MASSACHUSETTS CONTINGENCY PLAN
POTENTIAL IMMINENT HAZARD EVALUATION

GRAFTON & UPTON RAILROAD COMPANY PROPERTY
364 WEST STREET
HOPEDALE, MA

November 2022

Prepared For:

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1.0 INTRODUCTION

Verdantas LLC, formerly Environmental Strategies & Management, Inc (ES&M) has prepared this Potential Imminent Hazard Evaluation for the property located at 364 West Street in Hopedale, MA (the Subject Property), on behalf of Grafton & Upton Railroad Company (GURR). This evaluation has been prepared in accordance with the Massachusetts Contingency Plan (MCP), 310 CMR 40.0426 and 40.0950, in order to evaluate an area of the property where elevated concentrations of lead were found near the border of a wetland (the Site). A Site Locus Map is included as Figure 1, and a Site Map is included as Figure 2.

The 364 West Street property (the Subject Property) is approximately 200 acres and was historically used for farming in the 1800s. It was subsequently purchased by GURR and has been vacant and unused. Railroad lines bifurcate the Subject Property but are not included within the property boundary itself. Logging has been conducted several times, and the Subject Property is slated to be developed in the near future.

There is anecdotal history that unauthorized shooting of shotguns or other firearms may have historically been conducted. The nature of this shooting activity is not known. Due to local concerns, GURR elected to collect surficial soil samples from several areas of the Subject Property. High concentrations of lead were detected adjacent to the wetland area, which is the subject of this evaluation.

2.0 SITE ASSESSMENT

The following section documents assessment activities that have been conducted to date.

2.1 COLLECTION OF SOIL SAMPLES

ES&M reviewed historic aerial photos and determined that if unauthorized shooting historically took place, such activities would have most likely been located in the northern area of the Subject Property, which had historically been the only area not covered with trees.

On July 27, 2022, ES&M personnel collected three soil samples from the historically cleared area. The sampling locations are shown on Figure 3 as samples SS-1, SS-2, and SS-3. The samples were collected from the upper six inches of soil using hand tools. Each sample was packed in ice and shipped under chain of custody to New England Testing Labs (NETLAB) of Warwick, Rhode Island for analysis of lead and arsenic.

Laboratory analytical results for soil are included as Table 1, and the complete laboratory reports for soil are included in Appendix A. Table 1 also includes RCS-2 Reportable Concentrations, and applicable MCP Method 1 S-1/GW-2 and S-1/GW-3 Standards. The concentration of lead in the sample collected from location SS-2 was 2,420 milligrams per kilogram (mg/kg), which predicated a 120-day reportable condition to the Massachusetts Department of Environmental Protection (MassDEP). The concentrations of lead were below RCS-2 and potentially applicable MCP Method 1 Standards in the soil samples collected from points SS-1 and SS-3.

Upon receiving the results of the analysis, ES&M collected five additional samples from the immediate SS-2 area, to determine if the sampling results were in error. These samples were collected on August 11, 2022. Soil sample SS-2A was collected from the same location as SS-2, and SB-1 through SB-4 were each collected within five feet of SS-2/SS-2A. The samples were collected from the upper six inches of the subsurface using hand tools and were analyzed for lead and arsenic at NETLAB. Concentrations of lead in the August 11, 2022, samples ranged from 1,080 mg/kg to 5,780 mg/kg. The results of laboratory analysis for lead are shown on Figure 3.

Concentrations of arsenic did not exceed any Reportable Concentrations in any sample collected during the course of the investigation. The lead impact is therefore more likely to be related to lead shot, rather than lead arsenate-based pesticides. Arsenic is not considered a contaminant of concern (COC).

2.2 XRF SCREENING PROGRAM

Given that lead did not exceed Reportable Concentrations or applicable MCP Method 1 Standards at original sample locations SS-1 and SS-3, it was theorized that the Site may be small enough that a Limited Removal Action (LRA) might be conducted. In order to

estimate the vertical and horizontal extent of the Site, an XRF screening program was initiated.

Verdantas mobilized to the Site on October 24, 2022, and found that the SS-2 location was submerged beneath a large puddle, and was therefore not accessible. A five-foot grid was set up running north and west of the SS-2 location, since the southern and eastern area was submerged. The XRF screening grid is shown on Figure 4. Soil samples were collected from the three-to-six-inch below ground surface (bgs) interval at each point in the five-foot grid and were screened with a handheld Niton XL3T 500 XRF Analyzer.

Three XRF readings were recorded for each sample collected. High levels of moisture are a known interference for XRF units. Therefore, the samples were screened while wet, then subsequently dried using a tabletop grill. Once the samples were dry, they were screened a second time. XRF screening results are shown on Table 2. High levels of iron were detected but are likely consistent with background.

The XRF screening program continued on October 25, 2022. Initial estimates indicated that an LRA would not likely be feasible. Therefore, the field effort shifted to finding an end point to a potential future excavation. Surficial soil samples (from three to six inches bgs) were collected from 50 feet southwest, west, northwest, north, and northeast from center point SS-2 and were screened with the XRF. The XRF results indicated that MCP Method 1 Standards were likely exceeded within this area. Samples were then collected from 75 feet away from center. The XRF results were below MCP Method 1 S-1/GW-2 and S-1/GW-3 Standards. The 75-foot southwest, west, northwest, north, and northeast soil samples were submitted to NETLAB for analysis of lead to verify the XRF data.

The highest XRF screening result for lead in the surficial interval was detected at point A3. Verdantas screened additional samples from twelve and twenty-four inches bgs at this location in order to estimate depth of impact. The sample collected from twenty-four inches bgs was submitted to NETLAB for laboratory analysis of lead. A waste characterization sample was also composited from points A3, B2, and C3.

As shown on Table 1, the concentrations of lead did not exceed MCP Method 1 Standards in the samples collected 75 feet from center, or in the sample collected from 24 inches bgs at point A3.

3.0 IMMINENT HAZARD EVALUATION

The results of the laboratory analysis have been used to conduct an Imminent Hazard Evaluation. Lead is the sole COC for this Site, since it is the only compound that has been detected in excess of Reportable Concentrations and MCP Method 1 S-1/GW-2 and S-1/GW-3 Standards.

3.1 EXPOSURE ASSESSMENT

Exposure scenarios have been evaluated in accordance with 310 CMR 40.0953. Actual and likely exposures have been considered under current site conditions, considering the current use of the Site and its surrounding environment. A five-year exposure period has been selected for this evaluation.

The exposure assessment focuses solely on the SS-2 area hotspot. Results from sampling locations SS-1 and SS-3 were not used in the evaluation. Residential properties and parks are not located within 500 feet of the SS-2 area. Therefore, residential and park visitor exposure scenarios have not been evaluated.

While human exposure during construction is possible, the exposure period is likely to be far less than five years. Furthermore, the SS-2 area is located near a wetland, and beyond the silt fence that was set up during tree removal work. While the lead-impacted area does extend into potential construction zones, impacted soil will be removed before any soil disturbing activities take place. The development is currently paused and will likely resume in 2023. Therefore, there is no exposure and no Imminent Hazard to construction workers.

The potential risk to trespassers will be evaluated in Section 3.2 below. It is important to note that there is very little chance of trespasser exposure to lead in the SS-2 area. The Subject Property has an entrance on West Street, which is marked with "no trespassing" signs, and is blocked with construction barriers. The West Street entrance leads to a small bridge, which passes over the Mill River. The bridge itself is monitored with cameras, and additional cameras are present in other portions of the Subject Property. GURR actively monitors the cameras, and the Hopedale Police frequently patrol the area as a doubly protective measure. Therefore, the risk of trespassing is very low, and the risk that a trespasser would access the specific area of impact within this large property is even lower.

3.2 RISK TO HUMAN HEALTH

While trespassing is highly unlikely, Verdantas has evaluated the potential for an Imminent Hazard to trespassers using Method 3 Short Forms, which are included in Appendix B. Lead does not pose a carcinogenic risk; therefore, cancer risks have not been calculated. The conditions at the Site would pose an Imminent Hazard if the calculated Hazard Index was equal to or greater than one.

An Exposure Point Concentration (EPC) was developed by averaging the results of the six soil samples collected from the SS-2 hot spot. The EPC was calculated to be 3,418 mg/kg. When entered into the trespasser shortform, the calculated Hazard Index was 0.87, which is not indicative of an Imminent Hazard to trespassers.

Verdantas also created a second short form, using the maximum lead concentration detected (5,780 mg/kg). The exposure period was set to 30 weeks, with one exposure event per week. All other short form parameters were set to the default programmed by MassDEP. The calculated Hazard Index was 0.80, which is also not indicative of an Imminent Hazard.

As stated above, the probability of any trespassing is very low given the security measures in place. The assumption that exposure to that specific area could occur once per week for 30 weeks is extremely conservative.

3.3 RISK TO THE ENVIRONMENT

There is no evidence of stressed biota, abiotic conditions, or fish kills related to this release. The Site is approximately 250 feet from the Mill River. However, the full extent of the release has not yet been determined. Since the Site is located near a wetland, further ecological risk assessment will be required in the future.

3.4 RISK TO SAFETY

There is no significant risk to safety at this Site. The source is presumed to be historic lead shot. Rusted or corroded drums, open pits, lagoons, dangerous structures, explosive vapors, and uncontainerized hazardous materials are not present.

3.5 CONCLUSIONS

It is the opinion of Verdantas that there is no Imminent Hazard to human health, the environment, or safety with regard to the release of lead at the Site. Further assessment and remediation will be required to obtain a condition of No Significant Risk in the future. At this time, it appears that a small excavation (preliminarily estimated to be less than 500 cubic yards) may be sufficient to obtain a Permanent Solution under the MCP.

4.0 LICENSED SITE PROFESSIONAL

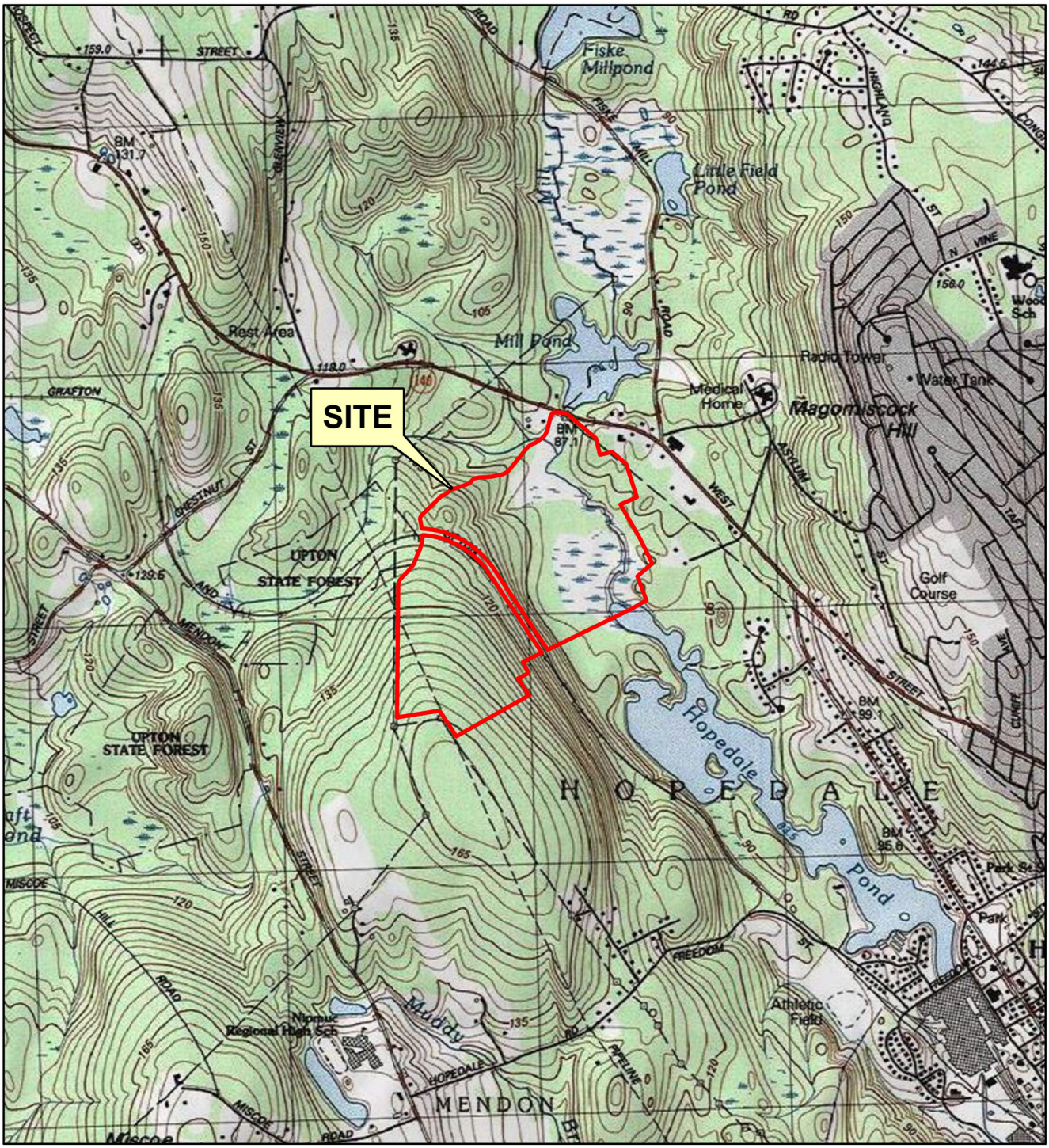
The Licensed Site Professional (LSP) of Record for the Site is:

Mrs. Angela Boyd, LSP
License #3532
Verdantas, LLC
273 West Main Street
Norton, MA 02766
508-226-1800

5.0 FUTURE ACTIVITIES

This Imminent Hazard evaluation has been submitted concurrently with a release notification form. Once the SS-2 sample area becomes accessible, additional XRF screening will be conducted, and/or soil samples will be collected in order to determine the extent of impact to the south and east. Lead impacted soil is likely to be removed as a Release Abatement Measure (RAM). At this time, it appears that only a small amount of shallow soil will need to be removed from the SS-2 area in order to obtain a Condition of No Significant Risk, and to obtain a Permanent Solution under the MCP.

FIGURES



Legend

Subject Propoerty (MassGIS parcel line)

Approximate Coordinates:
Latitude 42°08'58"N Longitude 71°33'55"W

Source: USA Topographic Map Service (Milford, MA Quad)
National Geographic Society, i-cubed

0 1,000 2,000 4,000

SCALE IN FEET (1:24,000)

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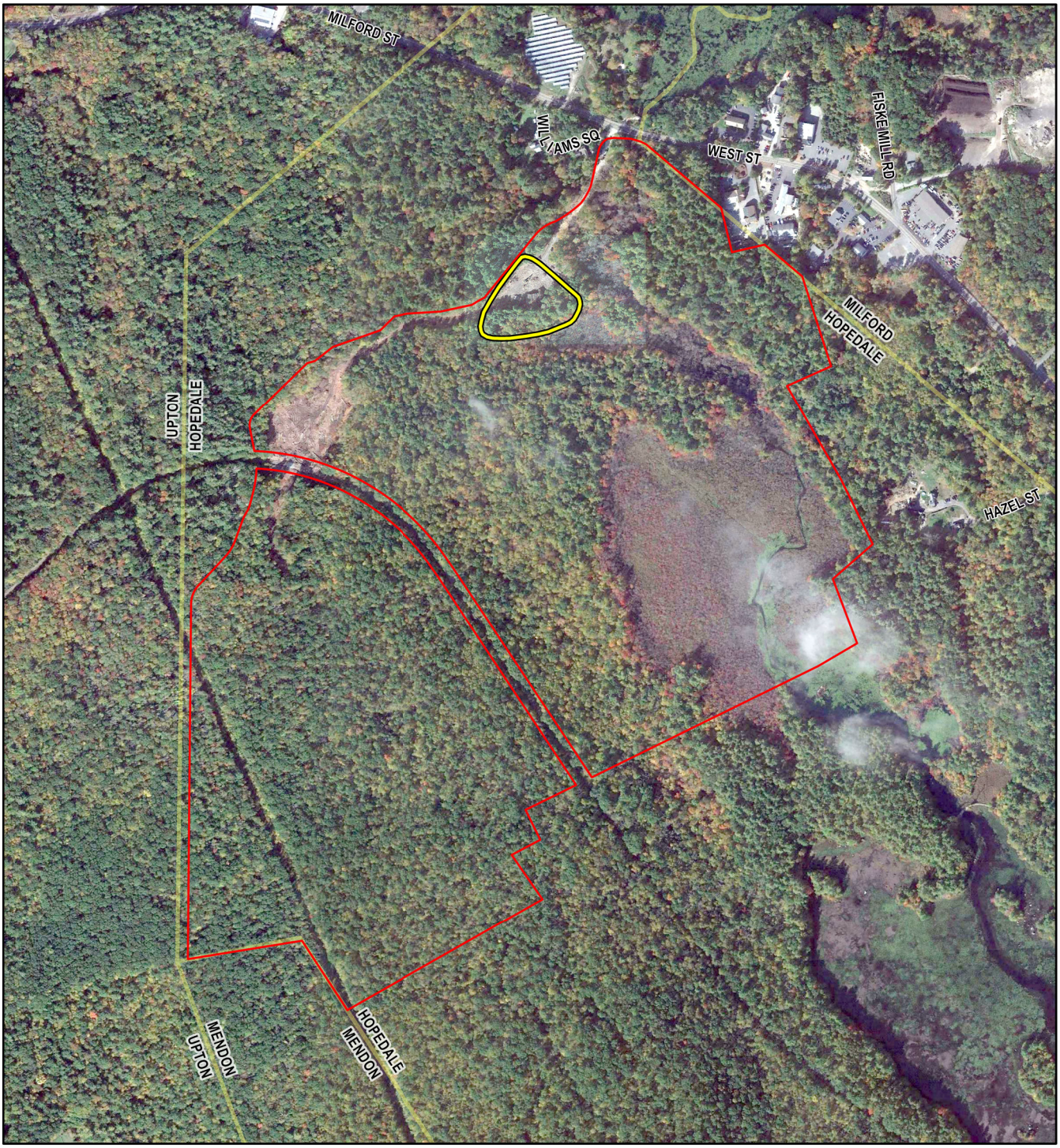
LOCUS MAP

364 WEST STREET HOPEDALE, MASSACHUSETTS

DRAWN	CHECKED	PROJ MGR	PROJECT	DATE	FIGURE
DMR	AB	AB	028.0000016383	11/16/2022	1

File: GIS 8013-02A.aprx



Legend

- Subject Property (194 Acres)
- Sample Area

0 500 1,000 2,000 FT

1 inch = 1,000 feet

Base Map Sources: MassGIS Level 3 Parcel Data Layer; 2021 USGS Color Ortho Imagery for Massachusetts from MassGIS

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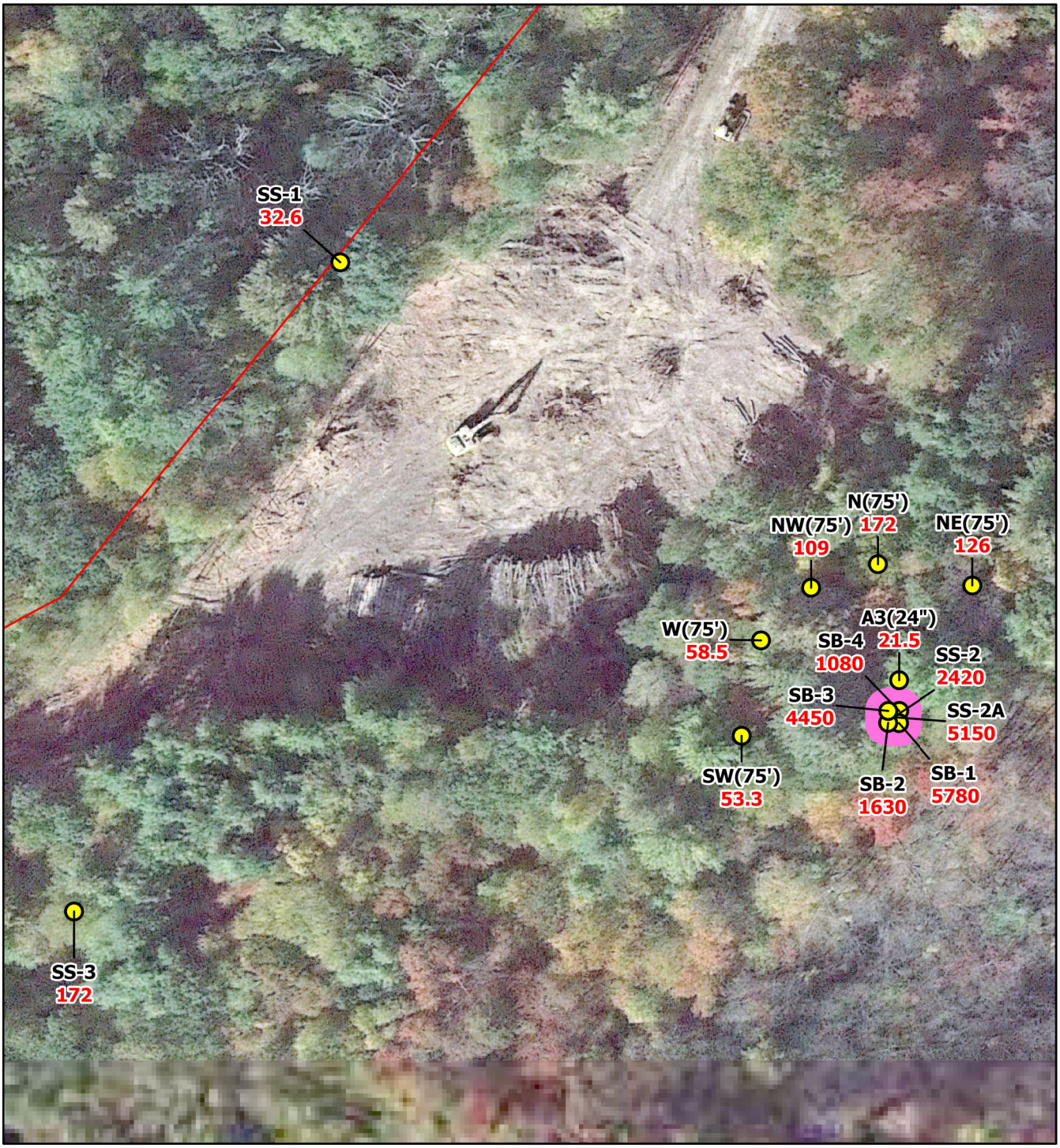
SITE MAP

364 WEST STREET HOPEDALE, MASSACHUSETTS

DRAWN	CHECKED	PROJ MGR	PROJECT	DATE	FIGURE
DMR	AB	AB	028.0000016383	11/16/2022	2

File: GIS 8013-02A.aprx



Legend

- Subject Property (194 Acres)
- Soil Sample Location
- Lead Result Exceeds MassDEP Soil Standards
- 172 Lead Concentration in Soil Sample (mg/kg)

0 50 100 200 FT

1 inch = 100 feet

Base Map Sources: MassGIS Level 3 Parcel Data Layer; Google Earth Aerial dated 10/12/2021

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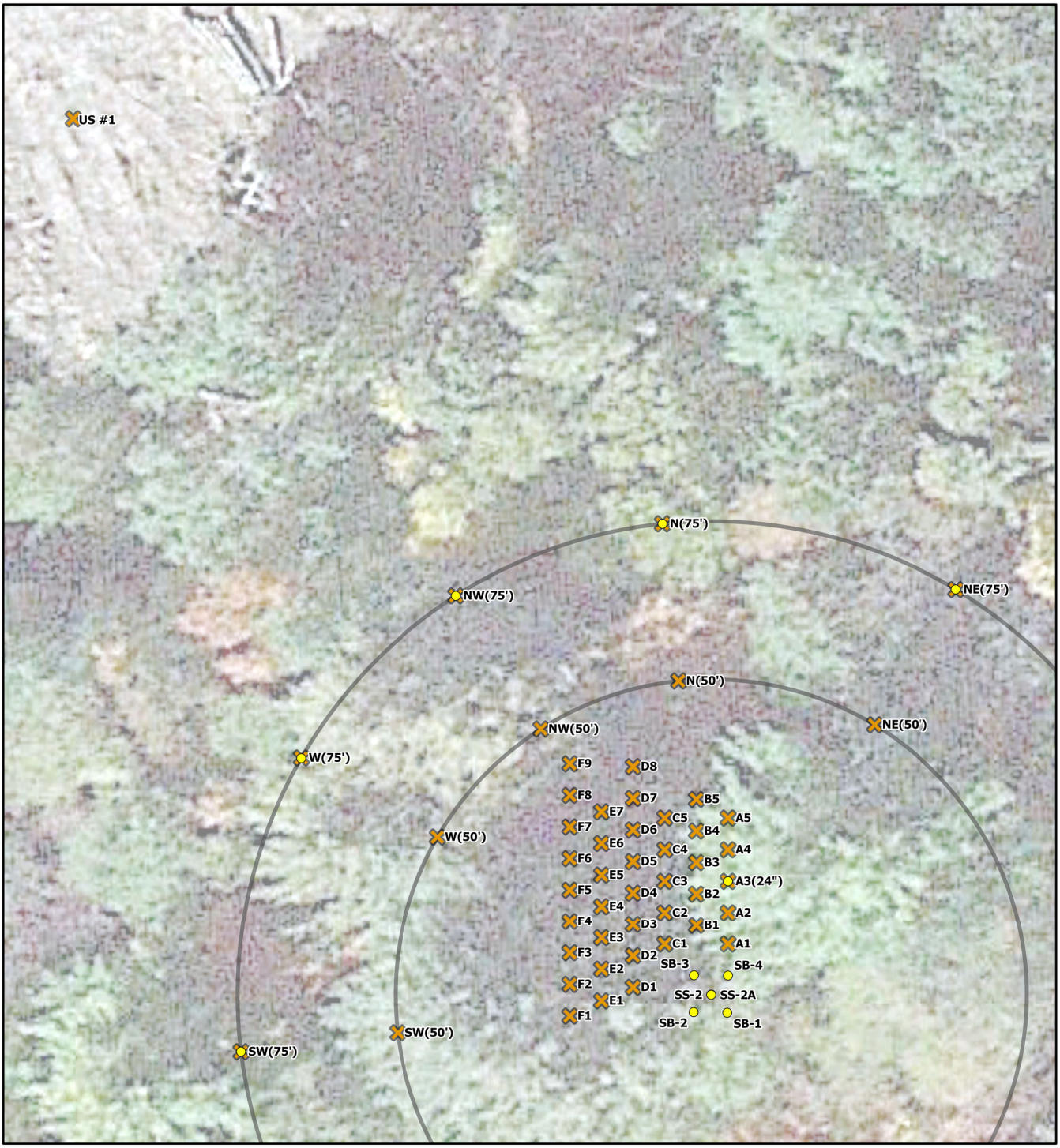
LEAD CONCENTRATIONS IN SOIL

364 WEST STREET HOPEDALE, MASSACHUSETTS

DRAWN	CHECKED	PROJ MGR	PROJECT	DATE	FIGURE
DMR	AB	AB	028.0000016383	11/16/2022	3

File: GIS 8013-02A.aprx



Legend

- 50' and 75' Radii from Sample SS-2
- Screening Sample Location
- Soil Sample Location

0 12 24 48 FT

1 inch = 24 feet

Base Map Sources: MassGIS Level 3 Parcel Data Layer; Google Earth Aerial dated 10/12/2021

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XRF SCREENING

364 WEST STREET HOPEDALE, MASSACHUSETTS

DRAWN	CHECKED	PROJ MGR	PROJECT	DATE	FIGURE
DMR	AB	AB	028.0000016383	11/16/2022	4

File: GIS 8013-02A.aprx

TABLES

TABLE 1
SUMMARY OF
SOIL ANALYTICAL RESULTS
METALS
364 West Street in Hopedale, MA
(All results in mg/kg)

			Arsenic	Lead
Reportable Concentration		RC S2	20	600
MassDEP Soil Standards		S1 GW-2	20	200
		S1 GW-3	20	200
Sample ID	Depth	Date		
SS-1	0-6"	07/27/22	5.88	32.6
SS-2	0-6"	07/27/22	7.28	**2420**
SS-3	0-6"	07/27/22	6.1	172
SB-1	0-6"	08/11/22	<8.41	**5780**
SB-2	0-6"	08/11/22	<3.76	**1630**
SB-3	0-6"	08/11/22	5.14	**4450**
SB-4	0-6"	08/11/22	3.74	**1080**
SS-2A	0-6"	08/11/22	<4.95	**5150**
A3 (24")	24"	10/27/22	NS	21.5
N (75')	3-6"	10/27/22	NS	172
NE (75')	3-6"	10/27/22	NS	126
NW (75')	3-6"	10/27/22	NS	109
SW (75')	3-6"	10/27/22	NS	53.3
W (75')	3-6"	10/27/22	NS	58.5

Notes: NA - Not Applicable NS - Not Sampled ND - Not Detected
J - Estimated result. Underlined red results exceed the S1-GW3 Soil Standard.
Red results exceed a standard.

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Table 2
Summary of XRF Screening Data
364 West Street in Hopdedale, MA
all results in mg/kg

Borehole ID	Moisture Content	Screening Interval	Reading 1	Reading 2	Reading 3	Average (Wet/Dry)	
A1 (Pb)	Moist/Saturated	3-6"	658	457	325	Pb AVG: =	480.00
A1 (Fe)	Moist/Saturated	3-6"	1,200	1,282	1,503	Fe AVG: =	1,328.33
A1 (Pb)	Dry - Field Grill	3-6"	1,064	747	829	Pb AVG: =	880.00
A1 (Fe)	Dry - Field Grill	3-6"	5,294	4,775	4,860	Fe AVG: =	4,976.33
A2 (Pb)	Moist/Saturated	3-6"	849	840	521	Pb AVG: =	736.67
A2 (Fe)	Moist/Saturated	3-6"	784	670	-	Fe AVG: =	484.67
A2 (Pb)	Dry - Field Grill	3-6"	3,437	2,553	2,001	Pb AVG: =	2,663.67
A2 (Fe)	Dry - Field Grill	3-6"	6,122	4,820	4,208	Fe AVG: =	5,050.00
A3 (Pb)	Moist/Saturated	3-6"	679	972	1,058	Pb AVG: =	903.00
A3 (Fe)	Moist/Saturated	3-6"	721	971	1,128	Fe AVG: =	940.00
A3 (Pb)	Dry - Field Grill	3-6"	2,295	3,613	2,394	Pb AVG: =	2,767.33
A3 (Fe)	Dry - Field Grill	3-6"	7,582	8,056	6,966	Fe AVG: =	7,534.67
A3 (Pb)	Moist/Saturated	12"	348	234	139	Pb AVG: =	240.33
A3 (Fe)	Moist/Saturated	12"	4,522	3,574	4,200	Fe AVG: =	4,098.67
A3 (Pb)	Dry - Field Grill	12"	541	452	661	Pb AVG: =	551.33
A3 (Fe)	Dry - Field Grill	12"	3,220	3,061	2,862	Fe AVG: =	3,047.67
A3 (Pb)	Moist/Saturated	24"	-	-	-	Pb AVG: =	-
A3 (Fe)	Moist/Saturated	24"	7,449	7,212	12,000	Fe AVG: =	8,887.00
A3 (Pb)	Dry - Field Grill	24"	58	-	59	Pb AVG: =	39.00
A3 (Fe)	Dry - Field Grill	24"	9,312	10,600	10,600	Fe AVG: =	10,170.67
A4 (Pb)	Moist/Saturated	3-6"	1,548	680	629	Pb AVG: =	952.33
A4 (Fe)	Moist/Saturated	3-6"	3,886	5,425	5,000	Fe AVG: =	4,770.33
A4 (Pb)	Dry - Field Grill	3-6"	1,921	1,833	2,404	Pb AVG: =	2,052.67
A4 (Fe)	Dry - Field Grill	3-6"	10,100	12,000	8,411	Fe AVG: =	10,170.33
A5 (Pb)	Moist/Saturated	3-6"	240	370	398	Pb AVG: =	336.00
A5 (Fe)	Moist/Saturated	3-6"	897	1,464	1,848	Fe AVG: =	1,403.00
A5 (Pb)	Dry - Field Grill	3-6"	1,238	1,689	1,751	Pb AVG: =	1,559.33
A5 (Fe)	Dry - Field Grill	3-6"	11,200	17,200	18,400	Fe AVG: =	15,600.00
B1 (Pb)	Moist/Saturated	3-6"	704	968	319	Pb AVG: =	663.67
B1 (Fe)	Moist/Saturated	3-6"	4,602	5,935	6,861	Fe AVG: =	5,799.33
B1 (Pb)	Dry - Field Grill	3-6"	339	168	2,127	Pb AVG: =	878.00
B1 (Fe)	Dry - Field Grill	3-6"	5,453	7,186	7,791	Fe AVG: =	6,810.00
B2 (Pb)	Moist/Saturated	3-6"	1,968	1,406	1,673	Pb AVG: =	1,682.33
B2 (Fe)	Moist/Saturated	3-6"	2,608	757	787	Fe AVG: =	1,384.00
B2 (Pb)	Dry - Field Grill	3-6"	1,881	1,913	1,875	Pb AVG: =	1,889.67
B2 (Fe)	Dry - Field Grill	3-6"	3,182	3,546	3,863	Fe AVG: =	3,530.33
B3 (Pb)	Moist/Saturated	3-6"	554	483	645	Pb AVG: =	560.67
B3 (Fe)	Moist/Saturated	3-6"	3,314	2,932	2,979	Fe AVG: =	3,075.00

Table 2
Summary of XRF Screening Data
364 West Street in Hopdedale, MA
all results in mg/kg

Borehole ID	Moisture Content	Screening Interval	Reading 1	Reading 2	Reading 3	Average (Wet/Dry)	
B3 (Pb)	Dry - Field Grill	3-6"	381	479	481	Pb AVG: =	447.00
B3 (Fe)	Dry - Field Grill	3-6"	5,003	4,784	2,426	Fe AVG: =	4,071.00
B4 (Pb)	Moist/Saturated	3-6"	1,619	904	999	Pb AVG: =	1,174.00
B4 (Fe)	Moist/Saturated	3-6"	2,129	1,809	2,674	Fe AVG: =	2,204.00
B4 (Pb)	Dry - Field Grill	3-6"	643	1,100	914	Pb AVG: =	885.67
B4 (Fe)	Dry - Field Grill	3-6"	4,343	7,596	4,151	Fe AVG: =	5,363.33
B5 (Pb)	Moist/Saturated	3-6"	646	350	711	Pb AVG: =	569.00
B5 (Fe)	Moist/Saturated	3-6"	1,415	4,184	3,155	Fe AVG: =	2,918.00
B5 (Pb)	Dry - Field Grill	3-6"	385	337	355	Pb AVG: =	359.00
B5 (Fe)	Dry - Field Grill	3-6"	11,200	16,100	13,400	Fe AVG: =	13,566.67
C1 (Pb)	Moist/Saturated	3-6"	51	85	130	Pb AVG: =	88.67
C1 (Fe)	Moist/Saturated	3-6"	7,244	6,943	8,108	Fe AVG: =	7,431.67
C1 (Pb)	Dry - Field Grill	3-6"	53	189	291	Pb AVG: =	177.67
C1 (Fe)	Dry - Field Grill	3-6"	8,507	6,965	7,730	Fe AVG: =	7,734.00
C2 (Pb)	Moist/Saturated	3-6"	669	456	649	Pb AVG: =	591.33
C2 (Fe)	Moist/Saturated	3-6"	2,892	606	4,131	Fe AVG: =	2,543.00
C2 (Pb)	Dry - Field Grill	3-6"	339	1,004	464	Pb AVG: =	602.33
C2 (Fe)	Dry - Field Grill	3-6"	5,969	6,244	7,084	Fe AVG: =	6,432.33
C3 (Pb)	Moist/Saturated	3-6"	1,124	900	1,127	Pb AVG: =	1,050.33
C3 (Fe)	Moist/Saturated	3-6"	797	1,779	813	Fe AVG: =	1,129.67
C3 (Pb)	Dry - Field Grill	3-6"	1,482	1,307	1,621	Pb AVG: =	1,470.00
C3 (Fe)	Dry - Field Grill	3-6"	1,239	779	1,076	Fe AVG: =	1,031.33
C4 (Pb)	Moist/Saturated	3-6"	1,201	480	470	Pb AVG: =	717.00
C4 (Fe)	Moist/Saturated	3-6"	2,041	2,301	5,685	Fe AVG: =	3,342.33
C4 (Pb)	Dry - Field Grill	3-6"	743	118	359	Pb AVG: =	406.67
C4 (Fe)	Dry - Field Grill	3-6"	2,950	6,055	4,372	Fe AVG: =	4,459.00
C5 (Pb)	Moist/Saturated	3-6"	508	583	626	Pb AVG: =	572.33
C5 (Fe)	Moist/Saturated	3-6"	570	1,297	1,076	Fe AVG: =	981.00
C5 (Pb)	Dry - Field Grill	3-6"	481	256	282	Pb AVG: =	339.67
C5 (Fe)	Dry - Field Grill	3-6"	4,160	3,865	3,913	Fe AVG: =	3,979.33
D1 (Pb)	Moist/Saturated	3-6"	273	701	752	Pb AVG: =	575.33
D1 (Fe)	Moist/Saturated	3-6"	5,876	7,842	5,125	Fe AVG: =	6,281.00
D1 (Pb)	Dry - Field Grill	3-6"	775	746	1,081	Pb AVG: =	867.33
D1 (Fe)	Dry - Field Grill	3-6"	7,489	7,557	4,363	Fe AVG: =	6,469.67
D2 (Pb)	Moist/Saturated	3-6"	331	272	450	Pb AVG: =	351.00
D2 (Fe)	Moist/Saturated	3-6"	3,765	3,246	5,423	Fe AVG: =	4,144.67
D2 (Pb)	Dry - Field Grill	3-6"	880	904	913	Pb AVG: =	899.00

Table 2
Summary of XRF Screening Data
364 West Street in Hopdedale, MA
all results in mg/kg

Borehole ID	Moisture Content	Screening Interval	Reading 1	Reading 2	Reading 3	Average (Wet/Dry)	
D2 (Fe)	Dry - Field Grill	3-6"	4,712	4,920	4,998	Fe AVG: =	4,876.67
D3 (Pb)	Moist/Saturated	3-6"	99	205	172	Pb AVG: =	158.67
D3 (Fe)	Moist/Saturated	3-6"	581	627	467	Fe AVG: =	558.33
D3 (Pb)	Dry - Field Grill	3-6"	1,388	2,073	734	Pb AVG: =	1,398.33
D3 (Fe)	Dry - Field Grill	3-6"	3,098	3,602	4,226	Fe AVG: =	3,642.00
D4 (Pb)	Moist/Saturated	3-6"	459	565	519	Pb AVG: =	514.33
D4 (Fe)	Moist/Saturated	3-6"	3,994	874	3,087	Fe AVG: =	2,651.67
D4 (Pb)	Dry - Field Grill	3-6"	608	965	931	Pb AVG: =	834.67
D4 (Fe)	Dry - Field Grill	3-6"	5,049	6,571	5,915	Fe AVG: =	5,845.00
D5 (Pb)	Moist/Saturated	3-6"	256	510	387	Pb AVG: =	384.33
D5 (Fe)	Moist/Saturated	3-6"	924	2,227	1,980	Fe AVG: =	1,710.33
D5 (Pb)	Dry - Field Grill	3-6"	579	993	537	Pb AVG: =	703.00
D5 (Fe)	Dry - Field Grill	3-6"	2,462	5,296	2,528	Fe AVG: =	3,428.67
D6 (Pb)	Moist/Saturated	3-6"	753	543	615	Pb AVG: =	637.00
D6 (Fe)	Moist/Saturated	3-6"	2,615	5,669	638	Fe AVG: =	2,974.00
D6 (Pb)	Dry - Field Grill	3-6"	1,171	1,560	1,461	Pb AVG: =	1,397.33
D6 (Fe)	Dry - Field Grill	3-6"	4,148	3,724	3,593	Fe AVG: =	3,821.67
D7 (Pb)	Moist/Saturated	3-6"	694	649	635	Pb AVG: =	659.33
D7 (Fe)	Moist/Saturated	3-6"	1,743	1,871	1,235	Fe AVG: =	1,616.33
D7 (Pb)	Dry - Field Grill	3-6"	1,053	1,003	682	Pb AVG: =	912.67
D7 (Fe)	Dry - Field Grill	3-6"	2,039	1,918	1,842	Fe AVG: =	1,933.00
D8 (Pb)	Moist/Saturated	3-6"	195	249	206	Pb AVG: =	216.67
D8 (Fe)	Moist/Saturated	3-6"	2,876	2,414	1,859	Fe AVG: =	2,383.00
D8 (Pb)	Dry - Field Grill	3-6"	251	282	212	Pb AVG: =	248.33
D8 (Fe)	Dry - Field Grill	3-6"	3,688	3,769	3,514	Fe AVG: =	3,657.00
E1 (Pb)	Moist/Saturated	3-6"	912	394	1,326	Pb AVG: =	877.33
E1 (Fe)	Moist/Saturated	3-6"	8,331	2,281	2,408	Fe AVG: =	4,340.00
E1 (Pb)	Dry - Field Grill	3-6"	147	135	274	Pb AVG: =	185.33
E1 (Fe)	Dry - Field Grill	3-6"	3,990	4,648	8,379	Fe AVG: =	5,672.33
E2 (Pb)	Moist/Saturated	3-6"	309	177	47	Pb AVG: =	177.67
E2 (Fe)	Moist/Saturated	3-6"	2,305	6,315	6,501	Fe AVG: =	5,040.33
E2 (Pb)	Dry - Field Grill	3-6"	101	368	213	Pb AVG: =	227.33
E2 (Fe)	Dry - Field Grill	3-6"	6,800	3,531	6,948	Fe AVG: =	5,759.67
E3 (Pb)	Moist/Saturated	3-6"	-	-	-	Pb AVG: =	-
E3 (Fe)	Moist/Saturated	3-6"	9,119	8,330	9,937	Fe AVG: =	9,128.67
E3 (Pb)	Dry - Field Grill	3-6"	38	-	-	Pb AVG: =	12.67
E3 (Fe)	Dry - Field Grill	3-6"	8,002	10,000	6,365	Fe AVG: =	8,122.33
E4 (Pb)	Moist/Saturated	3-6"	1,074	1,344	1,218	Pb AVG: =	1,212.00

Table 2
Summary of XRF Screening Data
364 West Street in Hopdedale, MA
all results in mg/kg

Borehole ID	Moisture Content	Screening Interval	Reading 1	Reading 2	Reading 3	Average (Wet/Dry)	
E4 (Fe)	Moist/Saturated	3-6"	3,516	3,518	2,546	Fe AVG: =	3,193.33
E4 (Pb)	Dry - Field Grill	3-6"	182	212	262	Pb AVG: =	218.67
E4 (Fe)	Dry - Field Grill	3-6"	5,485	5,862	6,499	Fe AVG: =	5,948.67
E5 (Pb)	Moist/Saturated	3-6"	730	867	206	Pb AVG: =	601.00
E5 (Fe)	Moist/Saturated	3-6"	3,204	4,773	4,192	Fe AVG: =	4,056.33
E5 (Pb)	Dry - Field Grill	3-6"	830	965	814	Pb AVG: =	869.67
E5 (Fe)	Dry - Field Grill	3-6"	4,204	6,577	4,404	Fe AVG: =	5,061.67
E6 (Pb)	Moist/Saturated	3-6"	1,069	129	620	Pb AVG: =	606.00
E6 (Fe)	Moist/Saturated	3-6"	4,801	478	1,640	Fe AVG: =	2,306.33
E6 (Pb)	Dry - Field Grill	3-6"	252	200	472	Pb AVG: =	308.00
E6 (Fe)	Dry - Field Grill	3-6"	2,996	3,203	2,082	Fe AVG: =	2,760.33
E7 (Pb)	Moist/Saturated	3-6"	490	675	644	Pb AVG: =	603.00
E7 (Fe)	Moist/Saturated	3-6"	1,288	1,644	1,201	Fe AVG: =	1,377.67
E7 (Pb)	Dry - Field Grill	3-6"	886	967	836	Pb AVG: =	896.33
E7 (Fe)	Dry - Field Grill	3-6"	3,119	2,878	3,255	Fe AVG: =	3,084.00
F1 (Pb)	Moist/Saturated	3-6"	-	-	-	Pb AVG: =	-
F1 (Fe)	Moist/Saturated	3-6"	8,825	9,089	6,855	Fe AVG: =	8,256.33
F1 (Pb)	Dry - Field Grill	3-6"	-	-	-	Pb AVG: =	-
F1 (Fe)	Dry - Field Grill	3-6"	7,455	7,202	8,224	Fe AVG: =	7,627.00
F2 (Pb)	Moist/Saturated	3-6"	192	483	265	Pb AVG: =	313.33
F2 (Fe)	Moist/Saturated	3-6"	1,215	2,132	1,540	Fe AVG: =	1,629.00
F2 (Pb)	Dry - Field Grill	3-6"	196	230	165	Pb AVG: =	197.00
F2 (Fe)	Dry - Field Grill	3-6"	1,899	2,447	1,564	Fe AVG: =	1,970.00
F3 (Pb)	Moist/Saturated	3-6"	42	95	44	Pb AVG: =	60.33
F3 (Fe)	Moist/Saturated	3-6"	7,273	8,517	9,236	Fe AVG: =	8,342.00
F3 (Pb)	Dry - Field Grill	3-6"	33	62	40	Pb AVG: =	45.00
F3 (Fe)	Dry - Field Grill	3-6"	10,100	8,767	9,646	Fe AVG: =	9,504.33
F4 (Pb)	Moist/Saturated	3-6"	358	21	101	Pb AVG: =	160.00
F4 (Fe)	Moist/Saturated	3-6"	7,637	5,029	7,714	Fe AVG: =	6,793.33
F4 (Pb)	Dry - Field Grill	3-6"	56	35	47	Pb AVG: =	46.00
F4 (Fe)	Dry - Field Grill	3-6"	6,498	7,042	7,791	Fe AVG: =	7,110.33
F5 (Pb)	Moist/Saturated	3-6"	246	427	465	Pb AVG: =	379.33
F5 (Fe)	Moist/Saturated	3-6"	4,334	1,248	1,020	Fe AVG: =	2,200.67
F5 (Pb)	Dry - Field Grill	3-6"	1,177	1,084	1,099	Pb AVG: =	1,120.00
F5 (Fe)	Dry - Field Grill	3-6"	2,477	1,213	1,302	Fe AVG: =	1,664.00
F6 (Pb)	Moist/Saturated	3-6"	2,409	2,112	2,264	Pb AVG: =	2,261.67
F6 (Fe)	Moist/Saturated	3-6"	920	2,996	1,034	Fe AVG: =	1,650.00
F6 (Pb)	Dry - Field Grill	3-6"	2,139	1,278	2,507	Pb AVG: =	1,974.67

Table 2
Summary of XRF Screening Data
364 West Street in Hopdedale, MA
all results in mg/kg

Borehole ID	Moisture Content	Screening Interval	Reading 1	Reading 2	Reading 3	Average (Wet/Dry)	
F6 (Fe)	Dry - Field Grill	3-6"	1,579	725	1,933	Fe AVG: =	1,412.33
F7 (Pb)	Moist/Saturated	3-6"	1,535	747	580	Pb AVG: =	954.00
F7 (Fe)	Moist/Saturated	3-6"	765	574	495	Fe AVG: =	611.33
F7 (Pb)	Dry - Field Grill	3-6"	857	2,155	3,164	Pb AVG: =	2,058.67
F7 (Fe)	Dry - Field Grill	3-6"	551	1,307	1,244	Fe AVG: =	1,034.00
F8 (Pb)	Moist/Saturated	3-6"	726	1,130	958	Pb AVG: =	938.00
F8 (Fe)	Moist/Saturated	3-6"	695	866	760	Fe AVG: =	773.67
F8 (Pb)	Dry - Field Grill	3-6"	686	1,159	1,244	Pb AVG: =	1,029.67
F8 (Fe)	Dry - Field Grill	3-6"	1,300	1,341	1,459	Fe AVG: =	1,366.67
F9 (Pb)	Moist/Saturated	3-6"	1,136	1,646	413	Pb AVG: =	1,065.00
F9 (Fe)	Moist/Saturated	3-6"	1,186	1,054	442	Fe AVG: =	894.00
F9 (Pb)	Dry - Field Grill	3-6"	2,051	1,772	1,243	Pb AVG: =	1,688.67
F9 (Fe)	Dry - Field Grill	3-6"	906	727	1,237	Fe AVG: =	956.67
NE (50') (Pb)	Moist/Saturated	3-6"	268	527	297	Pb AVG: =	364.00
NE (50') (Fe)	Moist/Saturated	3-6"	7,500	6,909	6,841	Fe AVG: =	7,083.33
NE (50') (Pb)	Dry - Field Grill	3-6"	396	96	249	Pb AVG: =	247.00
NE (50') (Fe)	Dry - Field Grill	3-6"	8,088	4,404	13,100	Fe AVG: =	8,530.67
NE (75') (Pb)	Moist/Saturated	3-6"	170	152	178	Pb AVG: =	166.67
NE (75') (Fe)	Moist/Saturated	3-6"	9,983	9,381	10,700	Fe AVG: =	10,021.33
NE (75') (Pb)	Dry - Field Grill	3-6"	303	133	138	Pb AVG: =	191.33
NE (75') (Fe)	Dry - Field Grill	3-6"	15,600	11,000	11,900	Fe AVG: =	12,833.33
N (50') (Pb)	Moist/Saturated	3-6"	442	365	365	Pb AVG: =	390.67
N (50') (Fe)	Moist/Saturated	3-6"	7,773	4,994	4,089	Fe AVG: =	5,618.67
N (50') (Pb)	Dry - Field Grill	3-6"	471	468	372	Pb AVG: =	437.00
N (50') (Fe)	Dry - Field Grill	3-6"	7,010	7,492	9,205	Fe AVG: =	7,902.33
N (75') (Pb)	Moist/Saturated	3-6"	68	-	156	Pb AVG: =	74.67
N (75') (Fe)	Moist/Saturated	3-6"	12,900	11,600	10,700	Fe AVG: =	11,733.33
N (75') (Pb)	Dry - Field Grill	3-6"	161	173	101	Pb AVG: =	145.00
N (75') (Fe)	Dry - Field Grill	3-6"	13,100	13,700	14,500	Fe AVG: =	13,766.67
NW (50') (Pb)	Moist/Saturated	3-6"	353	58	212	Pb AVG: =	207.67
NW (50') (Fe)	Moist/Saturated	3-6"	3,606	8,652	7,368	Fe AVG: =	6,542.00
NW (50') (Pb)	Dry - Field Grill	3-6"	195	406	219	Pb AVG: =	273.33
NW (50') (Fe)	Dry - Field Grill	3-6"	8,027	8,465	8,113	Fe AVG: =	8,201.67
NW (75') (Pb)	Moist/Saturated	3-6"	117	63	116	Pb AVG: =	98.67
NW (75') (Fe)	Moist/Saturated	3-6"	8,457	4,886	6,556	Fe AVG: =	6,633.00
NW (75') (Pb)	Dry - Field Grill	3-6"	120	237	136	Pb AVG: =	164.33
NW (75') (Fe)	Dry - Field Grill	3-6"	14,800	15,400	11,700	Fe AVG: =	13,966.67
W (50') (Pb)	Moist/Saturated	3-6"	201	196	150	Pb AVG: =	182.33

Table 2
Summary of XRF Screening Data
364 West Street in Hopdedale, MA
all results in mg/kg

Borehole ID	Moisture Content	Screening Interval	Reading 1	Reading 2	Reading 3	Average (Wet/Dry)	
W (50') (Fe)	Moist/Saturated	3-6"	2,057	1,979	7,097	Fe AVG: =	3,711.00
W (50') (Pb)	Dry - Field Grill	3-6"	271	451	508	Pb AVG: =	410.00
W (50') (Fe)	Dry - Field Grill	3-6"	3,515	6,802	6,833	Fe AVG: =	5,716.67
W (75') (Pb)	Moist/Saturated	3-6"	84	107	156	Pb AVG: =	115.67
W (75') (Fe)	Moist/Saturated	3-6"	9,830	6,786	6,875	Fe AVG: =	7,830.33
W (75') (Pb)	Dry - Field Grill	3-6"	207	226	202	Pb AVG: =	211.67
W (75') (Fe)	Dry - Field Grill	3-6"	14,500	7,452	9,533	Fe AVG: =	10,495.00
SW (50') (Pb)	Moist/Saturated	3-6"	161	127	444	Pb AVG: =	244.00
SW (50') (Fe)	Moist/Saturated	3-6"	6,957	5,672	5,306	Fe AVG: =	5,978.33
SW (50') (Pb)	Dry - Field Grill	3-6"	543	257	196	Pb AVG: =	332.00
SW (50') (Fe)	Dry - Field Grill	3-6"	8,794	10,500	10,500	Fe AVG: =	9,931.33
SW (75') (Pb)	Moist/Saturated	3-6"	186	123	72	Pb AVG: =	127.00
SW (75') (Fe)	Moist/Saturated	3-6"	7,236	7,273	8,798	Fe AVG: =	7,769.00
SW (75') (Pb)	Dry - Field Grill	3-6"	72	104	44	Pb AVG: =	73.33
SW (75') (Fe)	Dry - Field Grill	3-6"	10,900	11,300	13,700	Fe AVG: =	11,966.67
US#1 (Parking Area) Pb	Moist/Saturated	3-6"	82	131	131	Pb AVG: =	114.67
US#1 (Parking Area) Fe	Moist/Saturated	3-6"	12,800	12,300	13,300	Fe AVG: =	12,800.00
US#1 (Parking Area) Pb	Dry - Field Grill	3-6"	34	49	52	Pb AVG: =	45.00
US#1 (Parking Area) Fe	Dry - Field Grill	3-6"	8,709	14,100	15,100	Fe AVG: =	12,636.33

APPENDIX A

LABORATORY ANALYTICAL REPORTS – SOIL

Verdantas QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
NETLAB	2G28005	7/27/2022	Soil	Yes	Yes	Yes	Yes	Yes	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis
SS-1	07/27/22	2G28005-01 (Soil)	Soil	metals
SS-2	07/27/22	2G28005-02 (Soil)	Soil	metals
SS-3	07/27/22	2G28005-03 (Soil)	Soil	metals

All QAQC data, including method blank and Laboratory Control Sample (LCS) results were reviewed.
This report was deemed usable by Angela Boyd on 11/16/2022.

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

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 2G28005
Client Project: 8013 - 364 West St, Hopedale, MA

Report Date: 01-September-2022

Prepared for:

Angela Boyd
Environmental Strategies & Management
273 West Main Street
Norton, MA 02766

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 07/28/22. 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 2G28005. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
2G28005-01	SS-1	Soil	07/27/2022	07/28/2022
2G28005-02	SS-2	Soil	07/27/2022	07/28/2022
2G28005-03	SS-3	Soil	07/27/2022	07/28/2022

Request for Analysis

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

SS-1 (Lab Number: 2G28005-01)

Analysis	Method
Arsenic	EPA 6010C
Lead	EPA 6010C

SS-2 (Lab Number: 2G28005-02)

Analysis	Method
Arsenic	EPA 6010C
Lead	EPA 6010C

SS-3 (Lab Number: 2G28005-03)

Analysis	Method
Arsenic	EPA 6010C
Lead	EPA 6010C

Method References

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

Case Narrative

Revised Report

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: SS-1

Lab Number: 2G28005-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	**5.88**		0.89	mg/kg	08/01/22	08/03/22
Lead	**32.6**		0.44	mg/kg	08/01/22	08/03/22

Results: Total Metals

Sample: SS-2

Lab Number: 2G28005-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	**7.28**		5.63	mg/kg	08/01/22	08/03/22
Lead	**2420**		2.81	mg/kg	08/01/22	08/03/22

Results: Total Metals

Sample: SS-3

Lab Number: 2G28005-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	**6.10**		1.58	mg/kg	08/01/22	08/03/22
Lead	**172**		0.79	mg/kg	08/01/22	08/03/22

Quality Control

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2H0070 - Metals Digestion Soils										
Blank (B2H0070-BLK1)					Prepared: 08/01/22 Analyzed: 08/02/22					
Lead	ND		0.50	mg/kg						
Arsenic	ND		1.00	mg/kg						
LCS (B2H0070-BS1)					Prepared: 08/01/22 Analyzed: 08/02/22					
Lead	93.5		0.50	mg/kg	100		93.5	85-115		
Arsenic	22.0		1.00	mg/kg	20.0		110	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

2 G 2 8005 R

CHAIN OF CUSTODY RECORD

PROJ. NO. 8013-02A

PROJECT NAME/LOCATION 364 West St. Hopedale, MA

CLIENT EST+M 273 West Main St. Norton, MA 02766

REPORT TO: Angela Boyd

INVOICE TO: Allison Caswell PO 22-393

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TESTS** lead	REMARKS
7/27	12:00		X	SS-1		X		1	none	X	
↓	12:05		X	SS-2		X		1	none	X	
↓	12:10		X	SS-3		X		1	none	X	

	Date/Time		Date/Time
Sampled by: (Signature) Angela Boyd	7/27/22 1412	Received by: (Signature)	7/28/22 9:12
Relinquished by: (Signature)	~~7/28 0907~~	Received by: (Signature)	7/28 0907
Relinquished by: (Signature)	7/28 1345	Received for Laboratory by: (Signature)	7/28/22 1345

Laboratory Remarks: Temp. received: 5° Cooled ☐

Special Instructions: List Specific Detection Limit Requirements: MCP CAM required

Turnaround (Business Days) 5

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

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

2 G 2 8005 R

CHAIN OF CUSTODY RECORD

PROJ. NO. 8013-02A
PROJECT NAME/LOCATION 364 West St. Hopedale, MA
CLIENT ES+M 273 West Main St. Norton, MA 02766
REPORT TO: Angela Boyd
INVOICE TO: Allison Caswell PO 22-393

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TESTS: Lead	TESTS: Arsenic	REMARKS
7/27	12:00		X	SS-1		X		1	none	X	X	As added per Angela email MM 8/5
↓	12:05		X	SS-2		X		1	none	X	↓	
↓	12:10		X	SS-3		X		1	none	X	↓	

	Date/Time		Date/Time
Sampled by: (Signature) Angela Boyd	7/27/22 1212	Received by: (Signature)	7/28/22 0912
Relinquished by: (Signature)	7/28 0907	Received by: (Signature)	7/28 0907
Relinquished by: (Signature)	7/28 1345	Received for Laboratory by: (Signature) BC	7/28/22 1345

Laboratory Remarks:
Temp. received: 5°
Cooled ☐

Special Instructions:
List Specific Detection Limit Requirements: MCP CAM required

Turnaround (Business Days) 5

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

OK

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.	Project #: 8013-02A
Project Location: Hopedale, MA	RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s): 2G28005

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

CAM Protocol (check all that apply below):

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

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?	☒ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ 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?	☒ Yes ☐ 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"?	☒ Yes ☐ 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?	☐ Yes ☐ No ☐ Yes ☐ 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)?	☒ Yes ☐ 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)?	☒ Yes ☐ No[1]

***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?	☒ Yes ☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]

[1]*All 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**: 9/1/2022

Verdantas QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
NETLAB	2H12012	8/11/2022	Soil	Yes	Yes	Yes	Yes	Yes	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis
SB-1	08/11/22	2H12012-01	Soil	metals
SB-2	08/11/22	2H12012-02	Soil	metals
SB-3	08/11/22	2H12012-03	Soil	metals
SB-4	08/11/22	2H12012-04	Soil	metals
SS-2A	08/11/22	2H12012-05	Soil	metals

All QAQC data, including method blank and Laboratory Control Sample (LCS) results were reviewed.
This report was deemed usable by Angela Boyd on 11/16/2022.

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

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 2H12012
Client Project: 8013 - 364 West St, Hopedale, MA

Report Date: 01-September-2022

Prepared for:

Angela Boyd
Environmental Strategies & Management
273 West Main Street
Norton, MA 02766

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 08/12/22. 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 2H12012. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
2H12012-01	SB-1	Soil	08/11/2022	08/12/2022
2H12012-02	SB-2	Soil	08/11/2022	08/12/2022
2H12012-03	SB-3	Soil	08/11/2022	08/12/2022
2H12012-04	SB-4	Soil	08/11/2022	08/12/2022
2H12012-05	SS-2A	Soil	08/11/2022	08/12/2022

Request for Analysis

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

SB-1 (Lab Number: 2H12012-01)

Analysis	Method
Arsenic	EPA 6010C
Lead	EPA 6010C

SB-2 (Lab Number: 2H12012-02)

Analysis	Method
Arsenic	EPA 6010C
Lead	EPA 6010C

SB-3 (Lab Number: 2H12012-03)

Analysis	Method
Arsenic	EPA 6010C
Lead	EPA 6010C

SB-4 (Lab Number: 2H12012-04)

Analysis	Method
Arsenic	EPA 6010C
Lead	EPA 6010C

SS-2A (Lab Number: 2H12012-05)

Analysis	Method
Arsenic	EPA 6010C
Lead	EPA 6010C

Method References

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

Case Narrative

Revised Report

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: SB-1

Lab Number: 2H12012-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	ND		8.41	mg/kg	08/15/22	08/18/22
Lead	**5780**		4.20	mg/kg	08/15/22	08/18/22

Results: Total Metals

Sample: SB-2

Lab Number: 2H12012-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	ND		3.76	mg/kg	08/15/22	08/18/22
Lead	**1630**		1.88	mg/kg	08/15/22	08/18/22

Results: Total Metals

Sample: SB-3

Lab Number: 2H12012-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	**5.14**		4.91	mg/kg	08/15/22	08/18/22
Lead	**4450**		2.46	mg/kg	08/15/22	08/18/22

Results: Total Metals

Sample: SB-4

Lab Number: 2H12012-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	**3.74**		2.79	mg/kg	08/15/22	08/18/22
Lead	**1080**		1.39	mg/kg	08/15/22	08/18/22

Results: Total Metals

Sample: SS-2A

Lab Number: 2H12012-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	ND		4.95	mg/kg	08/15/22	08/19/22
Lead	**5150**		2.47	mg/kg	08/15/22	08/19/22

Quality Control

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2H0824 - Metals Digestion Soils										
Blank (B2H0824-BLK1)					Prepared: 08/15/22 Analyzed: 08/18/22					
Lead	ND		0.50	mg/kg						
Arsenic	ND		1.00	mg/kg						
LCS (B2H0824-BS1)					Prepared: 08/15/22 Analyzed: 08/18/22					
Lead	107		0.50	mg/kg	100		107	85-115		
Arsenic	22.5		1.00	mg/kg	20.0		113	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

2H1 2012

CHAIN OF CUSTODY RECORD

PROJ. NO.: 8013-02A
PROJECT NAME/LOCATION: 364 West St Hopedale, MA
CLIENT: ES+M 273 West Main St. Norton, MA 02766
REPORT TO: Angela Boyd
INVOICE TO: Allison Caswell PO 22-415

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TESTS** Lead	REMARKS
8/11	2:20		X	SB-1		X		1	none	X	
	2:25		X	SB-2		X		1		X	
	2:35		X	SB-3		X		1		X	
	2:30		X	SB-4		X		1		X	
↓	2:40		X	SS-2A		X		1	↓	X	

Sampled by: (Signature) Angela Boyd	Date/Time 8/12/22 11:34	Received by: (Signature)	Date/Time 8/12/22 11:34
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time 8/12/22 1314	Received for Laboratory by: (Signature) B. Cl	Date/Time 8/12/22 1314

Laboratory Remarks: Temp. received: 6° Cooled ☐

Special Instructions: List Specific Detection Limit Requirements: MCP CAM required

Turnaround (Business Days) 5

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

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

2H1 2012

CHAIN OF CUSTODY RECORD

PROJ. NO.: 8013-02A
PROJECT NAME/LOCATION: 364 West St Hopedale, MA
CLIENT: ES+M 273 West Main St. Norton, MA 02766
REPORT TO: Angela Boyd
INVOICE TO: Allison Caswell PO 22:415

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TESTS** Lead	TESTS** As	REMARKS
8/11	2:20		X	SB-1		X		1	none	X	X	As added per Angela email 8/25 MM
	2:25		X	SB-2		X		1		X		
	2:35		X	SB-3		X		1		X		
	2:30		X	SB-4		X		1		X		
↓	2:40		X	SS-2A		X		1	↓	X	↓	

Sampled by: (Signature) Angela Boyd — Date/Time 8/12/22 11:34
Received by: (Signature) — Date/Time 8/12/22 11:34
Relinquished by: (Signature) — Date/Time
Received by: (Signature) — Date/Time
Relinquished by: (Signature) — Date/Time 8/12/22 1314
Received for Laboratory by: (Signature) B. Cl — Date/Time 8/12/22 1314

Laboratory Remarks: Temp. received: 6° Cooled ☐

Special Instructions: List Specific Detection Limit Requirements: MCP CAM required

Turnaround (Business Days) 5

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

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.	Project #: 8013-02A
Project Location: Hopedale, MA	RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s): 2H12012

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

CAM Protocol (check all that apply below):

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

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?	☒ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ 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?	☒ Yes ☐ 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"?	☒ Yes ☐ 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?	☐ Yes ☐ No ☐ Yes ☐ 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)?	☒ Yes ☐ 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)?	☒ Yes ☐ No[1]

***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?	☒ Yes ☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]

[1]*All 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**: 9/1/2022

Verdantas QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
NETLAB	2J28003	10/25/2022	Soil	Yes	Yes	Yes	Yes	Yes	Usable - CAM Compliant

Sample ID	Date	Lab ID	Matrix	Analysis
Waste Characterization	10/25/22	2J28003-01	Soil	metals, VOCs, SVOCs, PCBs, reactivity, pH, flashpoint, specific conductance, TCLP metals
SW (75')	10/25/22	2J28003-02	Soil	metals
W (75')	10/25/22	2J28003-03	Soil	metals
NW (75')	10/25/22	2J28003-04	Soil	metals, TCLP metals
N (75')	10/25/22	2J28003-05	Soil	metals, TCLP metals
NE (75')	10/25/22	2J28003-06	Soil	metals, TCLP metals
A3 (24'')	10/25/22	2J28003-07	Soil	metals

All QAQC data, including surrogate, method blank, Laboratory Control Sample (LCS), LCS duplicate, lab duplicate, and matrix spike results were reviewed. This report was deemed usable by Angela Boyd on 11/16/2022.

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

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 2J28003
Client Project: 8013 - 364 West St, Hopedale, MA

Report Date: 15-November-2022

Prepared for:

Angela Boyd
Verdantas Norton
273 West Main Street
Norton, MA 02766

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 10/28/22. 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 2J28003. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
2J28003-01	Waste Characterization	Soil	10/27/2022	10/28/2022
2J28003-02	SW (75')	Soil	10/27/2022	10/28/2022
2J28003-03	W (75')	Soil	10/27/2022	10/28/2022
2J28003-04	NW (75')	Soil	10/27/2022	10/28/2022
2J28003-05	N (75')	Soil	10/27/2022	10/28/2022
2J28003-06	NE (75')	Soil	10/27/2022	10/28/2022
2J28003-07	A3 (24'')	Soil	10/27/2022	10/28/2022

Request for Analysis

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

A3 (24'') (Lab Number: 2J28003-07)

Analysis	Method
Lead	EPA 6010C

N (75') (Lab Number: 2J28003-05)

Analysis	Method
Lead	EPA 6010C
TCLP Lead	EPA 6010C

NE (75') (Lab Number: 2J28003-06)

Analysis	Method
Lead	EPA 6010C
TCLP Lead	EPA 6010C

NW (75') (Lab Number: 2J28003-04)

Analysis	Method
Lead	EPA 6010C
TCLP Lead	EPA 6010C

SW (75') (Lab Number: 2J28003-02)

Analysis	Method
Lead	EPA 6010C

W (75') (Lab Number: 2J28003-03)

Analysis	Method
Lead	EPA 6010C

Waste Characterization (Lab Number: 2J28003-01)

Analysis	Method
Arsenic	EPA 6010C
Barium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Flashpoint	EPA 1010A-Mod
Lead	EPA 6010C
Mercury	EPA 7471B
PCBs	EPA 8082A
pH	SM4500-H-B (11)
Reactive Cyanide	NETL Internal
Reactive Sulfide	NETL Internal
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270D
Silver	EPA 6010C
Specific Conductance	EPA 9010A--modified
TCLP Lead	EPA 6010C
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: Waste Characterization

Lab Number: 2J28003-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Flashpoint	> 200		70	degrees F	11/08/22	11/08/22
pH	**4.3**			SU	11/01/22	11/01/22
Specific Conductance	**18.7**		2.0	uS/cm	11/01/22	11/01/22

Results: Reactivity

Sample: Waste Characterization

Lab Number: 2J28003-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Reactive Cyanide	ND		0.6	mg/kg	11/11/22	11/11/22
Reactive Sulfide	ND		0.3	mg/kg	11/11/22	11/11/22

Results: Total Metals

Sample: Waste Characterization

Lab Number: 2J28003-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	**3.63**		2.80	mg/kg	10/31/22	11/02/22
Barium	**65.3**		0.92	mg/kg	10/31/22	11/02/22
Cadmium	ND		1.40	mg/kg	10/31/22	11/02/22
Chromium	**3.47**		1.40	mg/kg	10/31/22	11/02/22
Lead	**1850**		1.40	mg/kg	10/31/22	11/02/22
Mercury	ND		0.415	mg/kg	11/03/22	11/03/22
Selenium	ND		2.80	mg/kg	10/31/22	11/02/22
Silver	ND		2.80	mg/kg	10/31/22	11/02/22

Results: Total Metals

Sample: SW (75')

Lab Number: 2J28003-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Lead	**53.3**		0.88	mg/kg	10/31/22	11/02/22

Results: Total Metals

Sample: W (75')

Lab Number: 2J28003-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Lead	**58.5**		0.97	mg/kg	10/31/22	11/02/22

Results: Total Metals

Sample: NW (75')
Lab Number: 2J28003-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Lead	**109**		0.84	mg/kg	10/31/22	11/02/22

Results: Total Metals

Sample: N (75')
Lab Number: 2J28003-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Lead	**172**		0.94	mg/kg	10/31/22	11/02/22

Results: Total Metals

Sample: NE (75')
Lab Number: 2J28003-06 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Lead	**126**		0.74	mg/kg	10/31/22	11/02/22

Results: Total Metals

Sample: A3 (24'')

Lab Number: 2J28003-07 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Lead	**21.5**		0.76	mg/kg	10/31/22	11/02/22

Results: Volatile Organic Compounds

Sample: Waste Characterization

Lab Number: 2J28003-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		0.089	mg/kg	11/07/22	11/07/22
Benzene	ND		0.012	mg/kg	11/07/22	11/07/22
Bromobenzene	ND		0.012	mg/kg	11/07/22	11/07/22
Bromochloromethane	ND		0.012	mg/kg	11/07/22	11/07/22
Bromodichloromethane	ND		0.012	mg/kg	11/07/22	11/07/22
Bromoform	ND		0.012	mg/kg	11/07/22	11/07/22
Bromomethane	ND		0.012	mg/kg	11/07/22	11/07/22
2-Butanone	ND		0.012	mg/kg	11/07/22	11/07/22
tert-Butyl alcohol	ND		0.012	mg/kg	11/07/22	11/07/22
sec-Butylbenzene	ND		0.012	mg/kg	11/07/22	11/07/22
n-Butylbenzene	ND		0.012	mg/kg	11/07/22	11/07/22
tert-Butylbenzene	ND		0.012	mg/kg	11/07/22	11/07/22
Methyl t-butyl ether (MTBE)	ND		0.012	mg/kg	11/07/22	11/07/22
Carbon Disulfide	ND		0.012	mg/kg	11/07/22	11/07/22
Carbon Tetrachloride	ND		0.012	mg/kg	11/07/22	11/07/22
Chlorobenzene	ND		0.012	mg/kg	11/07/22	11/07/22
Chloroethane	ND		0.012	mg/kg	11/07/22	11/07/22
Chloroform	ND		0.012	mg/kg	11/07/22	11/07/22
Chloromethane	ND		0.012	mg/kg	11/07/22	11/07/22
4-Chlorotoluene	ND		0.012	mg/kg	11/07/22	11/07/22
2-Chlorotoluene	ND		0.012	mg/kg	11/07/22	11/07/22
1,2-Dibromo-3-chloropropane (DBCP)	ND		0.012	mg/kg	11/07/22	11/07/22
Dibromochloromethane	ND		0.012	mg/kg	11/07/22	11/07/22
1,2-Dibromoethane (EDB)	ND		0.012	mg/kg	11/07/22	11/07/22
Dibromomethane	ND		0.012	mg/kg	11/07/22	11/07/22
1,2-Dichlorobenzene	ND		0.012	mg/kg	11/07/22	11/07/22
1,3-Dichlorobenzene	ND		0.012	mg/kg	11/07/22	11/07/22
1,4-Dichlorobenzene	ND		0.012	mg/kg	11/07/22	11/07/22
1,1-Dichloroethane	ND		0.012	mg/kg	11/07/22	11/07/22
1,2-Dichloroethane	ND		0.012	mg/kg	11/07/22	11/07/22
trans-1,2-Dichloroethene	ND		0.012	mg/kg	11/07/22	11/07/22
cis-1,2-Dichloroethene	ND		0.012	mg/kg	11/07/22	11/07/22
1,1-Dichloroethene	ND		0.012	mg/kg	11/07/22	11/07/22
1,2-Dichloropropane	ND		0.012	mg/kg	11/07/22	11/07/22
2,2-Dichloropropane	ND		0.012	mg/kg	11/07/22	11/07/22
cis-1,3-Dichloropropene	ND		0.012	mg/kg	11/07/22	11/07/22
trans-1,3-Dichloropropene	ND		0.012	mg/kg	11/07/22	11/07/22
1,1-Dichloropropene	ND		0.012	mg/kg	11/07/22	11/07/22
1,3-Dichloropropene (cis + trans)	ND		0.012	mg/kg	11/07/22	11/07/22
Diethyl ether	ND		0.012	mg/kg	11/07/22	11/07/22
1,4-Dioxane	ND		0.235	mg/kg	11/07/22	11/07/22
Ethylbenzene	ND		0.012	mg/kg	11/07/22	11/07/22
Hexachlorobutadiene	ND		0.012	mg/kg	11/07/22	11/07/22
2-Hexanone	ND		0.012	mg/kg	11/07/22	11/07/22
Isopropylbenzene	ND		0.012	mg/kg	11/07/22	11/07/22
p-Isopropyltoluene	ND		0.012	mg/kg	11/07/22	11/07/22
Methylene Chloride	ND		0.059	mg/kg	11/07/22	11/07/22
4-Methyl-2-pentanone	ND		0.012	mg/kg	11/07/22	11/07/22

Sample: Waste Characterization (Continued)

Lab Number: 2J28003-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Naphthalene	ND		0.012	mg/kg	11/07/22	11/07/22
n-Propylbenzene	ND		0.012	mg/kg	11/07/22	11/07/22
Styrene	ND		0.012	mg/kg	11/07/22	11/07/22
1,1,1,2-Tetrachloroethane	ND		0.012	mg/kg	11/07/22	11/07/22
Tetrachloroethene	ND		0.012	mg/kg	11/07/22	11/07/22
Tetrahydrofuran	ND		0.012	mg/kg	11/07/22	11/07/22
Toluene	ND		0.012	mg/kg	11/07/22	11/07/22
1,2,4-Trichlorobenzene	ND		0.012	mg/kg	11/07/22	11/07/22
1,2,3-Trichlorobenzene	ND		0.012	mg/kg	11/07/22	11/07/22
1,1,2-Trichloroethane	ND		0.012	mg/kg	11/07/22	11/07/22
1,1,1-Trichloroethane	ND		0.012	mg/kg	11/07/22	11/07/22
Trichloroethene	ND		0.012	mg/kg	11/07/22	11/07/22
1,2,3-Trichloropropane	ND		0.012	mg/kg	11/07/22	11/07/22
1,3,5-Trimethylbenzene	ND		0.012	mg/kg	11/07/22	11/07/22
1,2,4-Trimethylbenzene	ND		0.012	mg/kg	11/07/22	11/07/22
Vinyl Chloride	ND		0.012	mg/kg	11/07/22	11/07/22
o-Xylene	ND		0.012	mg/kg	11/07/22	11/07/22
m&p-Xylene	ND		0.023	mg/kg	11/07/22	11/07/22
Total xylenes	ND		0.012	mg/kg	11/07/22	11/07/22
1,1,2,2-Tetrachloroethane	ND		0.012	mg/kg	11/07/22	11/07/22
tert-Amyl methyl ether	ND		0.012	mg/kg	11/07/22	11/07/22
1,3-Dichloropropane	ND		0.012	mg/kg	11/07/22	11/07/22
Ethyl tert-butyl ether	ND		0.012	mg/kg	11/07/22	11/07/22
Diisopropyl ether	ND		0.012	mg/kg	11/07/22	11/07/22
Trichlorofluoromethane	ND		0.012	mg/kg	11/07/22	11/07/22
Dichlorodifluoromethane	ND		0.012	mg/kg	11/07/22	11/07/22

Surrogate(s)	Recovery%	Limits		
4-Bromofluorobenzene	*98.7%*	*70-130*	11/07/22	11/07/22
1,2-Dichloroethane-d4	*102%*	*70-130*	11/07/22	11/07/22
Toluene-d8	*101%*	*70-130*	11/07/22	11/07/22

Results: Semivolatile organic compounds

Sample: Waste Characterization

Lab Number: 2J28003-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		0.361	mg/kg	11/09/22	11/15/22
1,2-Dichlorobenzene	ND		0.361	mg/kg	11/09/22	11/15/22
1,3-Dichlorobenzene	ND		0.361	mg/kg	11/09/22	11/15/22
1,4-Dichlorobenzene	ND		0.361	mg/kg	11/09/22	11/15/22
Phenol	ND		0.361	mg/kg	11/09/22	11/15/22
2,4,5-Trichlorophenol	ND		0.361	mg/kg	11/09/22	11/15/22
2,4,6-Trichlorophenol	ND		0.361	mg/kg	11/09/22	11/15/22
2,4-Dichlorophenol	ND		0.361	mg/kg	11/09/22	11/15/22
2,4-Dimethylphenol	ND		0.915	mg/kg	11/09/22	11/15/22
2,4-Dinitrophenol	ND		0.915	mg/kg	11/09/22	11/15/22
2,4-Dinitrotoluene	ND		0.361	mg/kg	11/09/22	11/15/22
2,6-Dinitrotoluene	ND		0.361	mg/kg	11/09/22	11/15/22
2-Chloronaphthalene	ND		0.361	mg/kg	11/09/22	11/15/22
2-Chlorophenol	ND		0.361	mg/kg	11/09/22	11/15/22
2-Methylnaphthalene	ND		0.361	mg/kg	11/09/22	11/15/22
Nitrobenzene	ND		0.361	mg/kg	11/09/22	11/15/22
2-Methylphenol	ND		0.361	mg/kg	11/09/22	11/15/22
2-Nitroaniline	ND		0.361	mg/kg	11/09/22	11/15/22
2-Nitrophenol	ND		0.915	mg/kg	11/09/22	11/15/22
3,3'-Dichlorobenzidine	ND		0.915	mg/kg	11/09/22	11/15/22
3-Nitroaniline	ND		0.361	mg/kg	11/09/22	11/15/22
4,6-Dinitro-2-methylphenol	ND		0.915	mg/kg	11/09/22	11/15/22
4-Bromophenyl phenyl ether	ND		0.361	mg/kg	11/09/22	11/15/22
4-Chloro-3-methylphenol	ND		0.361	mg/kg	11/09/22	11/15/22
4-Chloroaniline	ND		0.361	mg/kg	11/09/22	11/15/22
4-Chlorophenyl phenyl ether	ND		0.361	mg/kg	11/09/22	11/15/22
4-Nitroaniline	ND		0.361	mg/kg	11/09/22	11/15/22
4-Nitrophenol	ND		0.915	mg/kg	11/09/22	11/15/22
Acenaphthene	ND		0.361	mg/kg	11/09/22	11/15/22
Acenaphthylene	ND		0.361	mg/kg	11/09/22	11/15/22
Aniline	ND		0.361	mg/kg	11/09/22	11/15/22
Anthracene	ND		0.361	mg/kg	11/09/22	11/15/22
Benzo(a)anthracene	ND		0.361	mg/kg	11/09/22	11/15/22
Benzo(a)pyrene	ND		0.361	mg/kg	11/09/22	11/15/22
Benzo(b)fluoranthene	ND		0.361	mg/kg	11/09/22	11/15/22
Benzo(g,h,i)perylene	ND		0.361	mg/kg	11/09/22	11/15/22
Benzo(k)fluoranthene	ND		0.361	mg/kg	11/09/22	11/15/22
Benzoic acid	ND		2.77	mg/kg	11/09/22	11/15/22
Biphenyl	ND		0.111	mg/kg	11/09/22	11/15/22
Bis(2-chloroethoxy)methane	ND		0.361	mg/kg	11/09/22	11/15/22
Bis(2-chloroethyl)ether	ND		0.361	mg/kg	11/09/22	11/15/22
Bis(2-chloroisopropyl)ether	ND		0.361	mg/kg	11/09/22	11/15/22
Bis(2-ethylhexyl)phthalate	ND		1.11	mg/kg	11/09/22	11/15/22
Butyl benzyl phthalate	ND		0.361	mg/kg	11/09/22	11/15/22
Chrysene	ND		0.361	mg/kg	11/09/22	11/15/22
Di-n-octyl phthalate	ND		0.555	mg/kg	11/09/22	11/15/22
Dibenz(a,h)anthracene	ND		0.361	mg/kg	11/09/22	11/15/22
Dibenzofuran	ND		0.361	mg/kg	11/09/22	11/15/22

Results: Semivolatile organic compounds (Continued)

Sample: Waste Characterization (Continued)

Lab Number: 2J28003-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Diethyl phthalate	ND		0.361	mg/kg	11/09/22	11/15/22
Dimethyl phthalate	ND		0.915	mg/kg	11/09/22	11/15/22
Di-n-butyl phthalate	ND		0.555	mg/kg	11/09/22	11/15/22
Fluoranthene	ND		0.361	mg/kg	11/09/22	11/15/22
Fluorene	ND		0.361	mg/kg	11/09/22	11/15/22
Hexachlorobenzene	ND		0.361	mg/kg	11/09/22	11/15/22
Hexachlorobutadiene	ND		0.361	mg/kg	11/09/22	11/15/22
Hexachlorocyclopentadiene	ND		0.915	mg/kg	11/09/22	11/15/22
Hexachloroethane	ND		0.361	mg/kg	11/09/22	11/15/22
Indeno(1,2,3-cd)pyrene	ND		0.361	mg/kg	11/09/22	11/15/22
Isophorone	ND		0.361	mg/kg	11/09/22	11/15/22
Naphthalene	ND		0.361	mg/kg	11/09/22	11/15/22
N-Nitrosodimethylamine	ND		0.361	mg/kg	11/09/22	11/15/22
N-Nitrosodi-n-propylamine	ND		0.361	mg/kg	11/09/22	11/15/22
N-Nitrosodiphenylamine	ND		0.361	mg/kg	11/09/22	11/15/22
Pentachlorophenol	ND		0.915	mg/kg	11/09/22	11/15/22
Phenanthrene	ND		0.361	mg/kg	11/09/22	11/15/22
Pyrene	ND		0.361	mg/kg	11/09/22	11/15/22
m&p-Cresol	ND		0.721	mg/kg	11/09/22	11/15/22
Pyridine	ND		0.361	mg/kg	11/09/22	11/15/22
Total Dichlorobenzene	ND		0.361	mg/kg	11/09/22	11/15/22

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*57.8%*	*30-126*	11/09/22	11/15/22
p-Terphenyl-d14	*83.4%*	*47-130*	11/09/22	11/15/22
2-Fluorobiphenyl	*58.1%*	*34-130*	11/09/22	11/15/22
Phenol-d6	*51.7%*	*30-130*	11/09/22	11/15/22
2,4,6-Tribromophenol	*65.9%*	*30-130*	11/09/22	11/15/22
2-Fluorophenol	*53.7%*	*30-130*	11/09/22	11/15/22

Results: Polychlorinated Biphenyls (PCBs)

Sample: Waste Characterization

Lab Number: 2J28003-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		0.175	mg/kg	11/09/22	11/10/22
Aroclor-1221	ND		0.175	mg/kg	11/09/22	11/10/22
Aroclor-1232	ND		0.175	mg/kg	11/09/22	11/10/22
Aroclor-1242	ND		0.175	mg/kg	11/09/22	11/10/22
Aroclor-1248	ND		0.175	mg/kg	11/09/22	11/10/22
Aroclor-1254	ND		0.175	mg/kg	11/09/22	11/10/22
Aroclor-1260	ND		0.175	mg/kg	11/09/22	11/10/22
Aroclor-1262	ND		0.175	mg/kg	11/09/22	11/10/22
Aroclor-1268	ND		0.175	mg/kg	11/09/22	11/10/22
PCBs (Total)	ND		0.175	mg/kg	11/09/22	11/10/22

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*90.3%*	*36.2-130*	11/09/22	11/10/22
Decachlorobiphenyl (DCBP)	*85.1%*	*43.3-130*	11/09/22	11/10/22

Results: TCLP Metals

Sample: Waste Characterization

Lab Number: 2J28003-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Lead	**0.844**		0.025	mg/L	11/04/22	11/04/22

Results: TCLP Metals

Sample: NW (75')
Lab Number: 2J28003-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Lead	**0.207**		0.025	mg/L	11/04/22	11/04/22

Results: TCLP Metals

Sample: N (75')
Lab Number: 2J28003-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Lead	**0.256**		0.025	mg/L	11/04/22	11/04/22

Results: TCLP Metals

Sample: NE (75')
Lab Number: 2J28003-06 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Lead	**0.459**		0.025	mg/L	11/04/22	11/04/22

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0093 - pH										
LCS (B2K0093-BS1)					Prepared & Analyzed: 11/01/22					
pH	7.0			SU	7.00		99.7	0-200		
LCS (B2K0093-BS2)					Prepared & Analyzed: 11/01/22					
pH	7.0			SU	7.00		100	0-200		
Duplicate (B2K0093-DUP1)		Source: 2J27071-11			Prepared & Analyzed: 11/01/22					
pH	7.3			SU		7.3			0.411	200
Batch: B2K0098 - Conductivity										
Blank (B2K0098-BLK1)					Prepared & Analyzed: 11/01/22					
Specific Conductance	ND		2.0	uS/cm						
Duplicate (B2K0098-DUP1)		Source: 2J26035-01			Prepared & Analyzed: 11/01/22					
Specific Conductance	59.8		2.0	uS/cm		59.9			0.167	200
Batch: B2K0431 - Flashpoint-EPA 1010A-Mod										
LCS (B2K0431-BS1)					Prepared & Analyzed: 11/07/22					
Flashpoint	83		70	degrees F	80.0		104	90-110		
Duplicate (B2K0431-DUP1)		Source: 2J26035-01			Prepared & Analyzed: 11/07/22					
Flashpoint	> 200		70	degrees F		ND				20

Quality Control
(Continued)

Reactivity

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0666 - Reactivity										
Blank (B2K0666-BLK1)					Prepared & Analyzed: 11/11/22					
Cyanide	ND		0.2	mg/kg						
Blank (B2K0666-BLK2)					Prepared & Analyzed: 11/11/22					
Cyanide	ND		0.2	mg/kg						
Duplicate (B2K0666-DUP1)		Source: 2J26035-01			Prepared & Analyzed: 11/11/22					
Cyanide	ND		0.2	mg/kg dry		ND				20
Batch: B2K0667 - Reactivity										
Blank (B2K0667-BLK1)					Prepared & Analyzed: 11/11/22					
Sulfide	ND		0.1	mg/kg						
Blank (B2K0667-BLK2)					Prepared & Analyzed: 11/11/22					
Sulfide	ND		0.1	mg/kg						
LCS (B2K0667-BS1)					Prepared & Analyzed: 11/11/22					
Sulfide	4.0		0.1	mg/kg	4.00		99.0	90-110		
LCS (B2K0667-BS2)					Prepared & Analyzed: 11/11/22					
Sulfide	3.9		0.1	mg/kg	4.00		98.5	90-110		
Duplicate (B2K0667-DUP1)		Source: 2J26035-01			Prepared & Analyzed: 11/11/22					
Sulfide	ND		0.1	mg/kg dry		ND				20
Matrix Spike (B2K0667-MS1)		Source: 2J26035-01			Prepared & Analyzed: 11/11/22					
Sulfide	4.2		0.1	mg/kg dry	4.31	ND	98.0	80-120		

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2J1557 - Metals Digestion Soils										
Blank (B2J1557-BLK1)					Prepared: 10/31/22 Analyzed: 11/04/22					
Chromium	ND		0.50	mg/kg						
Silver	ND		1.00	mg/kg						
Selenium	ND		1.00	mg/kg						
Lead	ND		0.50	mg/kg						
Cadmium	ND		0.50	mg/kg						
Barium	ND		0.33	mg/kg						
Arsenic	ND		1.00	mg/kg						
LCS (B2J1557-BS1)					Prepared: 10/31/22 Analyzed: 11/04/22					
Lead	94.6		0.50	mg/kg	100		94.6	85-115		
Selenium	19.2		1.00	mg/kg	20.0		95.8	85-115		
Cadmium	90.0		0.50	mg/kg	100		90.0	85-115		
Barium	95.8		0.33	mg/kg	100		95.8	85-115		
Arsenic	19.5		1.00	mg/kg	20.0		97.3	85-115		
Silver	40.1		1.00	mg/kg	40.0		100	85-115		
Chromium	98.1		0.50	mg/kg	100		98.1	85-115		
Batch: B2K0234 - Metals Cold-Vapor Mercury										
Blank (B2K0234-BLK1)					Prepared & Analyzed: 11/03/22					
Mercury	ND		0.140	mg/kg						
LCS (B2K0234-BS1)					Prepared & Analyzed: 11/03/22					
Mercury	0.496		0.140	mg/kg	0.500		99.1	93-114		

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0488 - EPA 5035										
Blank (B2K0488-BLK1)					Prepared & Analyzed: 11/07/22					
Acetone	ND		0.005	mg/kg						
Benzene	ND		0.005	mg/kg						
Bromobenzene	ND		0.005	mg/kg						
Bromochloromethane	ND		0.005	mg/kg						
Bromodichloromethane	ND		0.005	mg/kg						
Bromoform	ND		0.005	mg/kg						
Bromomethane	ND		0.005	mg/kg						
2-Butanone	ND		0.005	mg/kg						
tert-Butyl alcohol	ND		0.005	mg/kg						
sec-Butylbenzene	ND		0.005	mg/kg						
n-Butylbenzene	ND		0.005	mg/kg						
tert-Butylbenzene	ND		0.005	mg/kg						
Methyl t-butyl ether (MTBE)	ND		0.005	mg/kg						
Carbon Disulfide	ND		0.005	mg/kg						
Carbon Tetrachloride	ND		0.005	mg/kg						
Chlorobenzene	ND		0.005	mg/kg						
Chloroethane	ND		0.005	mg/kg						
Chloroform	ND		0.005	mg/kg						
Chloromethane	ND		0.005	mg/kg						
4-Chlorotoluene	ND		0.005	mg/kg						
2-Chlorotoluene	ND		0.005	mg/kg						
1,2-Dibromo-3-chloropropane (DBCP)	ND		0.005	mg/kg						
Dibromochloromethane	ND		0.005	mg/kg						
1,2-Dibromoethane (EDB)	ND		0.005	mg/kg						
Dibromomethane	ND		0.005	mg/kg						
1,2-Dichlorobenzene	ND		0.005	mg/kg						
1,3-Dichlorobenzene	ND		0.005	mg/kg						
1,4-Dichlorobenzene	ND		0.005	mg/kg						
1,1-Dichloroethane	ND		0.005	mg/kg						
1,2-Dichloroethane	ND		0.005	mg/kg						
trans-1,2-Dichloroethene	ND		0.005	mg/kg						
cis-1,2-Dichloroethene	ND		0.005	mg/kg						
1,1-Dichloroethene	ND		0.005	mg/kg						
1,2-Dichloropropane	ND		0.005	mg/kg						
2,2-Dichloropropane	ND		0.005	mg/kg						
cis-1,3-Dichloropropene	ND		0.005	mg/kg						
trans-1,3-Dichloropropene	ND		0.005	mg/kg						
1,1-Dichloropropene	ND		0.005	mg/kg						
1,3-Dichloropropene (cis + trans)	ND		0.005	mg/kg						
Diethyl ether	ND		0.005	mg/kg						
1,4-Dioxane	ND		0.100	mg/kg						
Ethylbenzene	ND		0.005	mg/kg						
Hexachlorobutadiene	ND		0.005	mg/kg						
2-Hexanone	ND		0.005	mg/kg						
Isopropylbenzene	ND		0.005	mg/kg						
p-Isopropyltoluene	ND		0.005	mg/kg						
Methylene Chloride	ND		0.005	mg/kg						
4-Methyl-2-pentanone	ND		0.005	mg/kg						
Naphthalene	ND		0.005	mg/kg						
n-Propylbenzene	ND		0.005	mg/kg						
Styrene	ND		0.005	mg/kg						
1,1,1,2-Tetrachloroethane	ND		0.005	mg/kg						
Tetrachloroethene	ND		0.005	mg/kg						
Tetrahydrofuran	ND		0.005	mg/kg						
Toluene	ND		0.005	mg/kg						
1,2,4-Trichlorobenzene	ND		0.005	mg/kg						
1,2,3-Trichlorobenzene	ND		0.005	mg/kg						

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0488 - EPA 5035 (Continued)										
Blank (B2K0488-BLK1)					Prepared & Analyzed: 11/07/22					
1,1,2-Trichloroethane	ND		0.005	mg/kg						
1,1,1-Trichloroethane	ND		0.005	mg/kg						
Trichloroethene	ND		0.005	mg/kg						
1,2,3-Trichloropropane	ND		0.005	mg/kg						
1,3,5-Trimethylbenzene	ND		0.005	mg/kg						
1,2,4-Trimethylbenzene	ND		0.005	mg/kg						
Vinyl Chloride	ND		0.005	mg/kg						
o-Xylene	ND		0.005	mg/kg						
m&p-Xylene	ND		0.010	mg/kg						
Total xylenes	ND		0.005	mg/kg						
1,1,2,2-Tetrachloroethane	ND		0.005	mg/kg						
tert-Amyl methyl ether	ND		0.005	mg/kg						
1,3-Dichloropropane	ND		0.005	mg/kg						
Ethyl tert-butyl ether	ND		0.005	mg/kg						
Diisopropyl ether	ND		0.005	mg/kg						
Trichlorofluoromethane	ND		0.005	mg/kg						
Dichlorodifluoromethane	ND		0.005	mg/kg						
Surrogate: 4-Bromofluorobenzene			*49.0*	ug/kg	*50.0*		*98.0*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*48.3*	ug/kg	*50.0*		*96.6*	*70-130*		
Surrogate: Toluene-d8			*49.7*	ug/kg	*50.0*		*99.5*	*70-130*		
LCS (B2K0488-BS1)					Prepared & Analyzed: 11/07/22					
Acetone	50			ug/kg	50.0		101	60-140		
Benzene	53			ug/kg	50.0		107	70-130		
Bromobenzene	52			ug/kg	50.0		105	70-130		
Bromochloromethane	54			ug/kg	50.0		107	70-130		
Bromodichloromethane	58			ug/kg	50.0		116	70-130		
Bromoform	61			ug/kg	50.0		121	70-130		
Bromomethane	222			ug/kg	50.0		443	60-140		
2-Butanone	44			ug/kg	50.0		87.0	60-140		
tert-Butyl alcohol	53			ug/kg	50.0		107	70-130		
sec-Butylbenzene	59			ug/kg	50.0		117	70-130		
n-Butylbenzene	64			ug/kg	50.0		127	70-130		
tert-Butylbenzene	55			ug/kg	50.0		109	70-130		
Methyl t-butyl ether (MTBE)	54			ug/kg	50.0		107	70-130		
Carbon Disulfide	53			ug/kg	50.0		106	50-150		
Carbon Tetrachloride	63			ug/kg	50.0		125	70-130		
Chlorobenzene	52			ug/kg	50.0		105	70-130		
Chloroethane	281			ug/kg	50.0		562	60-140		
Chloroform	55			ug/kg	50.0		110	70-130		
Chloromethane	42			ug/kg	50.0		84.7	60-140		
4-Chlorotoluene	53			ug/kg	50.0		107	70-130		
2-Chlorotoluene	53			ug/kg	50.0		107	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	55			ug/kg	50.0		110	70-130		
Dibromochloromethane	61			ug/kg	50.0		121	70-130		
1,2-Dibromoethane (EDB)	53			ug/kg	50.0		106	70-130		
Dibromomethane	55			ug/kg	50.0		110	60-140		
1,2-Dichlorobenzene	53			ug/kg	50.0		105	70-130		
1,3-Dichlorobenzene	53			ug/kg	50.0		107	70-130		
1,4-Dichlorobenzene	52			ug/kg	50.0		105	70-130		
1,1-Dichloroethane	52			ug/kg	50.0		105	70-130		
1,2-Dichloroethane	55			ug/kg	50.0		109	70-130		
trans-1,2-Dichloroethene	53			ug/kg	50.0		106	70-130		
cis-1,2-Dichloroethene	52			ug/kg	50.0		105	70-130		
1,1-Dichloroethene	51			ug/kg	50.0		101	70-130		
1,2-Dichloropropane	53			ug/kg	50.0		105	70-130		
2,2-Dichloropropane	60			ug/kg	50.0		120	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: B2K0488 - EPA 5035 (Continued)										
LCS (B2K0488-BS1)					Prepared & Analyzed: 11/07/22					
cis-1,3-Dichloropropene	56			ug/kg	50.0		112	70-130		
trans-1,3-Dichloropropene	56			ug/kg	50.0		113	70-130		
1,1-Dichloropropene	55			ug/kg	50.0		109	70-130		
Diethyl ether	109			ug/kg	50.0		219	60-140		
1,4-Dioxane	247			ug/kg	250		98.7	0-200		
Ethylbenzene	54			ug/kg	50.0		108	70-130		
Hexachlorobutadiene	65			ug/kg	50.0		130	70-130		
2-Hexanone	47			ug/kg	50.0		94.5	70-130		
Isopropylbenzene	55			ug/kg	50.0		109	70-130		
p-Isopropyltoluene	61			ug/kg	50.0		123	70-130		
Methylene Chloride	48			ug/kg	50.0		96.6	60-140		
4-Methyl-2-pentanone	47			ug/kg	50.0		94.2	70-130		
Naphthalene	95			ug/kg	50.0		190	70-130		
n-Propylbenzene	56			ug/kg	50.0		111	70-130		
Styrene	53			ug/kg	50.0		106	70-130		
1,1,1,2-Tetrachloroethane	57			ug/kg	50.0		114	70-130		
Tetrachloroethene	54			ug/kg	50.0		108	70-130		
Tetrahydrofuran	45			ug/kg	50.0		90.2	50-150		
Toluene	53			ug/kg	50.0		105	70-130		
1,2,4-Trichlorobenzene	53			ug/kg	50.0		106	70-130		
1,2,3-Trichlorobenzene	106			ug/kg	50.0		211	70-130		
1,1,2-Trichloroethane	53			ug/kg	50.0		106	70-130		
1,1,1-Trichloroethane	59			ug/kg	50.0		117	70-130		
Trichloroethene	53			ug/kg	50.0		106	70-130		
1,2,3-Trichloropropane	52			ug/kg	50.0		105	70-130		
1,3,5-Trimethylbenzene	59			ug/kg	50.0		118	70-130		
1,2,4-Trimethylbenzene	54			ug/kg	50.0		108	70-130		
Vinyl Chloride	43			ug/kg	50.0		85.9	60-140		
o-Xylene	52			ug/kg	50.0		104	70-130		
m&p-Xylene	106			ug/kg	100		106	70-130		
1,1,2,2-Tetrachloroethane	52			ug/kg	50.0		105	70-130		
tert-Amyl methyl ether	54			ug/kg	50.0		108	70-130		
1,3-Dichloropropane	53			ug/kg	50.0		106	70-130		
Ethyl tert-butyl ether	54			ug/kg	50.0		108	70-130		
Trichlorofluoromethane	57			ug/kg	50.0		114	70-130		
Dichlorodifluoromethane	48			ug/kg	50.0		95.2	60-140		
Surrogate: 4-Bromofluorobenzene			*50.5*	ug/kg	*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*45.2*	ug/kg	*50.0*		*90.3*	*70-130*		
Surrogate: Toluene-d8			*49.5*	ug/kg	*50.0*		*99.0*	*70-130*		

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0488 - EPA 5035 (Continued)										
LCS Dup (B2K0488-BSD1)					Prepared & Analyzed: 11/07/22					
Acetone	39			ug/kg	50.0		78.1	60-140	25.1	30
Benzene	55			ug/kg	50.0		111	70-130	3.92	20
Bromobenzene	54			ug/kg	50.0		108	70-130	2.90	20
Bromochloromethane	55			ug/kg	50.0		110	70-130	2.17	20
Bromodichloromethane	60			ug/kg	50.0		119	70-130	2.45	20
Bromoform	62			ug/kg	50.0		124	70-130	2.07	20
Bromomethane	212			ug/kg	50.0		423	60-140	4.60	30
2-Butanone	40			ug/kg	50.0		80.3	60-140	8.08	30
tert-Butyl alcohol	47			ug/kg	50.0		93.4	70-130	13.4	20
sec-Butylbenzene	59			ug/kg	50.0		118	70-130	1.00	20
n-Butylbenzene	59			ug/kg	50.0		118	70-130	7.03	20
tert-Butylbenzene	56			ug/kg	50.0		112	70-130	3.05	20
Methyl t-butyl ether (MTBE)	55			ug/kg	50.0		110	70-130	2.99	20
Carbon Disulfide	54			ug/kg	50.0		108	50-150	1.82	40
Carbon Tetrachloride	64			ug/kg	50.0		129	70-130	2.67	20
Chlorobenzene	54			ug/kg	50.0		107	70-130	2.41	20
Chloroethane	253			ug/kg	50.0		506	60-140	10.5	30
Chloroform	57			ug/kg	50.0		113	70-130	3.03	20
Chloromethane	42			ug/kg	50.0		84.3	60-140	0.521	30
4-Chlorotoluene	55			ug/kg	50.0		109	70-130	2.05	20
2-Chlorotoluene	55			ug/kg	50.0		109	70-130	2.05	20
1,2-Dibromo-3-chloropropane (DBCP)	56			ug/kg	50.0		112	70-130	1.77	20
Dibromochloromethane	62			ug/kg	50.0		123	70-130	1.83	20
1,2-Dibromoethane (EDB)	54			ug/kg	50.0		109	70-130	1.99	20
Dibromomethane	57			ug/kg	50.0		113	60-140	2.38	30
1,2-Dichlorobenzene	54			ug/kg	50.0		109	70-130	3.27	20
1,3-Dichlorobenzene	54			ug/kg	50.0		108	70-130	1.77	20
1,4-Dichlorobenzene	54			ug/kg	50.0		107	70-130	2.49	20
1,1-Dichloroethane	54			ug/kg	50.0		109	70-130	3.47	20
1,2-Dichloroethane	56			ug/kg	50.0		112	70-130	2.48	20
trans-1,2-Dichloroethene	54			ug/kg	50.0		108	70-130	2.00	20
cis-1,2-Dichloroethene	54			ug/kg	50.0		108	70-130	3.21	20
1,1-Dichloroethene	52			ug/kg	50.0		104	70-130	2.61	20
1,2-Dichloropropane	54			ug/kg	50.0		108	70-130	2.48	20
2,2-Dichloropropane	61			ug/kg	50.0		123	70-130	1.86	20
cis-1,3-Dichloropropene	57			ug/kg	50.0		114	70-130	1.19	20
trans-1,3-Dichloropropene	59			ug/kg	50.0		118	70-130	4.89	20
1,1-Dichloropropene	56			ug/kg	50.0		113	70-130	3.19	20
Diethyl ether	76			ug/kg	50.0		151	60-140	36.6	30
1,4-Dioxane	251			ug/kg	250		100	0-200	1.64	50
Ethylbenzene	55			ug/kg	50.0		111	70-130	2.27	20
Hexachlorobutadiene	59			ug/kg	50.0		118	70-130	9.72	20
2-Hexanone	46			ug/kg	50.0		91.4	70-130	3.33	20
Isopropylbenzene	56			ug/kg	50.0		112	70-130	2.58	20
p-Isopropyltoluene	64			ug/kg	50.0		127	70-130	3.60	20
Methylene Chloride	50			ug/kg	50.0		100	60-140	3.50	30
4-Methyl-2-pentanone	48			ug/kg	50.0		96.6	70-130	2.45	20
Naphthalene	93			ug/kg	50.0		186	70-130	2.15	20
n-Propylbenzene	57			ug/kg	50.0		114	70-130	2.17	20
Styrene	54			ug/kg	50.0		109	70-130	2.48	20
1,1,1,2-Tetrachloroethane	58			ug/kg	50.0		117	70-130	2.65	20
Tetrachloroethene	56			ug/kg	50.0		111	70-130	3.01	20
Tetrahydrofuran	46			ug/kg	50.0		92.5	50-150	2.52	40
Toluene	54			ug/kg	50.0		109	70-130	3.08	20
1,2,4-Trichlorobenzene	55			ug/kg	50.0		109	70-130	2.51	20
1,2,3-Trichlorobenzene	96			ug/kg	50.0		191	70-130	9.88	20
1,1,2-Trichloroethane	54			ug/kg	50.0		108	70-130	2.47	30

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0488 - EPA 5035 (Continued)										
LCS Dup (B2K0488-BSD1)					Prepared & Analyzed: 11/07/22					
1,1,1-Trichloroethane	60			ug/kg	50.0		119	70-130	1.61	20
Trichloroethene	55			ug/kg	50.0		110	70-130	3.25	20
1,2,3-Trichloropropane	53			ug/kg	50.0		105	70-130	0.381	20
1,3,5-Trimethylbenzene	60			ug/kg	50.0		121	70-130	2.28	20
1,2,4-Trimethylbenzene	55			ug/kg	50.0		111	70-130	2.53	20
Vinyl Chloride	45			ug/kg	50.0		89.6	60-140	4.22	30
o-Xylene	54			ug/kg	50.0		107	70-130	2.51	20
m&p-Xylene	108			ug/kg	100		108	70-130	1.93	20
1,1,2,2-Tetrachloroethane	53			ug/kg	50.0		106	70-130	1.36	20
tert-Amyl methyl ether	55			ug/kg	50.0		111	70-130	2.30	20
1,3-Dichloropropane	54			ug/kg	50.0		109	70-130	3.06	20
Ethyl tert-butyl ether	55			ug/kg	50.0		111	70-130	2.25	20
Trichlorofluoromethane	98			ug/kg	50.0		195	70-130	52.6	20
Dichlorodifluoromethane	49			ug/kg	50.0		97.5	60-140	2.39	30
Surrogate: 4-Bromofluorobenzene			*50.1*	ug/kg	*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*46.5*	ug/kg	*50.0*		*93.1*	*70-130*		
Surrogate: Toluene-d8			*51.0*	ug/kg	*50.0*		*102*	*70-130*		

Semivolatile organic compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0510 - EPA 3546										
Blank (B2K0510-BLK2)					Prepared: 11/09/22 Analyzed: 11/15/22					
1,2,4-Trichlorobenzene	ND		0.130	mg/kg						
1,2-Dichlorobenzene	ND		0.130	mg/kg						
1,3-Dichlorobenzene	ND		0.130	mg/kg						
1,4-Dichlorobenzene	ND		0.130	mg/kg						
Phenol	ND		0.130	mg/kg						
2,4,5-Trichlorophenol	ND		0.130	mg/kg						
2,4,6-Trichlorophenol	ND		0.130	mg/kg						
2,4-Dichlorophenol	ND		0.130	mg/kg						
2,4-Dimethylphenol	ND		0.330	mg/kg						
2,4-Dinitrophenol	ND		0.330	mg/kg						
2,4-Dinitrotoluene	ND		0.130	mg/kg						
2,6-Dinitrotoluene	ND		0.130	mg/kg						
2-Chloronaphthalene	ND		0.130	mg/kg						
2-Chlorophenol	ND		0.130	mg/kg						
2-Methylnaphthalene	ND		0.130	mg/kg						
Nitrobenzene	ND		0.130	mg/kg						
2-Methylphenol	ND		0.130	mg/kg						
2-Nitroaniline	ND		0.130	mg/kg						
2-Nitrophenol	ND		0.330	mg/kg						
3,3'-Dichlorobenzidine	ND		0.330	mg/kg						
3-Nitroaniline	ND		0.130	mg/kg						
4,6-Dinitro-2-methylphenol	ND		0.330	mg/kg						
4-Bromophenyl phenyl ether	ND		0.130	mg/kg						
4-Chloro-3-methylphenol	ND		0.130	mg/kg						
4-Chloroaniline	ND		0.130	mg/kg						
4-Chlorophenyl phenyl ether	ND		0.130	mg/kg						
4-Nitroaniline	ND		0.130	mg/kg						
4-Nitrophenol	ND		0.330	mg/kg						
Acenaphthene	ND		0.130	mg/kg						
Acenaphthylene	ND		0.130	mg/kg						
Aniline	ND		0.130	mg/kg						
Anthracene	ND		0.130	mg/kg						
Benzo(a)anthracene	ND		0.130	mg/kg						
Benzo(a)pyrene	ND		0.130	mg/kg						
Benzo(b)fluoranthene	ND		0.130	mg/kg						
Benzo(g,h,i)perylene	ND		0.130	mg/kg						
Benzo(k)fluoranthene	ND		0.130	mg/kg						
Benzoic acid	ND		1.00	mg/kg						
Biphenyl	ND		0.040	mg/kg						
Bis(2-chloroethoxy)methane	ND		0.130	mg/kg						
Bis(2-chloroethyl)ether	ND		0.130	mg/kg						
Bis(2-chloroisopropyl)ether	ND		0.130	mg/kg						
Bis(2-ethylhexyl)phthalate	ND		0.400	mg/kg						
Butyl benzyl phthalate	ND		0.130	mg/kg						
Chrysene	ND		0.130	mg/kg						
Di-n-octyl phthalate	ND		0.200	mg/kg						
Dibenz(a,h)anthracene	ND		0.130	mg/kg						
Dibenzofuran	ND		0.130	mg/kg						
Diethyl phthalate	ND		0.130	mg/kg						
Dimethyl phthalate	ND		0.330	mg/kg						
Di-n-butyl phthalate	ND		0.200	mg/kg						
Fluoranthene	ND		0.130	mg/kg						
Fluorene	ND		0.130	mg/kg						
Hexachlorobenzene	ND		0.130	mg/kg						
Hexachlorobutadiene	ND		0.130	mg/kg						
Hexachlorocyclopentadiene	ND		0.330	mg/kg						
Hexachloroethane	ND		0.130	mg/kg						

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0510 - EPA 3546 (Continued)										
Blank (B2K0510-BLK2)					Prepared: 11/09/22 Analyzed: 11/15/22					
Indeno(1,2,3-cd)pyrene	ND		0.130	mg/kg						
Isophorone	ND		0.130	mg/kg						
Naphthalene	ND		0.130	mg/kg						
N-Nitrosodimethylamine	ND		0.130	mg/kg						
N-Nitrosodi-n-propylamine	ND		0.130	mg/kg						
N-Nitrosodiphenylamine	ND		0.130	mg/kg						
Pentachlorophenol	ND		0.330	mg/kg						
Phenanthrene	ND		0.130	mg/kg						
Pyrene	ND		0.130	mg/kg						
m&p-Cresol	ND		0.260	mg/kg						
Pyridine	ND		0.130	mg/kg						
Total Dichlorobenzene	ND		0.130	mg/kg						
Surrogate: Nitrobenzene-d5			*2.19*	mg/kg	*3.33*		*65.6*	*30-126*		
Surrogate: p-Terphenyl-d14			*2.75*	mg/kg	*3.33*		*82.6*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2.25*	mg/kg	*3.33*		*67.6*	*34-130*		
Surrogate: Phenol-d6			*1.93*	mg/kg	*3.33*		*57.8*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*2.05*	mg/kg	*3.33*		*61.4*	*30-130*		
Surrogate: 2-Fluorophenol			*2.06*	mg/kg	*3.33*		*61.8*	*30-130*		
LCS (B2K0510-BS2)					Prepared: 11/09/22 Analyzed: 11/15/22					
1,2,4-Trichlorobenzene	3.24		0.130	mg/kg	3.33		97.3	40-130		
1,2-Dichlorobenzene	2.87		0.130	mg/kg	3.33		86.2	40-130		
1,3-Dichlorobenzene	2.81		0.130	mg/kg	3.33		84.4	40-130		
1,4-Dichlorobenzene	2.67		0.130	mg/kg	3.33		80.1	40-130		
Phenol	2.76		0.130	mg/kg	3.33		82.9	40-130		
2,4,5-Trichlorophenol	2.60		0.130	mg/kg	3.33		78.0	40-130		
2,4,6-Trichlorophenol	2.67		0.130	mg/kg	3.33		80.2	40-130		
2,4-Dichlorophenol	2.89		0.130	mg/kg	3.33		86.6	40-130		
2,4-Dimethylphenol	2.44		0.330	mg/kg	3.33		73.3	40-130		
2,4-Dinitrophenol	0.489		0.330	mg/kg	3.33		14.7	15-140		
2,4-Dinitrotoluene	3.44		0.130	mg/kg	3.33		103	40-130		
2,6-Dinitrotoluene	3.40		0.130	mg/kg	3.33		102	40-130		
2-Chloronaphthalene	2.97		0.130	mg/kg	3.33		89.1	40-130		
2-Chlorophenol	2.76		0.130	mg/kg	3.33		82.8	40-130		
2-Methylnaphthalene	3.10		0.130	mg/kg	3.33		92.9	40-130		
Nitrobenzene	2.95		0.130	mg/kg	3.33		88.5	40-130		
2-Methylphenol	3.03		0.130	mg/kg	3.33		90.8	40-130		
2-Nitroaniline	3.09		0.130	mg/kg	3.33		92.8	40-130		
2-Nitrophenol	2.53		0.330	mg/kg	3.33		75.8	40-130		
3-Nitroaniline	3.12		0.130	mg/kg	3.33		93.7	40-130		
4,6-Dinitro-2-methylphenol	0.678		0.330	mg/kg	3.33		20.3	30-130		
4-Bromophenyl phenyl ether	3.56		0.130	mg/kg	3.33		107	40-130		
4-Chloro-3-methylphenol	3.24		0.130	mg/kg	3.33		97.3	40-130		
4-Chlorophenyl phenyl ether	3.84		0.130	mg/kg	3.33		115	40-130		
4-Nitroaniline	3.41		0.130	mg/kg	3.33		102	40-130		
4-Nitrophenol	3.14		0.330	mg/kg	3.33		94.3	40-130		
Acenaphthene	3.23		0.130	mg/kg	3.33		96.8	40-130		
Acenaphthylene	3.21		0.130	mg/kg	3.33		96.2	40-130		
Anthracene	3.63		0.130	mg/kg	3.33		109	40-130		
Benzo(a)anthracene	3.62		0.130	mg/kg	3.33		109	40-130		
Benzo(a)pyrene	3.91		0.130	mg/kg	3.33		117	40-130		
Benzo(b)fluoranthene	4.03		0.130	mg/kg	3.33		121	40-130		
Benzo(g,h,i)perylene	3.37		0.130	mg/kg	3.33		101	40-130		
Benzo(k)fluoranthene	4.04		0.130	mg/kg	3.33		121	40-130		
Biphenyl	0.733		0.040	mg/kg	0.833		87.9	40-130		
Bis(2-chloroethoxy)methane	3.20		0.130	mg/kg	3.33		95.9	40-130		
Bis(2-chloroethyl)ether	2.71		0.130	mg/kg	3.33		81.3	40-130		

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0510 - EPA 3546 (Continued)										
LCS (B2K0510-BS2)					Prepared: 11/09/22 Analyzed: 11/15/22					
Bis(2-chloroisopropyl)ether	3.13		0.130	mg/kg	3.33		94.0	40-130		
Bis(2-ethylhexyl)phthalate	3.46		0.400	mg/kg	3.33		104	40-130		
Butyl benzyl phthalate	3.45		0.130	mg/kg	3.33		103	40-130		
Chrysene	3.71		0.130	mg/kg	3.33		111	40-130		
Di-n-octyl phthalate	3.78		0.200	mg/kg	3.33		113	40-130		
Dibenz(a,h)anthracene	3.37		0.130	mg/kg	3.33		101	40-130		
Dibenzofuran	3.39		0.130	mg/kg	3.33		102	40-130		
Diethyl phthalate	3.54		0.130	mg/kg	3.33		106	40-130		
Dimethyl phthalate	3.44		0.330	mg/kg	3.33		103	40-130		
Di-n-butyl phthalate	3.42		0.200	mg/kg	3.33		103	40-130		
Fluoranthene	3.35		0.130	mg/kg	3.33		101	40-130		
Fluorene	3.47		0.130	mg/kg	3.33		104	40-130		
Hexachlorobenzene	3.56		0.130	mg/kg	3.33		107	40-130		
Hexachlorobutadiene	3.82		0.130	mg/kg	3.33		115	40-130		
Hexachlorocyclopentadiene	3.62		0.330	mg/kg	3.33		109	40-130		
Hexachloroethane	2.74		0.130	mg/kg	3.33		82.2	40-130		
Indeno(1,2,3-cd)pyrene	3.26		0.130	mg/kg	3.33		97.7	40-130		
Isophorone	3.16		0.130	mg/kg	3.33		94.8	40-130		
Naphthalene	2.87		0.130	mg/kg	3.33		86.1	40-130		
N-Nitrosodimethylamine	2.68		0.130	mg/kg	3.33		80.4	40-130		
N-Nitrosodi-n-propylamine	2.88		0.130	mg/kg	3.33		86.4	40-130		
N-Nitrosodiphenylamine	4.31		0.130	mg/kg	3.33		129	40-130		
Pentachlorophenol	1.18		0.330	mg/kg	3.33		35.3	15-140		
Phenanthrene	3.67		0.130	mg/kg	3.33		110	40-130		
Pyrene	3.62		0.130	mg/kg	3.33		109	40-130		
m&p-Cresol	2.96		0.260	mg/kg	3.33		88.7	40-130		
Surrogate: Nitrobenzene-d5			*2.98*	mg/kg	*3.33*		*89.4*	*30-126*		
Surrogate: p-Terphenyl-d14			*3.34*	mg/kg	*3.33*		*100*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*3.15*	mg/kg	*3.33*		*94.4*	*34-130*		
Surrogate: Phenol-d6			*2.80*	mg/kg	*3.33*		*84.0*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*3.15*	mg/kg	*3.33*		*94.6*	*30-130*		
Surrogate: 2-Fluorophenol			*2.76*	mg/kg	*3.33*		*82.9*	*30-130*		

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0510 - EPA 3546 (Continued)										
LCS Dup (B2K0510-BSD2)					Prepared: 11/09/22 Analyzed: 11/15/22					
1,2,4-Trichlorobenzene	2.85		0.130	mg/kg	3.33		85.4	40-130	13.0	30
1,2-Dichlorobenzene	2.51		0.130	mg/kg	3.33		75.2	40-130	13.7	30
1,3-Dichlorobenzene	2.46		0.130	mg/kg	3.33		73.9	40-130	13.4	30
1,4-Dichlorobenzene	2.24		0.130	mg/kg	3.33		67.2	40-130	17.5	30
Phenol	2.39		0.130	mg/kg	3.33		71.6	40-130	14.6	30
2,4,5-Trichlorophenol	2.24		0.130	mg/kg	3.33		67.2	40-130	14.9	30
2,4,6-Trichlorophenol	2.39		0.130	mg/kg	3.33		71.8	40-130	11.1	30
2,4-Dichlorophenol	2.50		0.130	mg/kg	3.33		74.9	40-130	14.5	30
2,4-Dimethylphenol	2.10		0.330	mg/kg	3.33		63.1	40-130	15.0	30
2,4-Dinitrophenol	0.479		0.330	mg/kg	3.33		14.4	15-140	2.06	30
2,4-Dinitrotoluene	3.09		0.130	mg/kg	3.33		92.8	40-130	10.5	30
2,6-Dinitrotoluene	2.95		0.130	mg/kg	3.33		88.6	40-130	14.0	30
2-Chloronaphthalene	2.65		0.130	mg/kg	3.33		79.6	40-130	11.3	30
2-Chlorophenol	2.38		0.130	mg/kg	3.33		71.4	40-130	14.8	30
2-Methylnaphthalene	2.71		0.130	mg/kg	3.33		81.3	40-130	13.4	30
Nitrobenzene	2.60		0.130	mg/kg	3.33		77.9	40-130	12.8	30
2-Methylphenol	2.48		0.130	mg/kg	3.33		74.3	40-130	20.0	30
2-Nitroaniline	2.80		0.130	mg/kg	3.33		83.9	40-130	10.0	30
2-Nitrophenol	2.31		0.330	mg/kg	3.33		69.3	40-130	8.96	30
3-Nitroaniline	2.89		0.130	mg/kg	3.33		86.6	40-130	7.85	30
4,6-Dinitro-2-methylphenol	0.611		0.330	mg/kg	3.33		18.3	30-130	10.3	30
4-Bromophenyl phenyl ether	3.18		0.130	mg/kg	3.33		95.5	40-130	11.2	30
4-Chloro-3-methylphenol	2.77		0.130	mg/kg	3.33		83.1	40-130	15.7	30
4-Chlorophenyl phenyl ether	3.42		0.130	mg/kg	3.33		103	40-130	11.6	30
4-Nitroaniline	2.90		0.130	mg/kg	3.33		87.0	40-130	16.2	30
4-Nitrophenol	2.87		0.330	mg/kg	3.33		86.1	40-130	9.16	30
Acenaphthene	2.88		0.130	mg/kg	3.33		86.3	40-130	11.5	30
Acenaphthylene	2.87		0.130	mg/kg	3.33		86.0	40-130	11.2	30
Anthracene	3.29		0.130	mg/kg	3.33		98.6	40-130	9.80	30
Benzo(a)anthracene	3.24		0.130	mg/kg	3.33		97.3	40-130	11.0	30
Benzo(a)pyrene	3.55		0.130	mg/kg	3.33		106	40-130	9.62	30
Benzo(b)fluoranthene	3.51		0.130	mg/kg	3.33		105	40-130	13.7	30
Benzo(g,h,i)perylene	3.02		0.130	mg/kg	3.33		90.6	40-130	10.9	30
Benzo(k)fluoranthene	3.65		0.130	mg/kg	3.33		109	40-130	10.2	30
Biphenyl	0.671		0.040	mg/kg	0.833		80.6	40-130	8.74	30
Bis(2-chloroethoxy)methane	2.74		0.130	mg/kg	3.33		82.2	40-130	15.4	30
Bis(2-chloroethyl)ether	2.43		0.130	mg/kg	3.33		73.0	40-130	10.9	30
Bis(2-chloroisopropyl)ether	2.65		0.130	mg/kg	3.33		79.5	40-130	16.7	30
Bis(2-ethylhexyl)phthalate	3.09		0.400	mg/kg	3.33		92.7	40-130	11.2	30
Butyl benzyl phthalate	3.08		0.130	mg/kg	3.33		92.3	40-130	11.4	30
Chrysene	3.29		0.130	mg/kg	3.33		98.8	40-130	11.8	30
Di-n-octyl phthalate	3.34		0.200	mg/kg	3.33		100	40-130	12.3	30
Dibenz(a,h)anthracene	2.97		0.130	mg/kg	3.33		89.2	40-130	12.6	30
Dibenzofuran	3.00		0.130	mg/kg	3.33		90.1	40-130	12.3	30
Diethyl phthalate	3.27		0.130	mg/kg	3.33		98.0	40-130	7.92	30
Dimethyl phthalate	3.11		0.330	mg/kg	3.33		93.2	40-130	10.1	30
Di-n-butyl phthalate	3.05		0.200	mg/kg	3.33		91.5	40-130	11.5	30
Fluoranthene	3.11		0.130	mg/kg	3.33		93.4	40-130	7.40	30
Fluorene	3.14		0.130	mg/kg	3.33		94.1	40-130	10.1	30
Hexachlorobenzene	3.22		0.130	mg/kg	3.33		96.5	40-130	10.1	30
Hexachlorobutadiene	3.27		0.130	mg/kg	3.33		98.0	40-130	15.8	30
Hexachlorocyclopentadiene	3.20		0.330	mg/kg	3.33		95.9	40-130	12.6	30
Hexachloroethane	2.48		0.130	mg/kg	3.33		74.4	40-130	9.94	30
Indeno(1,2,3-cd)pyrene	2.92		0.130	mg/kg	3.33		87.6	40-130	10.8	30
Isophorone	2.77		0.130	mg/kg	3.33		83.0	40-130	13.3	30
Naphthalene	2.54		0.130	mg/kg	3.33		76.3	40-130	12.1	30
N-Nitrosodimethylamine	2.28		0.130	mg/kg	3.33		68.5	40-130	16.1	30

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0510 - EPA 3546 (Continued)										
LCS Dup (B2K0510-BSD2)					Prepared: 11/09/22 Analyzed: 11/15/22					
N-Nitrosodi-n-propylamine	2.59		0.130	mg/kg	3.33		77.6	40-130	10.7	30
N-Nitrosodiphenylamine	3.93		0.130	mg/kg	3.33		118	40-130	9.09	30
Pentachlorophenol	1.13		0.330	mg/kg	3.33		34.0	15-140	3.63	30
Phenanthrene	3.29		0.130	mg/kg	3.33		98.7	40-130	10.9	30
Pyrene	3.27		0.130	mg/kg	3.33		98.1	40-130	10.2	30
m&p-Cresol	2.53		0.260	mg/kg	3.33		75.9	40-130	15.7	30
Surrogate: Nitrobenzene-d5			*2.70*	mg/kg	*3.33*		*81.1*	*30-126*		
Surrogate: p-Terphenyl-d14			*3.00*	mg/kg	*3.33*		*89.9*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2.88*	mg/kg	*3.33*		*86.5*	*34-130*		
Surrogate: Phenol-d6			*2.45*	mg/kg	*3.33*		*73.6*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*2.75*	mg/kg	*3.33*		*82.6*	*30-130*		
Surrogate: 2-Fluorophenol			*2.36*	mg/kg	*3.33*		*70.8*	*30-130*		

Quality Control
(Continued)

Polychlorinated Biphenyls (PCBs)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0494 - EPA 3546										
Blank (B2K0494-BLK1)					Prepared: 11/09/22 Analyzed: 11/10/22					
Aroclor-1016	ND		0.066	mg/kg						
Aroclor-1221	ND		0.066	mg/kg						
Aroclor-1232	ND		0.066	mg/kg						
Aroclor-1242	ND		0.066	mg/kg						
Aroclor-1248	ND		0.066	mg/kg						
Aroclor-1254	ND		0.066	mg/kg						
Aroclor-1260	ND		0.066	mg/kg						
Aroclor-1262	ND		0.066	mg/kg						
Aroclor-1268	ND		0.066	mg/kg						
PCBs (Total)	ND		0.066	mg/kg						
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*0.0132*	mg/kg	*0.0133*		*99.3*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*0.0143*	mg/kg	*0.0133*		*107*	*43.3-130*		
LCS (B2K0494-BS1)					Prepared: 11/09/22 Analyzed: 11/10/22					
Aroclor-1016	0.163		0.066	mg/kg	0.167		97.6	58.2-125		
Aroclor-1242	ND		0.066	mg/kg				58.2-125		
Aroclor-1260	0.164		0.066	mg/kg	0.167		98.6	65.5-130		
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*0.0141*	mg/kg	*0.0133*		*106*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*0.0127*	mg/kg	*0.0133*		*94.9*	*43.3-130*		
LCS Dup (B2K0494-BSD1)					Prepared: 11/09/22 Analyzed: 11/10/22					
Aroclor-1016	0.167		0.066	mg/kg	0.167		100	58.2-125	2.73	20
Aroclor-1242	ND		0.066	mg/kg				58.2-125		20
Aroclor-1260	0.148		0.066	mg/kg	0.167		88.8	65.5-130	10.5	20
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*0.0130*	mg/kg	*0.0133*		*97.7*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*0.0132*	mg/kg	*0.0133*		*99.2*	*43.3-130*		

Quality Control
(Continued)

TCLP Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B2K0268 - Metals Digestion Waters										
LCS (B2K0268-BS1)					Prepared & Analyzed: 11/04/22					
Lead	4.41		0.025	mg/L	5.00		88.2	85-115		
Leach Fluid Blank (B2K0268-LBK1)					Prepared & Analyzed: 11/04/22					
Lead	ND		0.025	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.

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
1-888-863-8522

2 J 2 8003 L

Chain of Custody Record

Project No. 8013-02A	Project Name/Location: GURR Hopedale - Hopedale MA				Matrix					Tests**									
Client: Verdantas, LLC																			
Report To: Angela Boyd (aboyd@verdantas.com)																			
Invoice To: ap@verdantas.com (Reference Project Name & #)																			
Date	Time	Comp	Grab	Sample I.D.	Aqueous	Soil	Other	No. of Containers	Preservative	Metals (Pb)	Metals (RCRA8)	Corrosivity / Reactivity	Conductivity / Flashpoint	VOCs / SVOCs	PCBs				
10/25/2022	1445	X		Waste Characterization		X		5 • • • • •	MEH. NON		X	X	X	X	X				
10/25/2022	1455		X	SW (75')		X		1 •	NON	X									
10/25/2022	1505		X	W (75')		X		1 •	NON	X									
10/25/2022	1515		X	NW (75')		X		1 •	NON	X									
10/25/2022	1525		X	N (75')		X		1 •	NON	X									
10/25/2022	1535		X	NE (75')		X		1 •	NON	X									
10/25/2022	1545		X	A3 (24")		X		1 •	NON	X									

Sampled By:	Date/Time	Received By:	Date/Time	Laboratory Remarks:	Special Instructions:
			10/28 9:05		*Run TCLP if 20x Rule applies* EDD + PDF to aboyd; lflynn; @ verdantas.com
Relinquished By:	Date/Time	Received By:	Date/Time	Temp. Received: 5	
	10/28 1340		10/28 1340		

**Netlab Subcontracts the following tests: Radiologicals, Radon, TOC, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates

Turnaround Time [Business Days]: **5 Days**

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc. Project #: 8013-02A

Project Location: Hopedale, MA RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s): 2J28003

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

CAM Protocol (check all that apply below):

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

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?	☒ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ 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?	☒ Yes ☐ 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"?	☒ Yes ☐ 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?	☐ Yes ☐ No ☐ Yes ☐ 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)?	☒ Yes ☐ 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)?	☒ Yes ☐ No[1]

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?	☒ Yes ☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]

[1]*All 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**: 11/15/2022

APPENDIX B

MCP METHOD 3 TRESPASSER SHORT FORMS

Trespasser - Soil: Table TSIH-1
Exposure Point Concentration (EPC)
Based on Trespasser Ages 11-16 (Cancer) and 11-12 (Non-Cancer)

ShortForm Version 10-12
Vlookup Version v0315

ELCR (all chemicals) =
HI (all chemicals) = 8.7E-01

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	HQ_{total}
LEAD	3.4E+03				8.1E-01	6.7E-02	8.7E-01

Note! Lead IH HQ limit is 1, not 10.

MassDEP ORS
Contact: Lydia Thompson
Lydia.Thompson@state.ma.us
617-556-1165

Trespasser - Soil: Table TSIH-1
Exposure Point Concentration (EPC)
Based on Trespasser Ages 11-16 (Cancer) and 11-12 (Non-Cancer)

ShortForm Version 10-12
Vlookup Version v0315

ELCR (all chemicals) =
HI (all chemicals) = 8.0E-01

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	HQ_{total}
LEAD	5.8E+03				6.8E-01	1.1E-01	8.0E-01

Note! Lead IH HQ limit is 1, not 10.

MassDEP ORS
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