1	ug/kg						
1,1,1,2-Tetrachloroethane	ND		1	ug/kg						
Tetrachloroethene	ND		1	ug/kg						
Tetrahydrofuran	ND		5	ug/kg						
Toluene	ND		1	ug/kg						
1,2,4-Trichlorobenzene	ND		1	ug/kg						
1,2,3-Trichlorobenzene	ND		1	ug/kg						

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0670 - Purge-Trap (Continued)										
Blank (B0K0670-BLK1)					Prepared & Analyzed: 11/13/20					
1,1,2-Trichloroethane	ND		1	ug/kg						
1,1,1-Trichloroethane	ND		1	ug/kg						
Trichloroethene	ND		1	ug/kg						
1,2,3-Trichloropropane	ND		1	ug/kg						
1,3,5-Trimethylbenzene	ND		1	ug/kg						
1,2,4-Trimethylbenzene	ND		1	ug/kg						
Vinyl Chloride	ND		1	ug/kg						
o-Xylene	ND		1	ug/kg						
m&p-Xylene	ND		2	ug/kg						
Total xylenes	ND		1	ug/kg						
1,1,2,2-Tetrachloroethane	ND		1	ug/kg						
tert-Amyl methyl ether	ND		1	ug/kg						
1,3-Dichloropropane	ND		1	ug/kg						
Ethyl tert-butyl ether	ND		1	ug/kg						
Diisopropyl ether	ND		1	ug/kg						
Trichlorofluoromethane	ND		1	ug/kg						
Dichlorodifluoromethane	ND		1	ug/kg						
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<i>Surrogate: 4-Bromofluorobenzene</i>			47.0	ug/l	50.0		94.0	70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			50.0	ug/l	50.0		100	70-130		
<i>Surrogate: Toluene-d8</i>			49.3	ug/l	50.0		98.6	70-130		
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LCS (B0K0670-BS1)					Prepared & Analyzed: 11/13/20					
Acetone	55			ug/l	50.0		110	70-130		
Benzene	51			ug/l	50.0		103	70-130		
Bromobenzene	51			ug/l	50.0		102	70-130		
Bromochloromethane	49			ug/l	50.0		98.3	70-130		
Bromodichloromethane	51			ug/l	50.0		102	70-130		
Bromoform	48			ug/l	50.0		96.1	70-130		
Bromomethane	27			ug/l	50.0		53.5	70-130		
2-Butanone	52			ug/l	50.0		103	70-130		
tert-Butyl alcohol	47			ug/l	50.0		93.5	70-130		
sec-Butylbenzene	50			ug/l	50.0		99.0	70-130		
n-Butylbenzene	46			ug/l	50.0		92.2	70-130		
tert-Butylbenzene	47			ug/l	50.0		93.5	70-130		
Methyl t-butyl ether (MTBE)	50			ug/l	50.0		101	70-130		
Carbon Disulfide	52			ug/l	50.0		104	70-130		
Carbon Tetrachloride	44			ug/l	50.0		87.3	70-130		
Chlorobenzene	50			ug/l	50.0		101	70-130		
Chloroethane	50			ug/l	50.0		99.2	70-130		
Chloroform	52			ug/l	50.0		104	70-130		
Chloromethane	43			ug/l	50.0		85.1	70-130		
4-Chlorotoluene	51			ug/l	50.0		102	70-130		
2-Chlorotoluene	51			ug/l	50.0		101	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	42			ug/l	50.0		83.2	70-130		
Dibromochloromethane	52			ug/l	50.0		105	70-130		
1,2-Dibromoethane (EDB)	52			ug/l	50.0		104	70-130		
Dibromomethane	52			ug/l	50.0		103	70-130		
1,2-Dichlorobenzene	49			ug/l	50.0		98.2	70-130		
1,3-Dichlorobenzene	51			ug/l	50.0		102	70-130		
1,4-Dichlorobenzene	49			ug/l	50.0		98.4	70-130		
1,1-Dichloroethane	49			ug/l	50.0		97.5	70-130		
1,2-Dichloroethane	51			ug/l	50.0		103	70-130		
trans-1,2-Dichloroethene	50			ug/l	50.0		101	70-130		
cis-1,2-Dichloroethene	53			ug/l	50.0		107	70-130		
1,1-Dichloroethene	49			ug/l	50.0		97.4	70-130		
1,2-Dichloropropane	51			ug/l	50.0		101	70-130		
2,2-Dichloropropane	45			ug/l	50.0		90.3	70-130		

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0670 - Purge-Trap (Continued)										
LCS (B0K0670-BS1)					Prepared & Analyzed: 11/13/20					
cis-1,3-Dichloropropene	47			ug/l	50.0		93.0	70-130		
trans-1,3-Dichloropropene	48			ug/l	50.0		96.7	70-130		
1,1-Dichloropropene	42			ug/l	50.0		83.3	70-130		
Diethyl ether	54			ug/l	50.0		108	70-130		
1,4-Dioxane	291			ug/l	250		116	70-130		
Ethylbenzene	50			ug/l	50.0		99.7	70-130		
Hexachlorobutadiene	44			ug/l	50.0		88.9	70-130		
2-Hexanone	50			ug/l	50.0		99.7	70-130		
Isopropylbenzene	50			ug/l	50.0		99.6	70-130		
p-Isopropyltoluene	49			ug/l	50.0		98.3	70-130		
Methylene Chloride	73			ug/l	50.0		146	70-130		
4-Methyl-2-pentanone	46			ug/l	50.0		91.0	70-130		
Naphthalene	49			ug/l	50.0		97.2	70-130		
n-Propylbenzene	48			ug/l	50.0		95.9	70-130		
Styrene	52			ug/l	50.0		103	70-130		
1,1,1,2-Tetrachloroethane	51			ug/l	50.0		102	70-130		
Tetrachloroethene	48			ug/l	50.0		95.6	70-130		
Tetrahydrofuran	43			ug/l	50.0		86.4	70-130		
Toluene	53			ug/l	50.0		106	70-130		
1,2,4-Trichlorobenzene	49			ug/l	50.0		98.8	70-130		
1,2,3-Trichlorobenzene	46			ug/l	50.0		92.9	70-130		
1,1,2-Trichloroethane	52			ug/l	50.0		104	70-130		
1,1,1-Trichloroethane	46			ug/l	50.0		91.2	70-130		
Trichloroethene	50			ug/l	50.0		101	70-130		
1,2,3-Trichloropropane	55			ug/l	50.0		110	70-130		
1,3,5-Trimethylbenzene	50			ug/l	50.0		99.8	70-130		
1,2,4-Trimethylbenzene	51			ug/l	50.0		103	70-130		
Vinyl Chloride	46			ug/l	50.0		91.6	70-130		
o-Xylene	50			ug/l	50.0		100	70-130		
m&p-Xylene	102			ug/l	100		102	70-130		
1,1,2,2-Tetrachloroethane	52			ug/l	50.0		105	70-130		
tert-Amyl methyl ether	45			ug/l	50.0		90.1	70-130		
1,3-Dichloropropane	52			ug/l	50.0		104	70-130		
Ethyl tert-butyl ether	44			ug/l	50.0		87.7	70-130		
Diisopropyl ether	45			ug/l	50.0		89.6	70-130		
Trichlorofluoromethane	46			ug/l	50.0		91.4	70-130		
Dichlorodifluoromethane	33			ug/l	50.0		66.8	70-130		
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Surrogate: 4-Bromofluorobenzene			52.1	ug/l	50.0		104	70-130		
Surrogate: 1,2-Dichloroethane-d4			50.2	ug/l	50.0		100	70-130		
Surrogate: Toluene-d8			51.2	ug/l	50.0		102	70-130		

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0670 - Purge-Trap (Continued)					Prepared & Analyzed: 11/13/20					
LCS Dup (B0K0670-BSD1)										
Acetone	59			ug/l	50.0		118	70-130	6.75	200
Benzene	51			ug/l	50.0		103	70-130	0.136	200
Bromobenzene	51			ug/l	50.0		101	70-130	0.865	200
Bromochloromethane	50			ug/l	50.0		99.6	70-130	1.33	200
Bromodichloromethane	52			ug/l	50.0		104	70-130	1.75	200
Bromoform	49			ug/l	50.0		98.7	70-130	2.63	200
Bromomethane	33			ug/l	50.0		66.2	70-130	21.2	200
2-Butanone	54			ug/l	50.0		107	70-130	3.88	200
tert-Butyl alcohol	47			ug/l	50.0		93.2	70-130	0.278	200
sec-Butylbenzene	49			ug/l	50.0		98.5	70-130	0.547	200
n-Butylbenzene	47			ug/l	50.0		93.5	70-130	1.46	200
tert-Butylbenzene	46			ug/l	50.0		92.9	70-130	0.579	200
Methyl t-butyl ether (MTBE)	51			ug/l	50.0		103	70-130	1.97	200
Carbon Disulfide	52			ug/l	50.0		105	70-130	0.592	200
Carbon Tetrachloride	45			ug/l	50.0		90.7	70-130	3.82	200
Chlorobenzene	50			ug/l	50.0		100	70-130	0.398	200
Chloroethane	50			ug/l	50.0		99.5	70-130	0.382	200
Chloroform	51			ug/l	50.0		102	70-130	1.95	200
Chloromethane	42			ug/l	50.0		83.6	70-130	1.80	200
4-Chlorotoluene	51			ug/l	50.0		101	70-130	0.710	200
2-Chlorotoluene	50			ug/l	50.0		99.5	70-130	1.81	200
1,2-Dibromo-3-chloropropane (DBCP)	44			ug/l	50.0		87.7	70-130	5.24	200
Dibromochloromethane	52			ug/l	50.0		105	70-130	0.0382	200
1,2-Dibromoethane (EDB)	53			ug/l	50.0		106	70-130	1.26	200
Dibromomethane	52			ug/l	50.0		104	70-130	0.637	200
1,2-Dichlorobenzene	50			ug/l	50.0		100	70-130	2.18	200
1,3-Dichlorobenzene	50			ug/l	50.0		101	70-130	1.22	200
1,4-Dichlorobenzene	50			ug/l	50.0		99.0	70-130	0.628	200
1,1-Dichloroethane	50			ug/l	50.0		100	70-130	2.87	200
1,2-Dichloroethane	54			ug/l	50.0		107	70-130	4.25	200
trans-1,2-Dichloroethene	51			ug/l	50.0		102	70-130	0.691	200
cis-1,2-Dichloroethene	55			ug/l	50.0		109	70-130	2.28	200
1,1-Dichloroethene	50			ug/l	50.0		99.9	70-130	2.49	200
1,2-Dichloropropane	51			ug/l	50.0		101	70-130	0.138	200
2,2-Dichloropropane	46			ug/l	50.0		91.0	70-130	0.838	200
cis-1,3-Dichloropropene	47			ug/l	50.0		94.4	70-130	1.47	200
trans-1,3-Dichloropropene	48			ug/l	50.0		96.2	70-130	0.560	200
1,1-Dichloropropene	41			ug/l	50.0		82.1	70-130	1.47	200
Diethyl ether	54			ug/l	50.0		108	70-130	0.555	200
1,4-Dioxane	269			ug/l	250		108	70-130	7.73	200
Ethylbenzene	50			ug/l	50.0		100	70-130	0.400	200
Hexachlorobutadiene	45			ug/l	50.0		91.0	70-130	2.27	200
2-Hexanone	52			ug/l	50.0		104	70-130	3.84	200
Isopropylbenzene	50			ug/l	50.0		99.9	70-130	0.261	200
p-Isopropyltoluene	49			ug/l	50.0		97.1	70-130	1.17	200
Methylene Chloride	76			ug/l	50.0		153	70-130	4.72	200
4-Methyl-2-pentanone	49			ug/l	50.0		97.0	70-130	6.38	200
Naphthalene	50			ug/l	50.0		101	70-130	3.56	200
n-Propylbenzene	48			ug/l	50.0		96.0	70-130	0.0208	200
Styrene	51			ug/l	50.0		103	70-130	0.563	200
1,1,1,2-Tetrachloroethane	52			ug/l	50.0		103	70-130	1.31	200
Tetrachloroethene	48			ug/l	50.0		95.1	70-130	0.483	200
Tetrahydrofuran	47			ug/l	50.0		94.1	70-130	8.51	200
Toluene	54			ug/l	50.0		108	70-130	2.00	200
1,2,4-Trichlorobenzene	50			ug/l	50.0		100	70-130	1.37	200
1,2,3-Trichlorobenzene	48			ug/l	50.0		95.2	70-130	2.49	200
1,1,2-Trichloroethane	51			ug/l	50.0		103	70-130	1.10	200

**Quality Control
(Continued)**

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0670 - Purge-Trap (Continued)										
LCS Dup (B0K0670-BSD1)					Prepared & Analyzed: 11/13/20					
1,1,1-Trichloroethane	47			ug/l	50.0		93.5	70-130	2.49	200
Trichloroethene	51			ug/l	50.0		103	70-130	1.97	200
1,2,3-Trichloropropane	54			ug/l	50.0		108	70-130	1.03	200
1,3,5-Trimethylbenzene	50			ug/l	50.0		99.4	70-130	0.402	200
1,2,4-Trimethylbenzene	51			ug/l	50.0		102	70-130	0.468	200
Vinyl Chloride	47			ug/l	50.0		93.3	70-130	1.80	200
o-Xylene	50			ug/l	50.0		99.4	70-130	0.921	200
m&p-Xylene	102			ug/l	100		102	70-130	0.686	200
1,1,2,2-Tetrachloroethane	53			ug/l	50.0		106	70-130	0.875	200
tert-Amyl methyl ether	46			ug/l	50.0		92.0	70-130	2.09	200
1,3-Dichloropropane	52			ug/l	50.0		104	70-130	0.0767	200
Ethyl tert-butyl ether	44			ug/l	50.0		88.2	70-130	0.591	200
Diisopropyl ether	45			ug/l	50.0		90.6	70-130	1.13	200
Trichlorofluoromethane	47			ug/l	50.0		93.2	70-130	1.93	200
Dichlorodifluoromethane	33			ug/l	50.0		66.9	70-130	0.239	200

Surrogate: 4-Bromofluorobenzene			51.5	ug/l	50.0		103	70-130		
Surrogate: 1,2-Dichloroethane-d4			50.5	ug/l	50.0		101	70-130		
Surrogate: Toluene-d8			51.2	ug/l	50.0		102	70-130		

Quality Control
(Continued)

Semivolatile organic compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0455 - EPA 3546										
Blank (B0K0455-BLK1)										
					Prepared: 11/11/20 Analyzed: 11/12/20					
1,2,4-Trichlorobenzene	ND		130	ug/kg						
1,2-Dichlorobenzene	ND		130	ug/kg						
1,3-Dichlorobenzene	ND		130	ug/kg						
1,4-Dichlorobenzene	ND		130	ug/kg						
Phenol	ND		130	ug/kg						
2,4,5-Trichlorophenol	ND		130	ug/kg						
2,4,6-Trichlorophenol	ND		130	ug/kg						
2,4-Dichlorophenol	ND		130	ug/kg						
2,4-Dimethylphenol	ND		330	ug/kg						
2,4-Dinitrophenol	ND		330	ug/kg						
2,4-Dinitrotoluene	ND		130	ug/kg						
2,6-Dinitrotoluene	ND		130	ug/kg						
2-Chloronaphthalene	ND		130	ug/kg						
2-Chlorophenol	ND		130	ug/kg						
2-Methylnaphthalene	ND		130	ug/kg						
Nitrobenzene	ND		130	ug/kg						
2-Methylphenol	ND		130	ug/kg						
2-Nitroaniline	ND		130	ug/kg						
2-Nitrophenol	ND		330	ug/kg						
3,3'-Dichlorobenzidine	ND		330	ug/kg						
3-Nitroaniline	ND		130	ug/kg						
4,6-Dinitro-2-methylphenol	ND		330	ug/kg						
4-Bromophenyl phenyl ether	ND		130	ug/kg						
4-Chloro-3-methylphenol	ND		130	ug/kg						
4-Chloroaniline	ND		130	ug/kg						
4-Chlorophenyl phenyl ether	ND		130	ug/kg						
4-Nitroaniline	ND		130	ug/kg						
4-Nitrophenol	ND		330	ug/kg						
Acenaphthene	ND		130	ug/kg						
Acenaphthylene	ND		130	ug/kg						
Aniline	ND		130	ug/kg						
Anthracene	ND		130	ug/kg						
Benzo(a)anthracene	ND		130	ug/kg						
Benzo(a)pyrene	ND		130	ug/kg						
Benzo(b)fluoranthene	ND		130	ug/kg						
Benzo(g,h,i)perylene	ND		130	ug/kg						
Benzo(k)fluoranthene	ND		130	ug/kg						
Benzoic acid	ND		1000	ug/kg						
Bis(2-chloroethoxy)methane	ND		130	ug/kg						
Bis(2-chloroethyl)ether	ND		130	ug/kg						
Bis(2-chloroisopropyl)ether	ND		130	ug/kg						
Bis(2-ethylhexyl)phthalate	ND		400	ug/kg						
Butyl benzyl phthalate	ND		130	ug/kg						
Chrysene	ND		130	ug/kg						
Di(n)octyl phthalate	ND		200	ug/kg						
Dibenz(a,h)anthracene	ND		130	ug/kg						
Dibenzofuran	ND		130	ug/kg						
Diethyl phthalate	ND		130	ug/kg						
Dimethyl phthalate	ND		330	ug/kg						
Di-n-butylphthalate	ND		200	ug/kg						
Fluoranthene	ND		130	ug/kg						
Fluorene	ND		130	ug/kg						
Hexachlorobenzene	ND		130	ug/kg						
Hexachlorobutadiene	ND		130	ug/kg						
Hexachlorocyclopentadiene	ND		330	ug/kg						
Hexachloroethane	ND		130	ug/kg						
Indeno(1,2,3-cd)pyrene	ND		130	ug/kg						

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0455 - EPA 3546 (Continued)										
Blank (B0K0455-BLK1)										
					Prepared: 11/11/20 Analyzed: 11/12/20					
Isophorone	ND		130	ug/kg						
Naphthalene	ND		130	ug/kg						
N-Nitrosodimethylamine	ND		130	ug/kg						
N-Nitrosodi-n-propylamine	ND		130	ug/kg						
N-Nitrosodiphenylamine	ND		130	ug/kg						
Pentachlorophenol	ND		330	ug/kg						
Phenanthrene	ND		130	ug/kg						
Pyrene	ND		130	ug/kg						
m&p-Cresol	ND		260	ug/kg						
Pyridine	ND		130	ug/kg						
<i>Surrogate: Nitrobenzene-d5</i>			3340	ug/kg	3330		100	30-126		
<i>Surrogate: p-Terphenyl-d14</i>			3000	ug/kg	3330		90.0	47-130		
<i>Surrogate: 2-Fluorobiphenyl</i>			2890	ug/kg	3330		86.6	34-130		
<i>Surrogate: Phenol-d6</i>			3210	ug/kg	3330		96.4	30-130		
<i>Surrogate: 2,4,6-Tribromophenol</i>			2950	ug/kg	3330		88.5	30-130		
<i>Surrogate: 2-Fluorophenol</i>			3040	ug/kg	3330		91.3	30-130		
LCS (B0K0455-BS1)										
					Prepared: 11/11/20 Analyzed: 11/12/20					
1,2,4-Trichlorobenzene	2670		130	ug/kg	3330		80.0	40-130		
1,2-Dichlorobenzene	2720		130	ug/kg	3330		81.5	40-130		
1,3-Dichlorobenzene	2530		130	ug/kg	3330		75.9	40-130		
1,4-Dichlorobenzene	2570		130	ug/kg	3330		77.1	40-130		
Phenol	3150		130	ug/kg	3330		94.4	40-130		
2,4,5-Trichlorophenol	2990		130	ug/kg	3330		89.7	40-130		
2,4,6-Trichlorophenol	2530		130	ug/kg	3330		76.0	40-130		
2,4-Dichlorophenol	2870		130	ug/kg	3330		86.2	40-130		
2,4-Dimethylphenol	2790		330	ug/kg	3330		83.6	40-130		
2,4-Dinitrotoluene	3040		130	ug/kg	3330		91.1	40-130		
2,6-Dinitrotoluene	3080		130	ug/kg	3330		92.5	40-130		
2-Chloronaphthalene	2550		130	ug/kg	3330		76.6	40-130		
2-Chlorophenol	2870		130	ug/kg	3330		86.0	40-130		
2-Methylnaphthalene	2950		130	ug/kg	3330		88.6	40-130		
Nitrobenzene	2990		130	ug/kg	3330		89.6	40-130		
2-Methylphenol	3150		130	ug/kg	3330		94.5	40-130		
2-Nitroaniline	3920		130	ug/kg	3330		118	40-130		
2-Nitrophenol	3000		330	ug/kg	3330		90.0	40-130		
3-Nitroaniline	3290		130	ug/kg	3330		98.6	40-130		
4,6-Dinitro-2-methylphenol	2220		330	ug/kg	3330		66.6	40-130		
4-Bromophenyl phenyl ether	2680		130	ug/kg	3330		80.5	40-130		
4-Chloro-3-methylphenol	3140		130	ug/kg	3330		94.1	40-130		
4-Chlorophenyl phenyl ether	2730		130	ug/kg	3330		81.8	40-130		
4-Nitroaniline	2930		130	ug/kg	3330		87.8	40-130		
4-Nitrophenol	3440		330	ug/kg	3330		103	40-130		
Acenaphthene	2520		130	ug/kg	3330		75.5	40-130		
Acenaphthylene	2710		130	ug/kg	3330		81.2	40-130		
Anthracene	2860		130	ug/kg	3330		85.7	40-130		
Benzo(a)anthracene	2620		130	ug/kg	3330		78.6	40-130		
Benzo(a)pyrene	2850		130	ug/kg	3330		85.5	40-130		
Benzo(b)fluoranthene	2780		130	ug/kg	3330		83.3	40-130		
Benzo(g,h,i)perylene	2520		130	ug/kg	3330		75.7	40-130		
Benzo(k)fluoranthene	2970		130	ug/kg	3330		89.0	40-130		
Bis(2-chloroethoxy)methane	3030		130	ug/kg	3330		90.8	40-130		
Bis(2-chloroethyl)ether	3190		130	ug/kg	3330		95.7	40-130		
Bis(2-chloroisopropyl)ether	3680		130	ug/kg	3330		111	40-130		
Bis(2-ethylhexyl)phthalate	3530		400	ug/kg	3330		106	40-130		
Butyl benzyl phthalate	3290		130	ug/kg	3330		98.7	40-130		
Chrysene	2630		130	ug/kg	3330		79.0	40-130		

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0455 - EPA 3546 (Continued)										
LCS (B0K0455-BS1)										
					Prepared: 11/11/20 Analyzed: 11/12/20					
Di(n)octyl phthalate	3880		200	ug/kg	3330		116	40-130		
Dibenz(a,h)anthracene	2550		130	ug/kg	3330		76.4	40-130		
Dibenzofuran	2860		130	ug/kg	3330		85.9	40-130		
Diethyl phthalate	2750		130	ug/kg	3330		82.4	40-130		
Dimethyl phthalate	2780		330	ug/kg	3330		83.5	40-130		
Di-n-butylphthalate	3070		200	ug/kg	3330		92.1	40-130		
Fluoranthene	2970		130	ug/kg	3330		89.2	40-130		
Fluorene	2770		130	ug/kg	3330		83.1	40-130		
Hexachlorobenzene	2630		130	ug/kg	3330		79.0	40-130		
Hexachlorobutadiene	2990		130	ug/kg	3330		89.6	40-130		
Hexachlorocyclopentadiene	1900		330	ug/kg	3330		56.9	40-130		
Hexachloroethane	2810		130	ug/kg	3330		84.2	40-130		
Indeno(1,2,3-cd)pyrene	2650		130	ug/kg	3330		79.6	40-130		
Isophorone	2770		130	ug/kg	3330		83.0	40-130		
Naphthalene	2690		130	ug/kg	3330		80.7	40-130		
N-Nitrosodimethylamine	3250		130	ug/kg	3330		97.5	40-130		
N-Nitrosodi-n-propylamine	3390		130	ug/kg	3330		102	40-130		
N-Nitrosodiphenylamine	3420		130	ug/kg	3330		102	40-130		
Pentachlorophenol	2450		330	ug/kg	3330		73.4	40-130		
Phenanthrene	2840		130	ug/kg	3330		85.2	40-130		
Pyrene	2490		130	ug/kg	3330		74.8	40-130		
m&p-Cresol	3080		260	ug/kg	3330		92.4	40-130		
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<i>Surrogate: Nitrobenzene-d5</i>			<i>3420</i>	<i>ug/kg</i>	<i>3330</i>		<i>103</i>	<i>30-126</i>		
<i>Surrogate: p-Terphenyl-d14</i>			<i>2760</i>	<i>ug/kg</i>	<i>3330</i>		<i>82.7</i>	<i>47-130</i>		
<i>Surrogate: 2-Fluorobiphenyl</i>			<i>2730</i>	<i>ug/kg</i>	<i>3330</i>		<i>81.9</i>	<i>34-130</i>		
<i>Surrogate: Phenol-d6</i>			<i>3190</i>	<i>ug/kg</i>	<i>3330</i>		<i>95.8</i>	<i>30-130</i>		
<i>Surrogate: 2,4,6-Tribromophenol</i>			<i>3300</i>	<i>ug/kg</i>	<i>3330</i>		<i>98.9</i>	<i>30-130</i>		
<i>Surrogate: 2-Fluorophenol</i>			<i>3040</i>	<i>ug/kg</i>	<i>3330</i>		<i>91.2</i>	<i>30-130</i>		

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0455 - EPA 3546 (Continued)										
LCS Dup (B0K0455-BSD1)										
					Prepared: 11/11/20 Analyzed: 11/12/20					
1,2,4-Trichlorobenzene	2620		130	ug/kg	3330		78.6	40-130	1.77	30
1,2-Dichlorobenzene	2680		130	ug/kg	3330		80.5	40-130	1.28	30
1,3-Dichlorobenzene	2550		130	ug/kg	3330		76.5	40-130	0.761	30
1,4-Dichlorobenzene	2560		130	ug/kg	3330		76.7	40-130	0.520	30
Phenol	3110		130	ug/kg	3330		93.2	40-130	1.28	30
2,4,5-Trichlorophenol	2910		130	ug/kg	3330		87.4	40-130	2.62	30
2,4,6-Trichlorophenol	2510		130	ug/kg	3330		75.2	40-130	0.979	30
2,4-Dichlorophenol	2790		130	ug/kg	3330		83.8	40-130	2.78	30
2,4-Dimethylphenol	2760		330	ug/kg	3330		82.8	40-130	0.890	30
2,4-Dinitrotoluene	3040		130	ug/kg	3330		91.3	40-130	0.219	30
2,6-Dinitrotoluene	3090		130	ug/kg	3330		92.8	40-130	0.345	30
2-Chloronaphthalene	2590		130	ug/kg	3330		77.6	40-130	1.24	30
2-Chlorophenol	2860		130	ug/kg	3330		85.7	40-130	0.373	30
2-Methylnaphthalene	2880		130	ug/kg	3330		86.5	40-130	2.42	30
Nitrobenzene	2920		130	ug/kg	3330		87.6	40-130	2.23	30
2-Methylphenol	3060		130	ug/kg	3330		91.9	40-130	2.77	30
2-Nitroaniline	3860		130	ug/kg	3330		116	40-130	1.44	30
2-Nitrophenol	2970		330	ug/kg	3330		89.2	40-130	0.982	30
3-Nitroaniline	3260		130	ug/kg	3330		97.9	40-130	0.713	30
4,6-Dinitro-2-methylphenol	2190		330	ug/kg	3330		65.8	40-130	1.15	30
4-Bromophenyl phenyl ether	2650		130	ug/kg	3330		79.6	40-130	1.12	30
4-Chloro-3-methylphenol	3040		130	ug/kg	3330		91.2	40-130	3.06	30
4-Chlorophenyl phenyl ether	2680		130	ug/kg	3330		80.3	40-130	1.88	30
4-Nitroaniline	2940		130	ug/kg	3330		88.1	40-130	0.387	30
4-Nitrophenol	3430		330	ug/kg	3330		103	40-130	0.446	30
Acenaphthene	2530		130	ug/kg	3330		75.9	40-130	0.634	30
Acenaphthylene	2770		130	ug/kg	3330		83.2	40-130	2.34	30
Anthracene	2960		130	ug/kg	3330		88.7	40-130	3.46	30
Benzo(a)anthracene	2660		130	ug/kg	3330		79.8	40-130	1.44	30
Benzo(a)pyrene	2960		130	ug/kg	3330		88.9	40-130	3.90	30
Benzo(b)fluoranthene	2880		130	ug/kg	3330		86.4	40-130	3.75	30
Benzo(g,h,i)perylene	2670		130	ug/kg	3330		80.0	40-130	5.47	30
Benzo(k)fluoranthene	3040		130	ug/kg	3330		91.1	40-130	2.29	30
Bis(2-chloroethoxy)methane	2990		130	ug/kg	3330		89.7	40-130	1.22	30
Bis(2-chloroethyl)ether	3090		130	ug/kg	3330		92.7	40-130	3.16	30
Bis(2-chloroisopropyl)ether	3680		130	ug/kg	3330		110	40-130	0.217	30
Bis(2-ethylhexyl)phthalate	3620		400	ug/kg	3330		109	40-130	2.40	30
Butyl benzyl phthalate	3340		130	ug/kg	3330		100	40-130	1.55	30
Chrysene	2770		130	ug/kg	3330		83.1	40-130	5.16	30
Di(n)octyl phthalate	3960		200	ug/kg	3330		119	40-130	2.11	30
Dibenz(a,h)anthracene	2690		130	ug/kg	3330		80.7	40-130	5.55	30
Dibenzofuran	2910		130	ug/kg	3330		87.2	40-130	1.50	30
Diethyl phthalate	2800		130	ug/kg	3330		84.1	40-130	1.97	30
Dimethyl phthalate	2800		330	ug/kg	3330		84.1	40-130	0.692	30
Di-n-butylphthalate	3200		200	ug/kg	3330		96.1	40-130	4.23	30
Fluoranthene	3090		130	ug/kg	3330		92.8	40-130	3.93	30
Fluorene	2770		130	ug/kg	3330		83.1	40-130	0.0722	30
Hexachlorobenzene	2630		130	ug/kg	3330		78.9	40-130	0.127	30
Hexachlorobutadiene	2930		130	ug/kg	3330		87.8	40-130	2.07	30
Hexachlorocyclopentadiene	1850		330	ug/kg	3330		55.4	40-130	2.60	30
Hexachloroethane	2810		130	ug/kg	3330		84.2	40-130	0.0475	30
Indeno(1,2,3-cd)pyrene	2840		130	ug/kg	3330		85.3	40-130	6.84	30
Isophorone	2720		130	ug/kg	3330		81.6	40-130	1.70	30
Naphthalene	2670		130	ug/kg	3330		80.2	40-130	0.622	30
N-Nitrosodimethylamine	3220		130	ug/kg	3330		96.5	40-130	0.948	30
N-Nitrosodi-n-propylamine	3380		130	ug/kg	3330		101	40-130	0.354	30
N-Nitrosodiphenylamine	3460		130	ug/kg	3330		104	40-130	1.46	30

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0455 - EPA 3546 (Continued)										
LCS Dup (B0K0455-BSD1)										
					Prepared: 11/11/20 Analyzed: 11/12/20					
Pentachlorophenol	2460		330	ug/kg	3330		73.7	40-130	0.462	30
Phenanthrene	2890		130	ug/kg	3330		86.6	40-130	1.58	30
Pyrene	2600		130	ug/kg	3330		78.0	40-130	4.19	30
m&p-Cresol	2990		260	ug/kg	3330		89.7	40-130	2.99	30

<i>Surrogate: Nitrobenzene-d5</i>			<i>3300</i>	<i>ug/kg</i>	<i>3330</i>		<i>98.9</i>	<i>30-126</i>		
<i>Surrogate: p-Terphenyl-d14</i>			<i>2870</i>	<i>ug/kg</i>	<i>3330</i>		<i>86.0</i>	<i>47-130</i>		
<i>Surrogate: 2-Fluorobiphenyl</i>			<i>2770</i>	<i>ug/kg</i>	<i>3330</i>		<i>83.0</i>	<i>34-130</i>		
<i>Surrogate: Phenol-d6</i>			<i>3180</i>	<i>ug/kg</i>	<i>3330</i>		<i>95.5</i>	<i>30-130</i>		
<i>Surrogate: 2,4,6-Tribromophenol</i>			<i>3220</i>	<i>ug/kg</i>	<i>3330</i>		<i>96.7</i>	<i>30-130</i>		
<i>Surrogate: 2-Fluorophenol</i>			<i>3030</i>	<i>ug/kg</i>	<i>3330</i>		<i>91.0</i>	<i>30-130</i>		

Quality Control
(Continued)

Pesticides

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0655 - EPA 3546										
Blank (B0K0655-BLK1)										
					Prepared: 11/16/20 Analyzed: 11/17/20					
alpha-BHC	ND		1.67	ug/kg						
gamma-BHC (Lindane)	ND		1.67	ug/kg						
beta-BHC	ND		1.67	ug/kg						
delta-BHC	ND		1.67	ug/kg						
Heptachlor	ND		1.67	ug/kg						
Aldrin	ND		1.67	ug/kg						
Heptachlor epoxide	ND		1.67	ug/kg						
gamma-Chlordane	ND		1.67	ug/kg						
alpha-Chlordane	ND		1.67	ug/kg						
Chlordane	ND		16.7	ug/kg						
4,4'-DDE	ND		3.33	ug/kg						
Endosulfan I	ND		1.67	ug/kg						
Dieldrin	ND		1.67	ug/kg						
Endrin	ND		1.67	ug/kg						
4,4'-DDD	ND		3.33	ug/kg						
Endosulfan II	ND		1.67	ug/kg						
Endrin aldehyde	ND		1.67	ug/kg						
4,4'-DDT	ND		3.33	ug/kg						
Methoxychlor	ND		3.33	ug/kg						
Endosulfan sulfate	ND		1.67	ug/kg						
Endrin Ketone	ND		1.67	ug/kg						
Toxaphene	ND		16.7	ug/kg						
<i>Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)</i>			12.0	ug/kg	13.3		89.9	30-106		
<i>Surrogate: Decachlorobiphenyl (DCBP)</i>			13.0	ug/kg	13.3		97.2	32-110		
LCS (B0K0655-BS1)										
					Prepared: 11/16/20 Analyzed: 11/17/20					
alpha-BHC	15.6		1.67	ug/kg	13.3		117	50-132		
gamma-BHC (Lindane)	15.3		1.67	ug/kg	13.3		115	54-128		
beta-BHC	14.6		1.67	ug/kg	13.3		110	69-126		
delta-BHC	15.8		1.67	ug/kg	13.3		119	40-126		
Heptachlor	15.6		1.67	ug/kg	13.3		117	55-125		
Aldrin	14.7		1.67	ug/kg	13.3		110	45-135		
Heptachlor epoxide	15.4		1.67	ug/kg	13.3		115	54-127		
gamma-Chlordane	15.6		1.67	ug/kg	13.3		117	55-124		
alpha-Chlordane	15.4		1.67	ug/kg	13.3		116	54-126		
4,4'-DDE	15.9		3.33	ug/kg	13.3		119	63-130		
Endosulfan I	15.6		1.67	ug/kg	13.3		117	53-128		
Dieldrin	15.9		1.67	ug/kg	13.3		120	57-124		
Endrin	17.4		1.67	ug/kg	13.3		131	40-140		
4,4'-DDD	16.0		3.33	ug/kg	13.3		120	74-140		
Endrin aldehyde	13.4		1.67	ug/kg	13.3		100	40-140		
Endosulfan II	15.5		1.67	ug/kg	13.3		116	45-125		
4,4'-DDT	18.6		3.33	ug/kg	13.3		139	60-140		
Methoxychlor	18.4		3.33	ug/kg	13.3		138	71-140		
Endosulfan sulfate	15.7		1.67	ug/kg	13.3		118	43-131		
Endrin Ketone	15.1		1.67	ug/kg	13.3		113	56-131		
<i>Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)</i>			12.6	ug/kg	13.3		94.6	38-106		
<i>Surrogate: Decachlorobiphenyl (DCBP)</i>			13.1	ug/kg	13.3		98.0	32-110		

Quality Control
(Continued)

Pesticides (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0655 - EPA 3546 (Continued)										
LCS Dup (B0K0655-BSD1)										
					Prepared: 11/16/20 Analyzed: 11/17/20					
alpha-BHC	16.2		1.67	ug/kg	13.3		121	50-132	3.51	30
gamma-BHC (Lindane)	16.6		1.67	ug/kg	13.3		124	54-128	8.18	30
beta-BHC	16.0		1.67	ug/kg	13.3		120	69-126	9.02	30
delta-BHC	16.7		1.67	ug/kg	13.3		125	40-126	5.51	30
Heptachlor	16.5		1.67	ug/kg	13.3		123	55-125	5.13	30
Aldrin	15.9		1.67	ug/kg	13.3		119	45-135	7.79	30
Heptachlor epoxide	16.4		1.67	ug/kg	13.3		123	54-127	6.42	30
gamma-Chlordane	16.4		1.67	ug/kg	13.3		123	55-124	5.26	30
alpha-Chlordane	16.2		1.67	ug/kg	13.3		122	54-126	5.05	30
4,4'-DDE	16.7		3.33	ug/kg	13.3		125	63-130	4.90	30
Endosulfan I	15.8		1.67	ug/kg	13.3		118	53-128	1.08	30
Dieldrin	16.4		1.67	ug/kg	13.3		123	57-124	2.68	30
Endrin	18.3		1.67	ug/kg	13.3		138	40-140	5.07	30
4,4'-DDD	17.5		3.33	ug/kg	13.3		131	74-140	8.64	30
Endosulfan II	16.4		1.67	ug/kg	13.3		123	45-125	5.65	30
Endrin aldehyde	14.9		1.67	ug/kg	13.3		112	40-140	10.5	30
4,4'-DDT	18.6		3.33	ug/kg	13.3		140	60-140	0.312	30
Methoxychlor	20.5		3.33	ug/kg	13.3		154	71-140	10.9	30
Endosulfan sulfate	16.9		1.67	ug/kg	13.3		126	43-131	7.21	30
Endrin Ketone	16.0		1.67	ug/kg	13.3		120	56-131	5.84	30
<i>Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)</i>			12.3	ug/kg	13.3		92.2	38-106		
<i>Surrogate: Decachlorobiphenyl (DCBP)</i>			13.1	ug/kg	13.3		98.6	32-110		

Quality Control
(Continued)

Polychlorinated Biphenyls (PCBs)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0654 - EPA 3546										
Blank (B0K0654-BLK1)										
					Prepared: 11/16/20 Analyzed: 11/17/20					
Aroclor-1016	ND		66	ug/kg						
Aroclor-1221	ND		66	ug/kg						
Aroclor-1232	ND		66	ug/kg						
Aroclor-1242	ND		66	ug/kg						
Aroclor-1248	ND		66	ug/kg						
Aroclor-1254	ND		66	ug/kg						
Aroclor-1260	ND		66	ug/kg						
Aroclor-1262	ND		66	ug/kg						
Aroclor-1268	ND		66	ug/kg						
PCBs (Total)	ND		66	ug/kg						

Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			11.1	ug/kg	13.3		83.1	36.2-130		
Surrogate: Decachlorobiphenyl (DCBP)			11.6	ug/kg	13.3		87.4	43.3-130		
LCS (B0K0654-BS1)										
					Prepared: 11/16/20 Analyzed: 11/17/20					
Aroclor-1016	173		66	ug/kg	167		104	58.2-125		
Aroclor-1260	183		66	ug/kg	167		110	65.5-130		

Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			11.9	ug/kg	13.3		89.2	36.2-130		
Surrogate: Decachlorobiphenyl (DCBP)			11.9	ug/kg	13.3		89.5	43.3-130		
LCS Dup (B0K0654-BSD1)										
					Prepared: 11/16/20 Analyzed: 11/17/20					
Aroclor-1016	189		66	ug/kg	167		114	58.2-125	9.08	20
Aroclor-1260	194		66	ug/kg	167		116	65.5-130	5.67	20

Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			11.6	ug/kg	13.3		86.8	36.2-130		
Surrogate: Decachlorobiphenyl (DCBP)			11.8	ug/kg	13.3		88.2	43.3-130		

Quality Control
(Continued)

Herbicides

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0693 - EPA 8151A										
Blank (B0K0693-BLK1)					Prepared & Analyzed: 11/17/20					
Dalapon	ND		100	ug/kg						
Dicamba	ND		50	ug/kg						
Dichloroprop	ND		50	ug/kg						
2,4-D	ND		50	ug/kg						
2,4,5-TP (Silvex)	ND		50	ug/kg						
2,4,5-T	ND		50	ug/kg						
2,4-DB	ND		50	ug/kg						
Dinoseb	ND		100	ug/kg						
<i>Surrogate: 2,4-Dichlorophenyl acetic acid</i>			236	ug/kg	250		94.3	41-145		
LCS (B0K0693-BS1)					Prepared & Analyzed: 11/17/20					
Dalapon	255		100	ug/kg	250		102	40-140		
Dicamba	255		50	ug/kg	250		102	40-140		
Dichloroprop	241		50	ug/kg	250		96.4	40-140		
2,4-D	222		50	ug/kg	250		88.9	40-140		
2,4,5-TP (Silvex)	274		50	ug/kg	250		109	40-140		
2,4,5-T	254		50	ug/kg	250		101	40-140		
2,4-DB	203		50	ug/kg	250		81.1	40-140		
Dinoseb	305		100	ug/kg	250		122	40-140		
<i>Surrogate: 2,4-Dichlorophenyl acetic acid</i>			272	ug/kg	250		109	41-145		
LCS Dup (B0K0693-BSD1)					Prepared & Analyzed: 11/17/20					
Dalapon	255		100	ug/kg	250		102	40-140	0.289	20
Dicamba	265		50	ug/kg	250		106	40-140	3.82	20
Dichloroprop	246		50	ug/kg	250		98.2	40-140	1.92	20
2,4-D	238		50	ug/kg	250		95.0	40-140	6.66	20
2,4,5-TP (Silvex)	280		50	ug/kg	250		112	40-140	2.37	20
2,4,5-T	260		50	ug/kg	250		104	40-140	2.51	20
2,4-DB	208		50	ug/kg	250		83.4	40-140	2.71	20
Dinoseb	349		100	ug/kg	250		140	40-140	13.6	20
<i>Surrogate: 2,4-Dichlorophenyl acetic acid</i>			283	ug/kg	250		113	41-145		

Quality Control
(Continued)

Total Petroleum Hydrocarbons

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0552 - EPA 3546										
Blank (B0K0552-BLK1)										
					Prepared: 11/13/20 Analyzed: 11/14/20					
Total Petroleum Hydrocarbons	ND		27	mg/kg						

Surrogate: Chlorooctadecane			6.83	mg/kg	8.33		82.0	56.5-114		
LCS (B0K0552-BS1)										
					Prepared: 11/13/20 Analyzed: 11/14/20					
Total Petroleum Hydrocarbons	474		27	mg/kg	667		71.2	44.7-98.7		

Surrogate: Chlorooctadecane			6.54	mg/kg	8.33		78.4	56.5-114		
LCS Dup (B0K0552-BSD1)										
					Prepared: 11/13/20 Analyzed: 11/14/20					
Total Petroleum Hydrocarbons	455		27	mg/kg	667		68.3	44.7-98.7	4.11	200

Surrogate: Chlorooctadecane			7.45	mg/kg	8.33		89.4	56.5-114		

Quality Control
(Continued)

TCLP Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0710 - Metals Digestion Waters										
LCS (B0K0710-BS3)										
Lead	0.992		0.005	mg/L	1.00		99.2	85-115		
Leach Fluid Blank (B0K0710-LBK1)										
Lead	ND		0.005	mg/L						

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.

Project #: 0955-20

Project Location: Map 45

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
OK10049

Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water Air Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input checked="" type="checkbox"/>	MassDEP VPH (GC/PID/FID) CAM IV A <input type="checkbox"/>	8082 PCB CAM V A <input checked="" type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>
8270 SVOC CAM II B <input checked="" type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP VPH (GC/MS) CAM IV C <input type="checkbox"/>	8081 Pesticides CAM V B <input checked="" type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input checked="" type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
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Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

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

Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 11/17/2020