

FIRING LANE INVESTIGATION REPORT

FORESTBURGH POND RESIDENTIAL SUBDIVISION PROJECT ROUTE 42 AND 48 TOWN OF FORESTBURGH COUNTY OF SULLIVAN STATE OF NEW YORK

PREPARED FOR:

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Oneonta, New York 13820



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I. Introduction

Keystone Associates Architects, Engineers and Surveyors, LLC has prepared this summary report to document the findings of a limited soils investigation conducted at the property's Whitetail Hunting Club firing range where the concentrated shooting of lead bullets at an outdoor shooting lane was identified as a potential environmental concern to the Property. The Site is located at the intersection of Route 42 and 48 in the Town of Forestburgh, Sullivan County, New York. The club's firing range consists of a single shooting lane positioned within wooded areas near the easternmost boundary of the property. The property is under potential development as the Forestburgh Pond Residential Subdivision. The firing lane straddles proposed Lots 17 and 18. Refer to **Figure 1: Location Map**, **Figure 2: USGS Vicinity Map** and **Figure 3: Aerial Photo** and **Figure 4: Overall Location Map**.

The limited soils investigation was conducted on June 5, 2020. The general scope of work included the advancement of 24 surficial soil borings to a depth of up to six (6) inches, where a total of six (6) composite soil samples [four (4) grab locations per composite sample] were collected and analyzed for Total Lead and Toxicity Characteristics Leachability Procedure (TCLP) Lead. Such was performed to investigate the extent of potential lead contamination associated with historic firing lane operations. This scope of work was authorized by NY Land and Lakes' email correspondence dated June 1, 2020.

The following sections detail our observations and summarize the associated analytical results.

2. Investigation

The property has historically operated as the Whitetail Hunting Club dating back to the 1930's. It appears that the majority of non-hunting related shots have strategically been concentrated within a single firing lane, which provides a direct line of sight to a distance of approximately 100 yards. The firing lane is noted via signage along an existing trail and is improved with a single shooting bench. Stationary targets are positioned at approximately 25, 50, 75 and maximum range of 100 yards. The firing lane consists of natural soil and bedrock contours providing backstop without evidence of surficial watercourse(s) in the immediate vicinity of the firing lane. Refer to **Appendix A: Photograph Documentation**.

Keystone provided a Senior Environmental Scientist to coordinate investigation efforts including determination of boring locations, sample quantities and sampling depths required to provide a limited site characterization for lead concentrations. The selected method included collecting six (6) composite soil samples at various distances across the firing lane using decontaminated stainless steel hand trowel equipment. Note that each composite sample consisted of a mix of four (4) grab samples collected from a similar vicinity and distance. Use of composite samples was selected in order to provide a larger analyzed surface area while minimizing analytical costs. It should be known that during the investigation, sample depths were limited to less than six (6) inches due to the presence of surficial bedrock across the area. Although considered a limitation, such shallow depths were deemed appropriate as they correlate with the greatest potential for lead accumulation near the ground surface.

In order to provide spacial coverage of the entire firing lane, samples were collected from various distances. Sample "Composite-1" was collected from four (4) locations immediately surrounding the shooting bench where multiple spent casings were observed. Sample "Composite-2" was collected from four (4) locations in the vicinity of the 25 yard target setups. Sample "Composite-3" was collected from four (4) locations in the vicinity of the 50 yard target setups. Sample "Composite-4" was collected from four (4) locations in the vicinity of the 100 yard target setups, at the left (west) side of the lane. Sample "Composite-5" was collected from four (4) locations in the vicinity of the 100 yard target setups, at the center (north) portion of the lane. Sample "Composite-6" was collected from four (4) locations in the vicinity of the 100 yard target setups, at the right (east) side of the lane. Refer to Figure 5 – Soil Sample Location Map. The predominant lithology consisted of dry topsoil atop fine, brown sandy soils.

The soil samples were submitted to Alpha Analytical of Westborough, Massachusetts with chain of custody documentation and analyzed for Total Lead and TCLP Lead as summarized in Table I. Sample chain of custody and laboratory analytical reports are provided as **Appendix B**.

The Total Lead and TCLP Lead analytical results were compared to applicable New York State Soil Cleanup Objectives (SCOs) and United States Environmental Protection Agency's Max Concentrations for Toxicity Characteristic value, respectively. In summary, the analytical results identified exceedances of the State's Unrestricted Use SCOs within samples Composite-2, 3, 4, 5 and 6 with exceedances of the State's applicable Restricted Use Residential SCO in samples Composite-3 and 5. Results of samples Composite-3 and 5 also exceeded the USEPA's Max Toxicity Characteristic value. Specific values were identified as follows:

- In samples Composite-2, 4 and 6 Total Lead was detected at 113 mg/kg, 346 mg/kg and 278 mg/kg, respectively which exceeds the Unrestricted Use SCO of 63 mg/kg but remained below the applicable Restricted Use Residential SCO of 400 mg/kg.
- In samples Composite-3 and 5 Total Lead was detected at 870 mg/kg and 15,200 mg/kg respectively which exceeds the Unrestricted Use SCO of 63 mg/kg and the applicable Restricted Use Residential SCO of 400 mg/kg.
- In samples Composite-3 and 5 TCLP Lead was detected at 28.9 mg/kg and 218 mg/kg, respectively which exceeds the USEPA Max Concentration for Toxicity Characteristic value of 5 mg/kg.

3. Conclusions

The following conclusions were developed based on the observations during the soil investigation and results of the confirmatory sampling.

On June 5, 2020, a limited soils investigation was conducted to determine the extent of lead contamination in the vicinity of the outdoor firing lane. The general scope of work included the advancement of 24 surficial soil borings to a depth of up to six (6) inches, where a total of six (6) composite soil samples [four (4) grab locations per composite sample] were collected and analyzed for Total Lead and TCLP Lead. Such was performed to investigate the extent of potential lead contamination associated with historic firing lane operations and determine whether additional investigation is warranted.

As stated above in Section 2.0, the analytical results were then compared to applicable New York State Soil Cleanup Objectives (SCOs) as well as the United States Environmental Protection Agency's Max Concentrations for Toxicity Characteristic value. In summary, the analytical results identify exceedances of the State's Unrestricted Use SCOs occurred within samples Composite-2, 3, 4, 5 and 6 with exceedances of the State's applicable Restricted Use Residential SCO in samples Composite-3 and 5.

As samples Composite-4 and 6 were collected from the left and right sides of the firing range at a distance of 100 yards and remained below the applicable Restricted Use SCO and sample Composite-5 showed significant exceedances collected from the center of the firing lane at the same 100 yard distance, it appears the contamination may be concentrated within the center of the firing lane. However, additional testing would be required to verify the horizontal and vertical extent of contamination as well as whether impact to groundwater has occurred.

Additionally, results of samples Composite-3 and 5 exceeded the USEPA's Max Toxicity Characteristic value. Such exceedances identifies that soil as "hazardous" material in regard to disposal which may not be accepted at certain landfills. Typically such materials have increased tipping fees and specific transportation/labeling requirements. However, it should be known that these samples were collected directly from the greatest source of lead accumulation at the ground surface in the center of the firing lane and may test below hazardous criteria if re-sampling were to occur at greater depths or if source removal were to occur, where samples would be collected from an increased volume of soil (e.g. soil stockpiles).

4. Certification

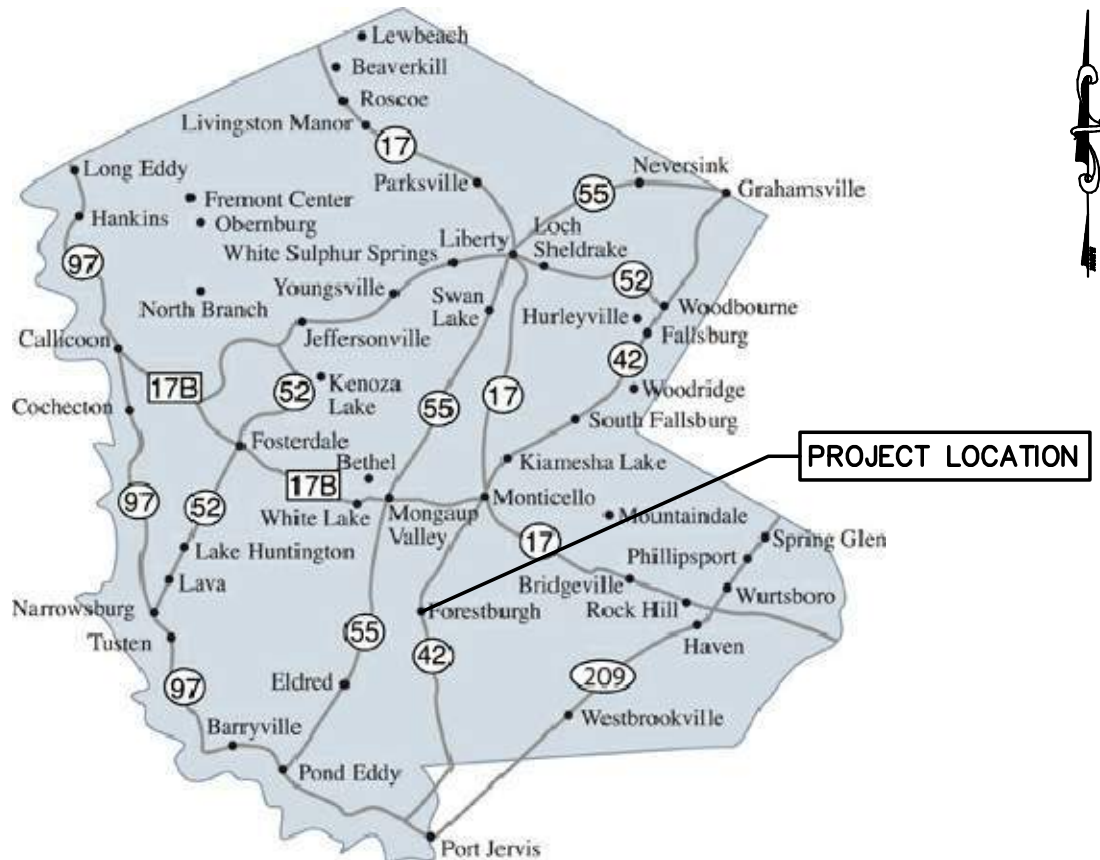
The reported analyses, opinions and conclusions are personal, unbiased, professional and limited only by the assumptions and qualifications stated herein. Compensation is not contingent upon an action or an event resulting from the analyses, opinions or conclusions in, or the use of this report.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a Site of the nature, history, and setting of the Property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

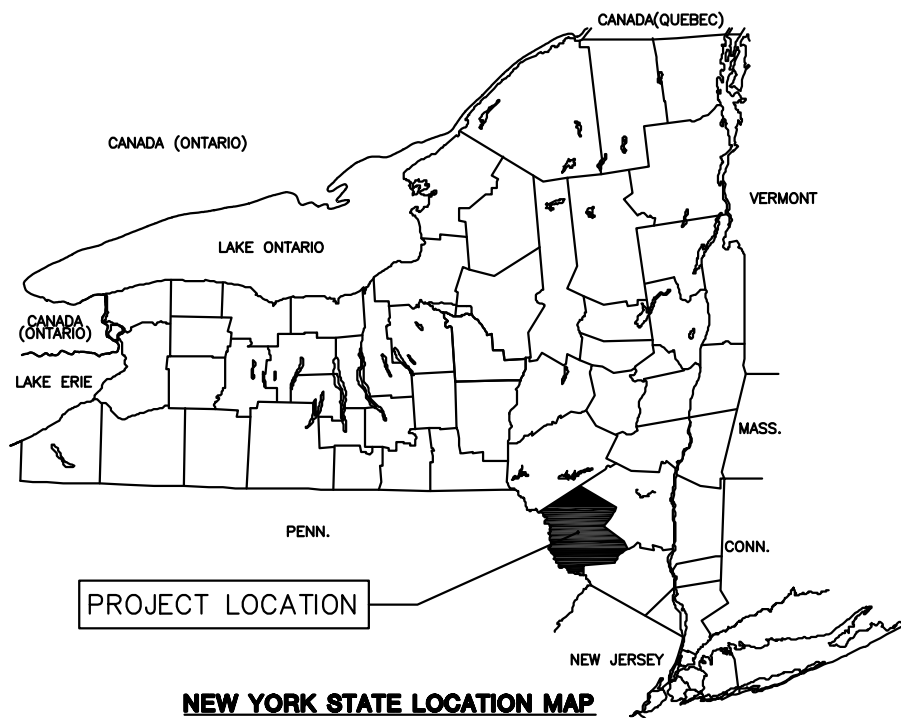


Timothy M. O'Connor, C.E.P.
Senior Environmental Scientist

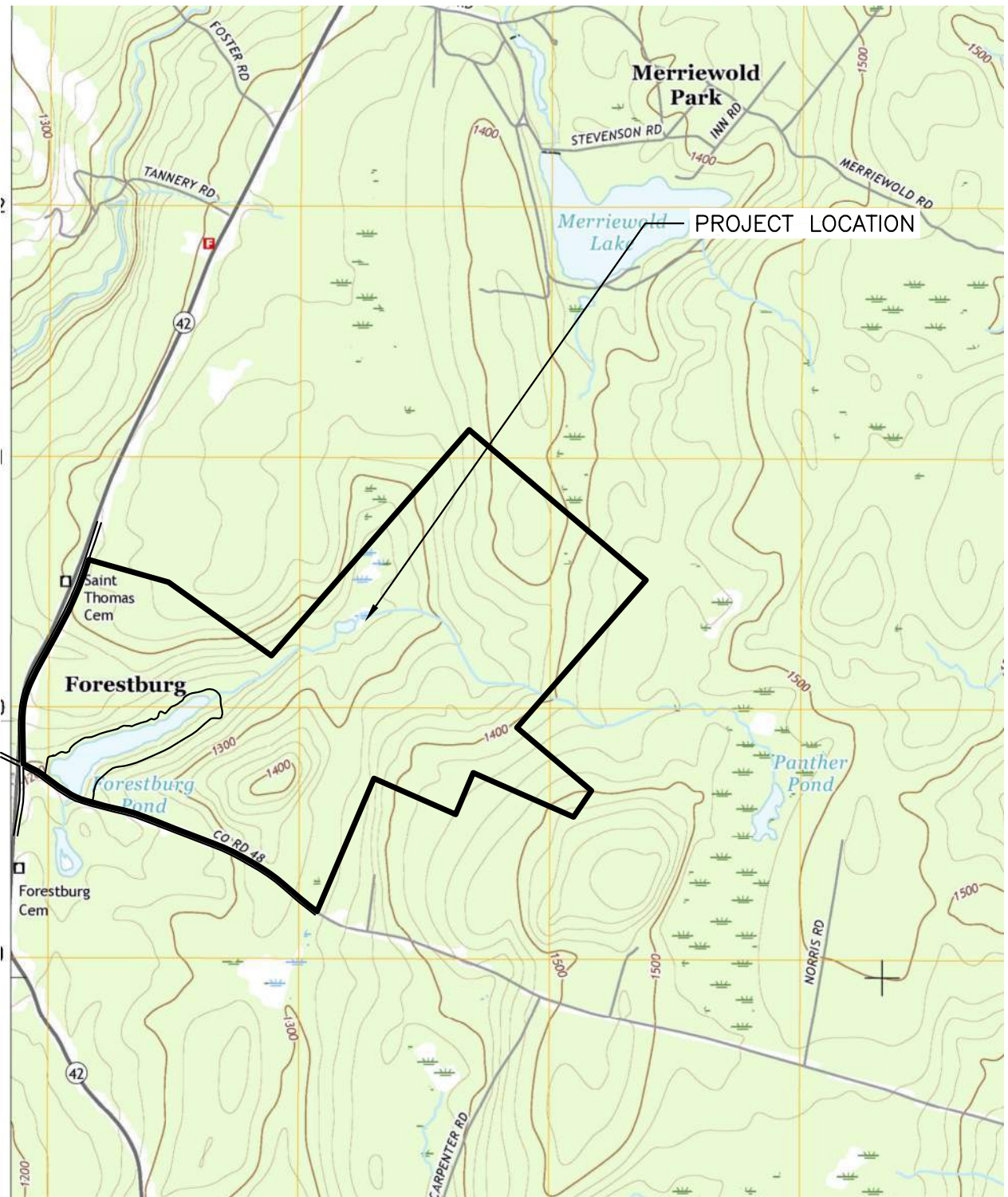
FIGURES AND TABLES



SULLIVAN COUNTY LOCATION MAP
NOT TO SCALE



NEW YORK STATE LOCATION MAP
NOT TO SCALE



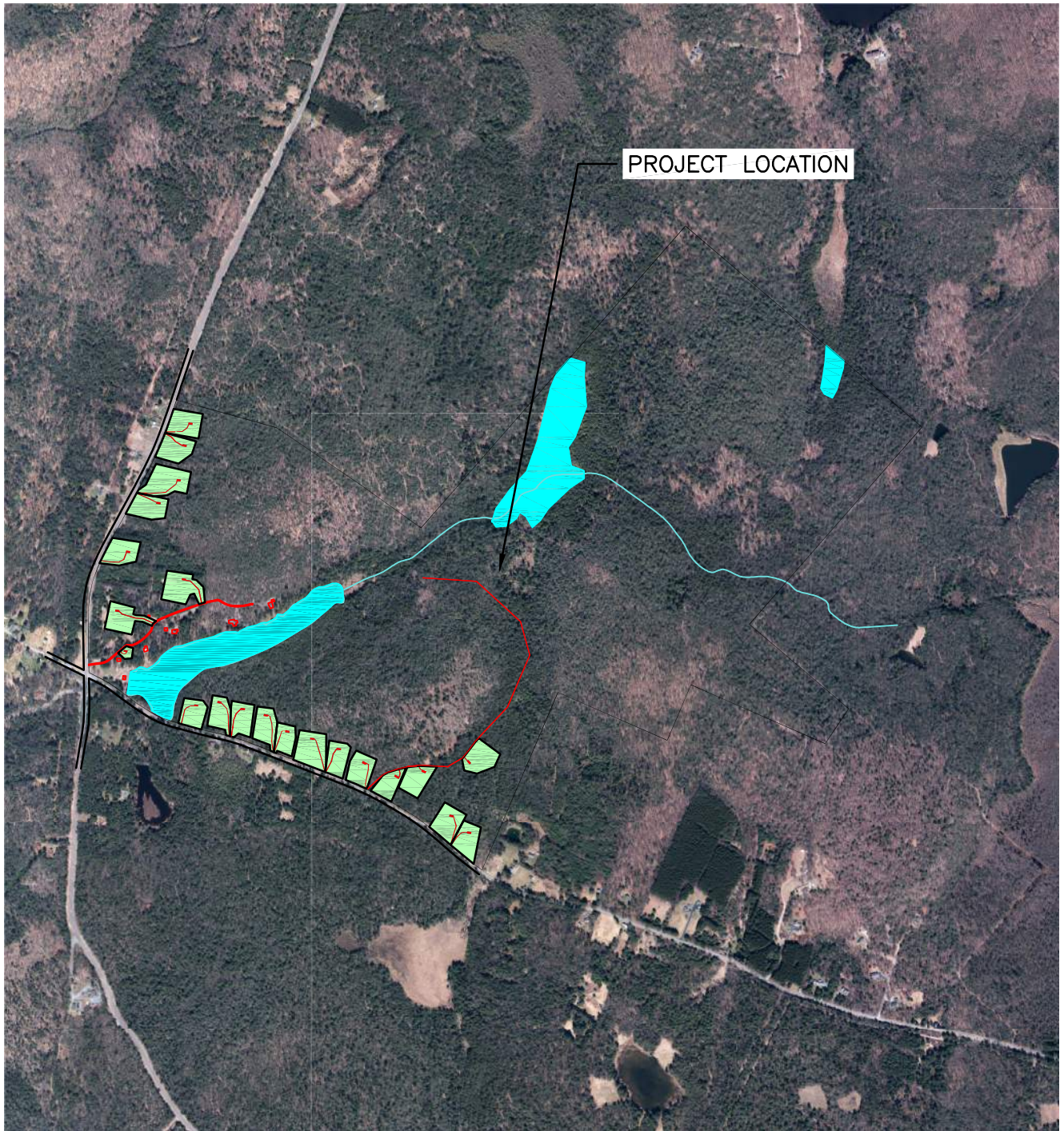
SCALE: 1" = 2,000'

**QUAD NAME:
HARTWOOD, NY
2016**



FORESTBURGH POND
FIRING LANE INVESTIGATION
NYS ROUTE 42
TOWN OF FORESTBURGH
SULLIVAN COUNTY NEW YORK STATE
KEYSTONE PROJECT #0392.12119

FIGURE NO. 2
USGS VICINITY MAP

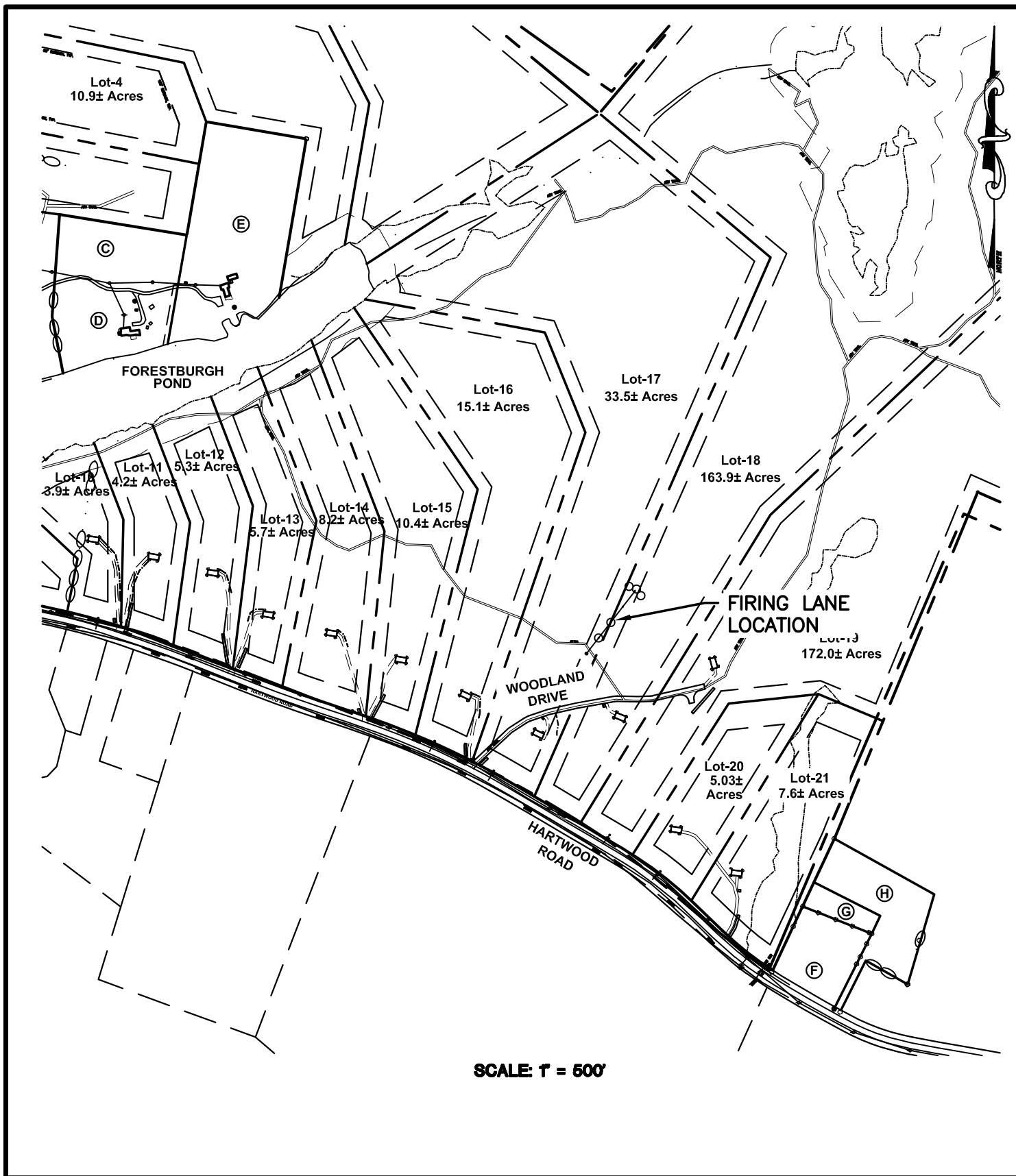


SCALE: 1" = 1500'



FORESTBURGH POND
FIRING LANE INVESTIGATION
NYS ROUTE 42
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SULLIVAN COUNTY NEW YORK STATE
KEYSTONE PROJECT #0392.12119

FIGURE NO. 3
AERIAL PHOTO



SCALE: 1" = 500'



FORESTBURGH POND
FIRING LANE INVESTIGATION
NYS ROUTE 42
TOWN OF FORESTBURGH
SULLIVAN COUNTY NEW YORK STATE
KEYSTONE PROJECT #0392.12119

FIGURE NO. 4
OVERALL LOCATION
MAP

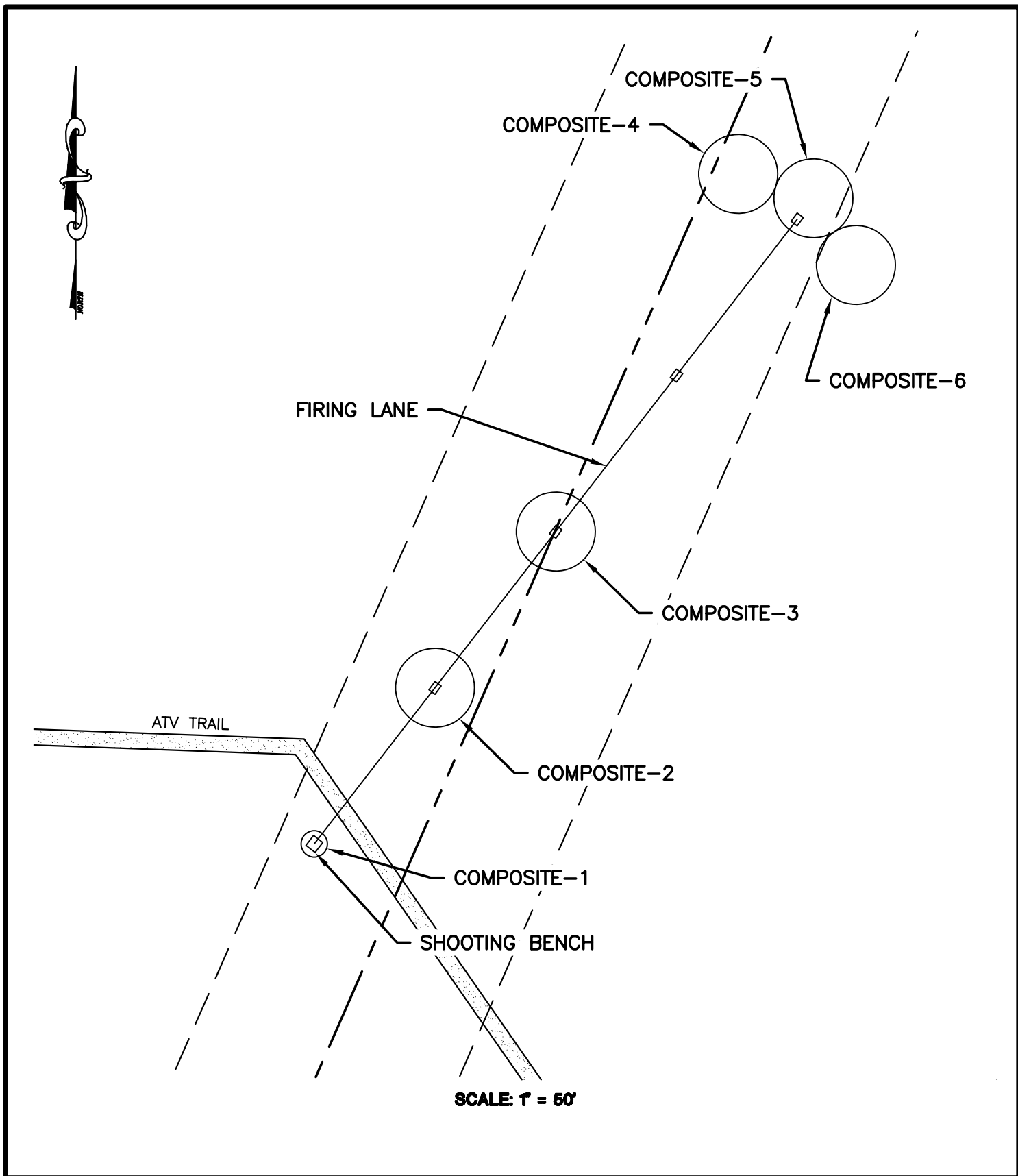


Table 1
Soil Analytical Results - June 5, 2020
Forestburgh Pond Firing Lane
Town of Forestburgh, Sullivan County, New York
Keystone Project No. 0392.12119

Boring Identification	Composite-1 (Bench)	Composite-2 (25)	Composite-3 (50)	Composite-4 (100)	Composite-5 (100)	Composite-6 (100)	USEPA Max Concentration for Toxicity Characteristic	NYSDEC Unrestricted Use SCOs	NYSDEC Restricted Use SCOs (Residential)	NYSDEC Restricted Use SCOs (Restricted Residential)	NYSDEC Restricted Use SCOs (Commercial)	NYSDEC Restricted Use SCOs (Industrial)	NYSDEC Protection of Ecological Resources	NYSDEC Protection of Groundwater
Sample Depth	(0-6")	(0-6")	(0-6")	(0-6")	(0-6")	(0-6")	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Total Lead by Method EPA 3050B (mg/kg = ppm)														
Total Lead	33.6	113	870	346	15,200	278	NA	63 ^C	400	400	1,000	3,900	63 ^F	450
TCLP Metals by Method EPA 1311 (mg/l = ppm)														
TCLP Lead	ND<0.5	0.124	28.9	1.10	218	0.168	5.00	NA	NA	NA	NA	NA	NA	NA

Notes

Total Lead regulations based on NYSDEC Part 375-6.8 Soil Cleanup Objectives (SCOs) issued December 14, 2006.

Toxicity Characteristics Leaching Procedure (TCLP) regulations based on USEPA Table 1 - Maximum Concentration of Contaminants for Toxicity Characteristic

All results and standards in milligram per kilogram (mg/kg) or mg/l which equals parts per million (ppm).

Sample depth in inches below ground surface

NA = Not applicable

ND = Not detected above the laboratory reporting limit

C = SCOs for industrial use and protection of groundwater are capped at a maximum of 1,000 ppm. See TSD Section 9.3.

F = The Department of Health rural soil survey background concentration should be used as the Track 2 SCO value for this use of the Site.

Lightly shaded data exceeds the NYSDEC Unrestricted Use SCOs

Moderately shaded data exceeds the NYSDEC Restricted Use Residential SCOs

Gold shaded data exceeds the USEPA Max Concentration for Toxicity Characteristic

APPENDIX A: PHOTOGRAPH DOCUMENTATION



Photo No. 1

Date 6/5/20

Location:
Firing lane entranceway off trail system.

Subject:
View of signage leading off existing trail to the firing lane at east end of property.



Photo No. 2

Date 6/5/20

Location:
Firing lane bench.

Subject:
View of the firing lane bench area.



Photo No. 3

Date 6/5/20

Location:
Firing lane bench.

Subject:
View from the firing lane
bench facing down the single
shooting lane towards the
natural bedrock backstop at
100 yards.



Photo No. 4

Date 6/5/20

Location:
Firing lane.

Subject:
View from in front of the
shooting bench facing down
the firing lane.



Photo No. 5

Date 6/5/20

Location:
Target location.

Subject:
View of example target
setup positioned at specific
intervals across the firing
lane.



Photo No. 6

Date 6/5/20

Location:
Target location.

Subject:
View of target setup at 75
yard location with view of
100 yard targets in the
background.



Photo No. 7

Date 6/5/20

Location:
Target location.

Subject:
View of the target setup at the 100 yard max distance of the firing lane. Sample Composite-4 was collected to the left, Composite-5 was collected to the rear of the target, and Composite-6 was collected on the right hand side of the firing lane.



Photo No. 8

Date 6/5/20

Location:
Target location.

Subject:
View of from the 100 yard backstop facing back towards the shooting bench.

APPENDIX B: LABORATORY ANALYTICAL REPORTS



ANALYTICAL REPORT

Lab Number:	L2024245
Client:	Keystone Associates 58 Exchange Street Binghamton, NY 13901
ATTN:	Tim O'Connor
Phone:	(607) 722-1100
Project Name:	FORESTBURG FIRING LANE
Project Number:	0392.12119
Report Date:	06/17/20

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2024245
Report Date: 06/17/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2024245-01	COMPOSITE-1 (BENCH)	SOIL	ROUTE 48	06/05/20 13:00	06/08/20
L2024245-02	COMPOSITE-2 (25)	SOIL	ROUTE 48	06/05/20 13:20	06/08/20
L2024245-03	COMPOSITE-3 (50)	SOIL	ROUTE 48	06/05/20 13:35	06/08/20
L2024245-04	COMPOSITE-4 (100)	SOIL	ROUTE 48	06/05/20 13:50	06/08/20
L2024245-05	COMPOSITE-5 (100)	SOIL	ROUTE 48	06/05/20 14:05	06/08/20
L2024245-06	COMPOSITE-6 (100)	SOIL	ROUTE 48	06/05/20 14:20	06/08/20

Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2024245
Report Date: 06/17/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2024245
Report Date: 06/17/20

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 06/17/20

METALS

Project Name: FORESTBURG FIRING LANE**Lab Number:** L2024245**Project Number:** 0392.12119**Report Date:** 06/17/20**SAMPLE RESULTS**

Lab ID: L2024245-01

Date Collected: 06/05/20 13:00

Client ID: COMPOSITE-1 (BENCH)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 68%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	33.6		mg/kg	2.93	0.157	1	06/12/20 20:34	06/17/20 14:25	EPA 3050B	1,6010D	LC



Project Name: FORESTBURG FIRING LANE**Lab Number:** L2024245**Project Number:** 0392.12119**Report Date:** 06/17/20**SAMPLE RESULTS**

Lab ID: L2024245-02

Date Collected: 06/05/20 13:20

Client ID: COMPOSITE-2 (25)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 61%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	113		mg/kg	3.22	0.173	1	06/12/20 20:34	06/17/20 14:39	EPA 3050B	1,6010D	LC



Project Name: FORESTBURG FIRING LANE**Lab Number:** L2024245**Project Number:** 0392.12119**Report Date:** 06/17/20**SAMPLE RESULTS**

Lab ID: L2024245-03

Date Collected: 06/05/20 13:35

Client ID: COMPOSITE-3 (50)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 65%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	870		mg/kg	2.90	0.156	1	06/12/20 20:34	06/17/20 14:43	EPA 3050B	1,6010D	LC



Project Name: FORESTBURG FIRING LANE**Lab Number:** L2024245**Project Number:** 0392.12119**Report Date:** 06/17/20**SAMPLE RESULTS**

Lab ID: L2024245-04

Date Collected: 06/05/20 13:50

Client ID: COMPOSITE-4 (100)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 67%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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Total Metals - Mansfield Lab

Lead, Total	346		mg/kg	2.84	0.152	1	06/12/20 20:34	06/17/20 14:48	EPA 3050B	1,6010D	LC
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Project Name: FORESTBURG FIRING LANE**Lab Number:** L2024245**Project Number:** 0392.12119**Report Date:** 06/17/20**SAMPLE RESULTS**

Lab ID: L2024245-05

Date Collected: 06/05/20 14:05

Client ID: COMPOSITE-5 (100)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	15200		mg/kg	2.68	0.144	1	06/12/20 20:34	06/17/20 14:52	EPA 3050B	1,6010D	BV



Project Name: FORESTBURG FIRING LANE**Lab Number:** L2024245**Project Number:** 0392.12119**Report Date:** 06/17/20**SAMPLE RESULTS**

Lab ID: L2024245-06

Date Collected: 06/05/20 14:20

Client ID: COMPOSITE-6 (100)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 67%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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Total Metals - Mansfield Lab

Lead, Total	278		mg/kg	2.94	0.158	1	06/12/20 20:34	06/17/20 14:57	EPA 3050B	1,6010D	BV
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Project Name: FORESTBURG FIRING LANE

Lab Number: L2024245

Project Number: 0392.12119

Report Date: 06/17/20

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-06 Batch: WG1381055-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	06/12/20 20:34	06/17/20 08:49	1,6010D	LC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis**Batch Quality Control****Project Name:** FORESTBURG FIRING LANE**Project Number:** 0392.12119**Lab Number:** L2024245**Report Date:** 06/17/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1381055-2 SRM Lot Number: D109-540								
Lead, Total	87		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2024245
Report Date: 06/17/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1381055-3 QC Sample: L2024140-01 Client ID: MS Sample												
Lead, Total	98.8	48.9	132	68	Q	-	-		75-125	-		20



Lab Duplicate Analysis
Batch Quality Control

Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2024245
Report Date: 06/17/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1381055-4 QC Sample: L2024140-01 Client ID: DUP Sample						
Lead, Total	98.8	117	mg/kg	17		20

INORGANICS & MISCELLANEOUS

Project Name: FORESTBURG FIRING LANE**Project Number:** 0392.12119**Lab Number:** L2024245**Report Date:** 06/17/20**SAMPLE RESULTS****Lab ID:** L2024245-01**Client ID:** COMPOSITE-1 (BENCH)**Sample Location:** ROUTE 48**Date Collected:** 06/05/20 13:00**Date Received:** 06/08/20**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	67.9		%	0.100	NA	1	-	06/11/20 10:26	121,2540G	RI



Project Name: FORESTBURG FIRING LANE**Project Number:** 0392.12119**Lab Number:** L2024245**Report Date:** 06/17/20**SAMPLE RESULTS****Lab ID:** L2024245-02**Client ID:** COMPOSITE-2 (25)**Sample Location:** ROUTE 48**Date Collected:** 06/05/20 13:20**Date Received:** 06/08/20**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	61.0		%	0.100	NA	1	-	06/11/20 10:26	121,2540G	RI



Project Name: FORESTBURG FIRING LANE**Project Number:** 0392.12119**Lab Number:** L2024245**Report Date:** 06/17/20**SAMPLE RESULTS****Lab ID:** L2024245-03**Client ID:** COMPOSITE-3 (50)**Sample Location:** ROUTE 48**Date Collected:** 06/05/20 13:35**Date Received:** 06/08/20**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	65.0		%	0.100	NA	1	-	06/11/20 10:26	121,2540G	RI



Project Name: FORESTBURG FIRING LANE**Project Number:** 0392.12119**Lab Number:** L2024245**Report Date:** 06/17/20**SAMPLE RESULTS****Lab ID:** L2024245-04**Client ID:** COMPOSITE-4 (100)**Sample Location:** ROUTE 48**Date Collected:** 06/05/20 13:50**Date Received:** 06/08/20**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	66.6		%	0.100	NA	1	-	06/11/20 10:26	121,2540G	RI



Project Name: FORESTBURG FIRING LANE**Project Number:** 0392.12119**Lab Number:** L2024245**Report Date:** 06/17/20**SAMPLE RESULTS****Lab ID:** L2024245-05**Client ID:** COMPOSITE-5 (100)**Sample Location:** ROUTE 48**Date Collected:** 06/05/20 14:05**Date Received:** 06/08/20**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	73.7		%	0.100	NA	1	-	06/11/20 10:26	121,2540G	RI



Project Name: FORESTBURG FIRING LANE**Project Number:** 0392.12119**Lab Number:** L2024245**Report Date:** 06/17/20**SAMPLE RESULTS****Lab ID:** L2024245-06**Client ID:** COMPOSITE-6 (100)**Sample Location:** ROUTE 48**Date Collected:** 06/05/20 14:20**Date Received:** 06/08/20**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	66.5		%	0.100	NA	1	-	06/11/20 10:26	121,2540G	RI



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** FORESTBURG FIRING LANE**Project Number:** 0392.12119**Lab Number:** L2024245**Report Date:** 06/17/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1380328-1 QC Sample: L2024204-01 Client ID: DUP Sample						
Solids, Total	82.9	82.2	%	1		20

Project Name: FORESTBURG FIRING LANE**Lab Number:** L2024245**Project Number:** 0392.12119**Report Date:** 06/17/20**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2024245-01A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2024245-01B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TS(7)
L2024245-02A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2024245-02B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TS(7)
L2024245-03A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2024245-03B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TS(7)
L2024245-04A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2024245-04B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TS(7)
L2024245-05A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2024245-05B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TS(7)
L2024245-06A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2024245-06B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TS(7)

Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2024245
Report Date: 06/17/20

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2024245
Report Date: 06/17/20

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)-(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration

Report Format: DU Report with 'J' Qualifiers



Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2024245
Report Date: 06/17/20

Data Qualifiers

Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2024245
Report Date: 06/17/20

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 17

Published Date: 4/28/2020 9:42:21 AM

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Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**EPA TO-12** Non-methane organics**EPA 3C** Fixed gases**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg. **EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

6/10/20
CMB



ANALYTICAL REPORT

Lab Number:	L2023636
Client:	Keystone Associates 58 Exchange Street Binghamton, NY 13901
ATTN:	Tim O'Connor
Phone:	(607) 722-1100
Project Name:	FORESTBURG FIRING LANE
Project Number:	0392.12119
Report Date:	06/15/20

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2023636
Report Date: 06/15/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2023636-01	COMPOSITE-1 (BENCH)	SOIL	ROUTE 48	06/05/20 13:00	06/08/20
L2023636-02	COMPOSITE-2 (25)	SOIL	ROUTE 48	06/05/20 13:20	06/08/20
L2023636-03	COMPOSITE-3 (50)	SOIL	ROUTE 48	06/05/20 13:35	06/08/20
L2023636-04	COMPOSITE-4 (100)	SOIL	ROUTE 48	06/05/20 13:50	06/08/20
L2023636-05	COMPOSITE-5 (100)	SOIL	ROUTE 48	06/05/20 14:05	06/08/20
L2023636-06	COMPOSITE-6 (100)	SOIL	ROUTE 48	06/05/20 14:20	06/08/20

Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2023636
Report Date: 06/15/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2023636
Report Date: 06/15/20

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative

Date: 06/15/20

METALS

Project Name: FORESTBURG FIRING LANE**Lab Number:** L2023636**Project Number:** 0392.12119**Report Date:** 06/15/20**SAMPLE RESULTS**

Lab ID: L2023636-01

Date Collected: 06/05/20 13:00

Client ID: COMPOSITE-1 (BENCH)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 06/09/20 16:40

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	0.027	1	06/11/20 14:03	06/13/20 15:19	EPA 3015	1,6010D	PE



Project Name: FORESTBURG FIRING LANE**Lab Number:** L2023636**Project Number:** 0392.12119**Report Date:** 06/15/20**SAMPLE RESULTS**

Lab ID: L2023636-02

Date Collected: 06/05/20 13:20

Client ID: COMPOSITE-2 (25)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 06/09/20 16:40

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	0.124	J	mg/l	0.500	0.027	1	06/11/20 14:03	06/13/20 15:23	EPA 3015	1,6010D	PE



Project Name: FORESTBURG FIRING LANE**Lab Number:** L2023636**Project Number:** 0392.12119**Report Date:** 06/15/20**SAMPLE RESULTS**

Lab ID: L2023636-03

Date Collected: 06/05/20 13:35

Client ID: COMPOSITE-3 (50)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 06/09/20 16:40

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	28.9		mg/l	0.500	0.027	1	06/11/20 14:03	06/13/20 16:16	EPA 3015	1,6010D	PE



Project Name: FORESTBURG FIRING LANE**Lab Number:** L2023636**Project Number:** 0392.12119**Report Date:** 06/15/20**SAMPLE RESULTS**

Lab ID: L2023636-04

Date Collected: 06/05/20 13:50

Client ID: COMPOSITE-4 (100)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 06/09/20 16:40

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	1.10		mg/l	0.500	0.027	1	06/11/20 14:03	06/13/20 17:08	EPA 3015	1,6010D	PE



Project Name: FORESTBURG FIRING LANE**Lab Number:** L2023636**Project Number:** 0392.12119**Report Date:** 06/15/20**SAMPLE RESULTS**

Lab ID: L2023636-05

Date Collected: 06/05/20 14:05

Client ID: COMPOSITE-5 (100)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 06/09/20 16:40

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	218		mg/l	0.500	0.027	1	06/11/20 14:03	06/13/20 17:56	EPA 3015	1,6010D	PE



Project Name: FORESTBURG FIRING LANE**Lab Number:** L2023636**Project Number:** 0392.12119**Report Date:** 06/15/20**SAMPLE RESULTS**

Lab ID: L2023636-06

Date Collected: 06/05/20 14:20

Client ID: COMPOSITE-6 (100)

Date Received: 06/08/20

Sample Location: ROUTE 48

Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 06/09/20 16:40

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	0.168	J	mg/l	0.500	0.027	1	06/11/20 14:03	06/13/20 18:01	EPA 3015	1,6010D	PE



Project Name: FORESTBURG FIRING LANE

Lab Number: L2023636

Project Number: 0392.12119

Report Date: 06/15/20

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-06 Batch: WG1380466-1										
Lead, TCLP	ND		mg/l	0.500	0.027	1	06/11/20 13:30	06/12/20 14:44	1,6010D	BV

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 06/08/20 22:59



Lab Control Sample Analysis**Batch Quality Control****Project Name:** FORESTBURG FIRING LANE**Project Number:** 0392.12119**Lab Number:** L2023636**Report Date:** 06/15/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-06 Batch: WG1380466-2								
Lead, TCLP	96		-		75-125	-		20

Matrix Spike Analysis

Batch Quality Control

Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2023636
Report Date: 06/15/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1380466-3 QC Sample: L2022759-01 Client ID: MS Sample												
Lead, TCLP	2.03	5.1	7.06	99		-	-		75-125	-		20

Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L2023636
Report Date: 06/15/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1380466-4 QC Sample: L2022759-01 Client ID: DUP Sample						
Lead, TCLP	2.03	1.98	mg/l	2		20

Project Name: FORESTBURG FIRING LANE**Lab Number:** L2023636**Project Number:** 0392.12119**Report Date:** 06/15/20**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2023636-01A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-01B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.3	Y	Absent		PB-CI(180)
L2023636-01X9	Tumble Vessel	A	NA		2.3	Y	Absent		-
L2023636-02A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-02B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-02X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.3	Y	Absent		PB-CI(180)
L2023636-02X9	Tumble Vessel	A	NA		2.3	Y	Absent		-
L2023636-03A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-03B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-03X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.3	Y	Absent		PB-CI(180)
L2023636-03X9	Tumble Vessel	A	NA		2.3	Y	Absent		-
L2023636-04A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-04B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-04X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.3	Y	Absent		PB-CI(180)
L2023636-04X9	Tumble Vessel	A	NA		2.3	Y	Absent		-
L2023636-05A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-05B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-05X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.3	Y	Absent		PB-CI(180)
L2023636-05X9	Tumble Vessel	A	NA		2.3	Y	Absent		-
L2023636-06A	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-06B	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		-
L2023636-06X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.3	Y	Absent		PB-CI(180)

Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Serial_No:06152012:17
Lab Number: L2023636
Report Date: 06/15/20

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2023636-06X9	Tumble Vessel	A	NA		2.3	Y	Absent		-

Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2023636
Report Date: 06/15/20

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2023636
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- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e., co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration

Report Format: DU Report with 'J' Qualifiers



Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2023636
Report Date: 06/15/20

Data Qualifiers

Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: FORESTBURG FIRING LANE
Project Number: 0392.12119

Lab Number: L2023636
Report Date: 06/15/20

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 17

Published Date: 4/28/2020 9:42:21 AM

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Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**EPA TO-12** Non-methane organics**EPA 3C** Fixed gases**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg. **EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

of

6/9/20

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