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Pre-Design Soil Investigation Report

**Former Ithaca Gun Factory
121 – 125 Lake Street
City of Ithaca, Tompkins County, New York
Site No. C755019**

**February 14, 2024
Revised April 16, 2024
C & S Project X55.001.002**

Pre-Design Soil Investigation Report

for

**Former Ithaca Gun Factory
121 – 125 Lake Street
City of Ithaca, Tompkins County, New York
Site No. C755019**

Prepared by:



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February 2024

Revised April 16, 2024

CERTIFICATION

I, H. Nevin Bradford, III, certify that I am currently a NYS Registered Professional Engineer as defined in 6 NYCRR Part 375 and that this Pre-Design Investigation Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).



H. Nevin Bradford, III, P.E.

State of New York Professional Engineer No. 086008



April 16, 2024

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List of Acronyms



AMSL	Above Mean Sea Level
ASP	Analytical Services Protocol
BCP	New York State Brownfield Cleanup Program
BGS	Below Ground Surface
DUSR	Data Usability Summary Report
EDD	Electronic Data Deliverable
ELAP	NYSDOH Environmental Laboratory Approval Program
GPS	Global Positioning System
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NYCRR Part 375	Part 375 of Title 6 of New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDEC DER-10	NYDEC Technical Guidance for Site Investigation and Remediation
NYSDOH	New York State Department of Health
PCB	Polychlorinated Biphenyl
PDI	Pre-Design Investigation
PFAS	Per- and Polyfluoralkyl Substances
PFOA	Perfluorooctanoic Acid
SCO	Soil Cleanup Objective
SVOC	Semi-Volatile Organic Compound
VOC	Volatile Organic Compound
TAL	Target Analyte List
TCLP	Toxicity Characteristic Leaching Procedure

1. Introduction

The following outlines the pre-design investigation (PDI) activities conducted at the former Ithaca Gun Factory BCP site to collect supplemental information that was necessary to finalize the soil remediation design. The PDI activities were completed as outlined in the approved PDI work plan dated August 9, 2022.

1.1. Site Background

The Former Ithaca Gun Factory Site (the site) is located at 121 – 125 Lake Street in the northeastern section of the City of Ithaca, Tompkins County, New York. The site is located north of Lake Street and south of Falls Creek and consists of 1.63 acres of vacant land that was recently acquired by 121-125 Lake Street, LLC. The site is bordered to the north by Falls Creek and the City of Ithaca Natural Area, to the south and east by multi-unit apartment buildings, and to the west by paved parking areas associated with the neighboring multi-unit apartment buildings. Other properties surrounding the site are predominately residential in nature.

The site was previously utilized as a gun and munition manufacturing facility by Ithaca Gun Company. This use dates to the late 1800s and continued until the company filed for bankruptcy in 1979. The original Ithaca Gun Company property consisted of approximately 2.6 acres, but approximately one acre of the original property was transferred to the City of Ithaca and was subsequently remediated by the City under New York State's Environmental Restoration Program (ERP) between 2008 and 2018. This remediation site was identified as the Ithaca Falls Overlook Site and was further identified by Site No. E755018.

The remaining 1.63 acres that constitutes the present site is divided into two separate parcels. For purposes of discussion, these are referred to herein as the eastern parcel and the western parcel. The larger eastern parcel is currently an open vacant parcel with remnants of the former manufacturing building foundations and retaining walls. The former turbine house, boiler stack, and remnants of the former boiler house foundation remain on the smaller western parcel. The main manufacturing and boiler house buildings were demolished between January and June 2009.

The topography of the site and surrounding area is characterized by steep grades and intermittent terraces. Surface elevations on the eastern parcel range from 561 feet above mean sea level (amsl) at the southern portion of the parcel to 520 amsl at the northwestern portion of the site. The western parcel sits at a lower elevation at approximately 494 amsl at its highest point on the southern portion of the site. The western parcel slopes to north toward Falls Creek, dropping to an approximate elevation of 491 amsl. Falls Creek is located approximately 200 to 250 feet north of the two parcels; the creek flows in a general western direction and discharges into the southern basin of Cayuga Lake approximately 1.05 miles northwest of the site.

The site was entered into New York State's Brownfield Cleanup Program (BCP) by the previous property owner, IFR Development, LLC, in 2013. The site is identified by Site No. C755019. As a Volunteer under the BCP, IFR Development, LLC conducted a site-wide remedial investigation, performed a remedial alternatives analysis to compare various approaches to site remediation,

and prepared a Remedial Action Work Plan that described the remedial approach that was selected as a result of the alternatives analysis. The Remedial Action Work Plan provided that a PDI would be undertaken to further inform the final remedial design. On August 9, 2022, C&S submitted the PDI Work Plan to eliminate data gaps and collect supplemental information that is necessary to finalize the soil remediation design for the site. The following describes the scope, methods, and results of the PDI activities conducted at the site.

1.2. Planned Future Use

The current property owner, 121-125 Lake Street, LLC, plans to remediate and redevelop the property. The eastern property will be redeveloped with an apartment building with an underground car garage, outdoor parking, and common areas. The western parcel will be redeveloped to support the use as a public area for the Ithaca Gorge Overlook.

2. Objectives and Scope

The remedial investigation conducted by OBG between September 2016 and March 2018 characterized the lateral and vertical extent of contamination across both portions of the Site with sufficient detail to allow scoping of the soil remediation, with limited exceptions. These exceptions included the southeastern fringe of the eastern parcel (hereafter referred to as Area A) and the northern edge of the western parcel (hereafter referred to as Area B). The locations of PDI Area A and Area B are depicted in **Figure PDI-1**.

2.1. Objectives

Area A is located outside of the chain-link perimeter fence that contained the former operations of the Ithaca Gun Company, but within the parcel (and BCP site) boundaries. This area is comprised of steep, wooded terrain, and encompasses approximately 1,200 square feet of land area. Area B consists of the area north and east of the sole existing building on the western parcel. This area is comprised of steep, wooded terrain with exposed bedrock faces, and encompasses approximately 3,178 square feet of land area. In much of this area, soil is only present on the narrow terraces between the exposed bedrock faces. The sole remaining structures associated with the former Ithaca Gun Company operations is located on the northeastern corner and the center of the western parcel. This single-story cement and steel building covers approximately 465 square feet of ground surface and the masonry constructed smokestack is scheduled to remain intact.

2.2. Scope

The scope of the PDI activities included:

- Soil sampling in Area A and Area B to determine if contaminants are present at concentrations exceeding Unrestricted and Restricted Residential Soil Cleanup Objectives (SCOs) established in 6 New York Codes, Rules and Regulations (NYCRR) Part 375, and, if so, what remedial actions will be necessary to achieve cleanup goals in these areas.

- Conducting a soil characterization and treatability study to determine if the soil scheduled for removal contains leachable concentrations of lead that exceed the toxicity characteristic leaching procedure (TCLP) threshold of 5 milligrams per liter (mg/L), and, if so, evaluating options for stabilization of the lead using commercially-available additives.

3. Methods

The following describes the methods used to conduct the PDI activities.

3.1. Soil Sampling – Area A

The existing soil in Area A was sampled to document concentrations of Target Analyte List (TAL) metals. Sampling was performed at six representative locations in Area A (identified as PDI-A-1 through PDI-A-6). Soil sampling locations are depicted on attached **Figure PDI-2**.

Sampling was conducted as follows:

- At each location, a steel shovel was used to remove the vegetative layer, if necessary.
- Discrete grab soil samples were collected at the surface (upper two inches of soil immediately beneath any vegetative layer, if present), at a depth of 12 inches below ground surface (bgs), and at a depth of 24 inches beneath the ground surface using a stainless-steel hand shovel.
- Soil from each location was screened in the field for visible impairment, olfactory indications of impairment, and / or indication of detectable volatile organic compounds (VOCs) with a photoionization detector (PID), collectively referred to as “evidence of impairment”.
- All non-disposable sampling equipment was decontaminated between samples to avoid potential cross contamination of samples.
- The locations were recorded using a hand-held global positioning system (GPS) unit.
- The collected samples were submitted to Alpha Analytical Inc. (Alpha), a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) accredited laboratory, for analysis of TAL metals.
- Twelve (12) additional samples were collected five feet to the north, south, east, and west of PDI-A-6 from the same depth intervals to delineate a single lead exceedance at PDI-A-6. The samples were analyzed for concentrations of lead only.
- An additional set of samples were collected from PDI-A-4 from the same depth intervals and analyzed for the remaining NYCRR Part 375 list of target contaminants:
 - Target Compound List (TCL) VOCs
 - TCL Semi-Volatile Organic Compounds (SVOCs)

- TCL Pesticides and Herbicides
- Polychlorinated Biphenyls (PCBs)
- Per- and Poly-fluoroalkyl Substances (PFAS/PFOA)
- 1,4-Dioxane

3.2. Soil Sampling – Area B

The existing soil in Area B was sampled to document concentrations of TAL metals. Sampling was performed at ten representative locations in Area B (identified as PDI-B-1 through PDI-B-10). Soil sampling locations area depicted on attached **Figure PDI-2**.

Sampling was conducted as follows:

- At each location, a steel shovel was used to remove the vegetative layer, if necessary.
- Discrete grab soil samples were collected at the surface (upper two inches of soil immediately beneath any vegetative layer, if present) and at a depth of 12 inches bgs using a stainless-steel hand shovel. Where the depth of the existing overburden was less than the target sampling depth (i.e., 12 inches), the sample was collected from the lowest sampling depth at or just above the bedrock surface. The PDI Work Plan indicated that samples would also be collected at a depth of 24 inches bgs. However, due to the shallow bedrock present in Area B, samples could not be collected at 24 inches bgs.
- Soil from each location was screened in the field for visible impairment, olfactory indications of impairment, and / or indication of detectable VOCs with a PID, collectively referred to as “evidence of impairment”.
- All non-disposable sampling equipment was decontaminated between samples to avoid potential cross contamination of samples.
- The locations were recorded using a hand-held GPS unit.
- The collected samples were submitted to Alpha for analysis of TAL metals.

3.3. Soil Lead Stabilization Treatability Study

A treatability study was conducted for the overburden soil at the Site to evaluate the effectiveness of commercially available soil amendment products in stabilizing lead in soil.

The study evaluated the following products:

- EnviroBlend®, manufactured by Premier Magnesia, LLC (Premier Magnesia)

As per the PDI Work Plan, Free Flow 200®, manufactured by Free Flow Technologies, Ltd. (Free Flow), was to be evaluated in addition to EnviroBlend®. However, Free Flow did not provide treatability studies so the effectiveness of the amendment could not be evaluated.

The treatability study was conducted on representative samples of soil collected from the location where the highest total lead concentrations (190,000 milligram per kilogram [mg/kg]) were identified during the RI, as well as from an area containing higher-than-average concentrations (5,000 to 6,000 mg/kg) but at orders of magnitude lower than the highest concentrations. These concentrations were selected to evaluate the amendment dosing for Enviroblend that would be sufficient to stabilize soil across the range of lead concentrations that are most likely to result in leachable lead concentrations greater than 5 mg/L. The sampling locations are depicted on the attached **Figure PDI-4**.

The treatability study was conducted with direction and in coordination with the respective product manufacturer, as follows:

- Soil samples were collected from each target location, at the depth where the target concentrations were encountered during the RI (12-inch depth at sample point 001 and 0-to-2-inch depth at sample point 002).
- The samples were submitted to Alpha for analysis of total lead concentrations and Toxicity Characteristic Leaching Procedure (TCLP) to determine leachable lead concentrations. This served to document pre-amendment concentrations of lead in the sample leachate.
- The samples were also submitted to the product manufacturer. Portions of each composite sample were blended with a range of application doses for each commercial product evaluated. The amendment was added at dosages predicted by the manufacturer to be effective at reducing the leachable lead concentrations to below 5 mg/L. A range of doses were evaluated to identify the optimal application rates for stabilizing soil lead at the site (i.e., reducing leachate lead concentrations to below 5 mg/L).
- The results of the treatability study were reviewed with the product manufacturer to determine appropriate site-specific application rates.

4. Findings / Results

The following presents the findings and results of the PDI activities.

4.1. Soil Sampling – Area A

Eighteen soil samples were collected across six locations in Area A for TAL metals. An additional twelve samples were collected five feet to the north, south, east, and west of PDI-A-6 for lead to delineate a single lead exceedance at PDI-A-6. The analytical results for TAL metals from Area A are summarized in the attached **Table 1**. Three soil samples were collected at PDI-A-4 in Area A for the remaining NYCRR Part 375 list of target contaminants. The analytical results for the remaining NYCRR Part 375 list of target contaminants from Area A are summarized in the attached **Table 2**.

The surface vegetation within Area A consisted of low-rooted groundcover with sparse areas of smaller to large shrubs and some tree coverage. The ground cover was sparse in areas where

game trails were cut into the hillside or erosion were observed. The soil within Area A was observed to comprise of silty fine sand from surface to two inches bgs. The soils collected from 10-inches to 12-inches bgs was comprised of silty fine sand with trace fine gravel. The soils collected from 24 inches bgs at PDI-A-1 through PDI-A-4 was comprised of fine to coarse sand with trace silt and clay and trace fine to medium gravel. The soils collected from 24 inches bgs at PDI-A-5 and PDI-A-6 was comprised of dense clay and silt.

The 18 samples collected from Area A for TAL metals identified concentrations of several metal compounds above the laboratory detection limits. The concentrations of the detected metals did not exceed their respective NYCRR Part 375 Unrestricted or Restricted Residential Use SCOs with the exception of:

- The concentration of lead at PDI-A-6 at 24 inches bgs (71.7 mg/kg) exceeded the NYCRR Part 375 Unrestricted Use SCO (63 mg/kg).

To delineate the above exceedance, an additional twelve samples were collected five feet to the north, south, east, and west of PDI-A-6. Concentrations of lead were detected above laboratory detection limits in all samples but none exceeded the respective NYCRR Part 375 Unrestricted nor Restricted Residential Use SCOs.

The three samples collected from Area A for the remaining target contaminants identified concentrations of several compounds above the laboratory detection limits, including select organochlorine pesticides, PCBs, SVOCs, and VOCs. The concentrations of the detected compounds did not exceed their respective NYCRR Part 375 Unrestricted or Restricted Residential Use SCOs.

Select PFAS/PFOA compounds were also identified above laboratory detection limits in one or more of the collected samples. The concentrations did not exceed the soil guidance values for PFAS/PFOA compounds provided under the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substance (PFAS) dated April 2023.

The sample location and soil result exceedances are depicted on the attached **Figure PDI-3**. The laboratory analytical report is provided in **Appendix A**.

4.2. Soil Sampling – Area B

A total of 20 soil samples were collected across ten locations in Area B for TAL metals. The analytical results from Area B for TAL metals are summarized in the attached **Table 3**.

The surface vegetation within Area B was comprised of low-rooted groundcover with sparse areas of smaller to large shrubs and dense tree coverage. The ground cover was sparse in areas where exposed bedrock shelves or areas of erosion were observed. The soil within Area-B was observed to be comprised of silty fine sand with trace gravel from surface to 12-inches bgs or bedrock. Some locations with Area B consisted of exposed bedrock.

The 20 samples collected from Area-B identified concentrations of several metal compounds above the laboratory detection limits. Several concentrations of the detected metal compounds were identified to exceed their respective NYCRR Part-375 Unrestricted and Restricted Residential Use SCOs.

The SCO exceedances identified in the Area B soil samples are summarized in the **Table 4.1.1** below:

Table 4.1.1
Area B Soil Samples
Summary of Metal Exceedances

Sample Location			PDI-B-1		PDI-B-3		PDI-B-4		PDI-B-5	
Sample Depth (in)			0 – 2	10 – 12	0 – 2	10 – 12	0 – 2	10 – 12	0 – 2	10 – 12
Metal	Unrestricted Use SCO (mg/kg)	Restricted Residential SCO (mg/kg)	Results (mg/kg)							
Arsenic	13	16	2.87	3.55	4.46	4.44	6.33	5.88	13.3	14.2
Cadmium	2.5	4.3	0.708	0.515	0.306	0.29	0.57	0.594	0.894	1.01
Copper	50	270	37.2	24.9	15.1	94.1	33.7	34.1	44	50.1
Lead	63	400	115	62.3	22.7	22	236	221	531	522
Nickel	30	310	12	13.2	16	15.5	14.4	15.2	17.3	19.8
Silver	2	180	ND	ND	ND	ND	0.471	0.471	0.394	0.425
Zinc	109	10,000	207	144	55	49.5	140	133	270	580
Sample Location			PDI-B-6		PDI-B-7		PDI-B-8		PDI-B-10	
Sample Depth (in)			0 – 2	10 – 12	0 – 2	10 – 12	0 – 2	10 – 12	0 – 2	10 – 12
Metal	Unrestricted Use SCO (mg/kg)	Restricted Residential SCO (mg/kg)	Results (mg/kg)							
Arsenic	13	16	14.6	13.7	66	32.2	6.25	5.73	7.35	8.74
Cadmium	2.5	4.3	1.47	1.55	2.22	4.4	0.422	0.366	0.47	0.512
Copper	50	270	66.6	108	248	389	22.3	20.2	228	24.3
Lead	63	400	2,440	2,270	7,320	7,130	213	150	155	182
Nickel	30	310	22.4	21.7	16.6	35	16	16.6	19.8	19.1
Silver	2	180	1.46	1.22	1.58	2.39	ND	ND	ND	ND
Zinc	109	10,000	542	881	1,700	3,510	89.7	75.3	86.3	110

SHADING – Concentration exceeds the Part-375 Unrestricted Use SCO.

SHADING – Concentration exceeds the Part-375 Unrestricted and Restricted Residential Use SCO.

ND – Not detected at the detection limit for the sample.

The sample location and soil result exceedances are depicted on the attached **Figure PDI-3**. The laboratory analytical report is provided in **Appendix A**.

4.3. Soil Lead Stabilization Treatability Study

Two soil samples were collected from each of the two select locations for the treatability study. The pre-amendment analytical results are summarized **Table 4.2.1** below:

Table 4.2.1
Treatability Study Soil Samples
Summary of Pre-Amendment Concentrations

Sample Location		Sample 001	Sample 002
Sample Depth (in)		12	0 – 2
Analyte	Hazardous Waste Threshold	Results	
Lead, TCLP	5 mg/L	1,400 mg/L	0.992 mg/L
Lead, Total	--	39,700 mg/kg	1,560 mg/kg

SHADING – Concentration exceeds the Hazardous Waste Threshold

Two samples were also sent to Premier Magnesia to evaluate their EnviroBlend® amendment effectiveness. The results from the EnviroBlend® amendment are summarized in **Table 4.2.2** below:

Table 4.2.2
Treatability Study Soil Samples
Summary of EnviroBlend® Results

Sample Location	EnviroBlend® Dosage	TCLP Lead (mg/L)
Sample 001	Untreated	2,920
	2% EnviroBlend® CS	0.31
	3% EnviroBlend® CS	0.40
	4% EnviroBlend® CS	0.59
Sample 002	Untreated	23.3
	2% EnviroBlend® CS	0.31
	3% EnviroBlend® CS	<0.067
	4% EnviroBlend® CS	<0.067

SHADING – Concentration exceeds the Hazardous Waste Threshold

The laboratory analytical report is provided in **Appendix A**. The results from the treatability study are provided in **Appendix B**.

5. Data Quality

Matrix Spike / Matrix Spike Duplicate (MS / MSD) and duplicate samples were collected from three locations for each analysis method. The locations of these QA/QC samples were selected randomly.

All samples were analyzed with the project samples by Alpha. All data was reported as Analytical Services Protocol (ASP) Category B deliverables in Electronic Data Deliverable (EDD) format compatible with EQUIS.

A data usability review was completed for all analytical data generated as part of the investigation, and a data usability summary report (DUSR) was prepared for all data sets, consistent with NYSDEC-DUSR Guidance contained in Appendix 2B of NYSDEC DER-10. The data review and

DUSR preparation was performed by Judy Harry of Data Validation Services, an independent, third-party, qualified and experienced individual that has been approved by DER.

Data completeness, case narrative, custody documentation, holding times, surrogate / internal / isotopic dilution standard recoveries, method / preparation blanks, matrix spike recoveries / duplicate correlations, blind field duplicate correlations, laboratory control sample (LCS), instrumental tunes, initial and continuing calibration standards, serial dilution evaluation, method compliance, and sample result verification were reviewed during the DUSR preparation. It was determined that the sample results were usable either as reported or with minor qualifications, with the exception of:

- 2,4-Dinitrophenol in PDI-A-4 2 was rejected due to failed matrix spike recovery.
- NMeFOSAA, NEtFOSAA, and PFTA were rejected due to failed matrix spike recovery.
- NEtFOSAA and PFTA in PDI-A-4 24 were rejected due to failed matrix spike recovery.

The complete DUSR is provided in **Appendix C**. The EDD for all media will be uploaded to NYSDEC's EQulS database.

6. Conclusions

Based on the results presented above, the following conclusions were drawn:

- The analytical results for the overburden soil in Area A indicated that concentrations of metals were below the Unrestricted and Restricted Residential Use SCOs, with the exception of lead at PDI-A-6. Additional sampling to north, south, east, and west of PDI-A-6 revealed that the lead contamination was contained within a 5-foot radius. Therefore, this area of soil was removed to bedrock during the Eastern Parcel soil remediation effort in 2023.
- The analytical results for the overburden soil in Area B indicated that concentrations of metals, specifically arsenic, cadmium, copper, lead, nickel, silver, and zinc exceeded Unrestricted Use SCOs at one or more depths at the following locations: PDI-B-1, PDI-B-3, PDI-B-4, PDI-B-5, PDI-B-6, PDI-B-7, PDI-B-8, and PDI-B-10.
- The analytical results for the overburden soil in Area B indicated that concentrations of metals, specifically arsenic, cadmium, copper, and lead exceeded Restricted Residential Use SCOs at the following locations:
 - PDI-B-5 – Lead concentrations exceeded Restricted Residential Use SCO
 - PDI-B-6 – Lead concentrations exceeded Restricted Residential Use SCO
 - PDI-B-7 – Arsenic, cadmium, copper, and lead exceeded Restricted Residential Use SCO
- The overburden soil in Area B will be removed and disposed of in accordance with the overburden soil removal in the Remedial Action Work Plan for the western parcel.



Soil Pre-Design Investigation Report

Former Ithaca Gun Factory BCP Site

- The soil lead stabilization treatability study revealed that the 2% EnviroBlend® amendment dosage was successful in reducing leachate lead concentrations to below 5 mg/L. A 3% by weight EnviroBlend® amendment was therefore used to stabilize soil scheduled for removal from the site that contained leachable lead concentrations exceeding the hazardous waste threshold.

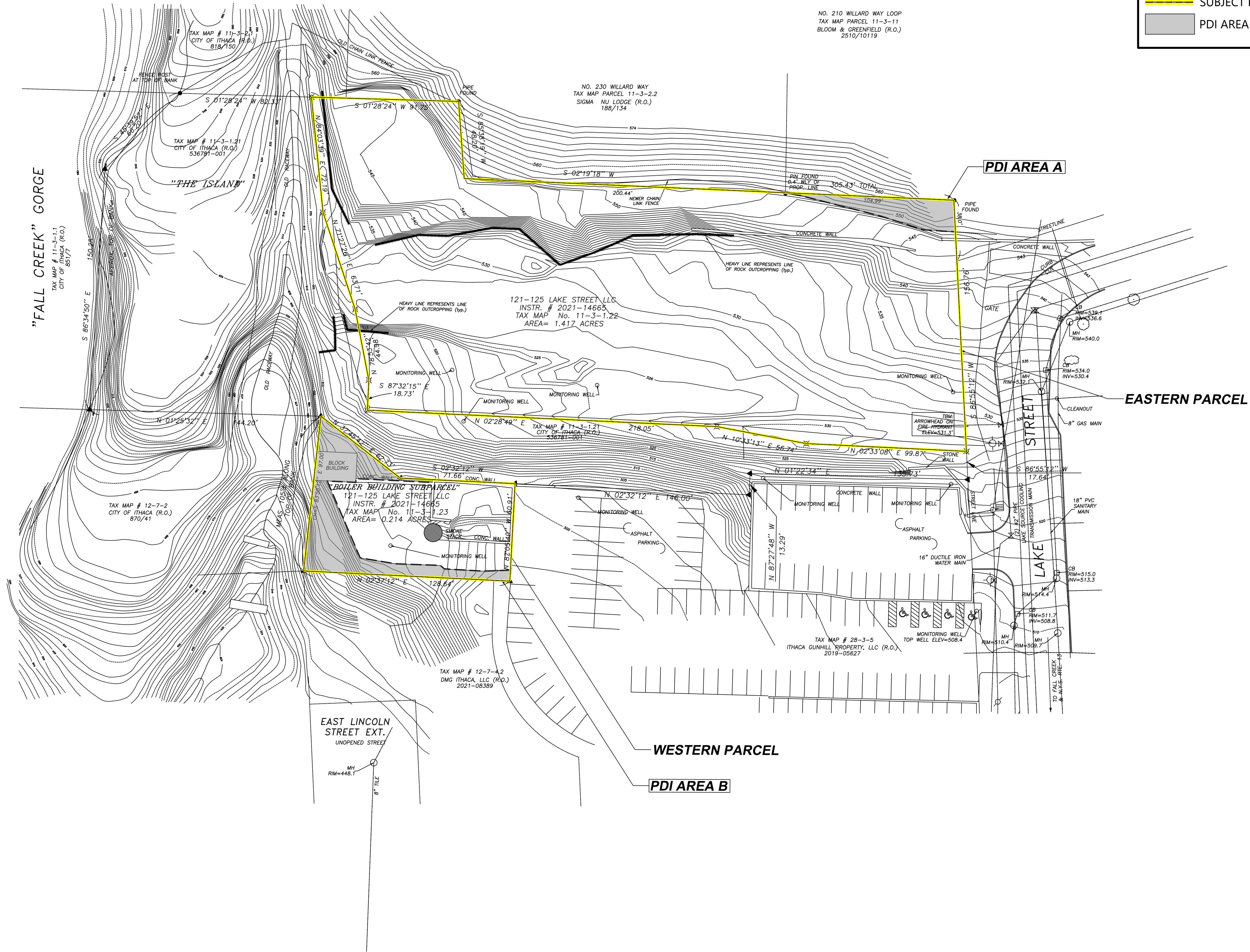
Figures

PDI-1 – PDI Overview Map

PDI-2 – PDI Soil Sampling Locations Map

PDI-3 – PDI Soil Sampling Exceedances Map

PDI-4 – Soil Treatability Study Sample Locations Map



LEGEND:

SUBJECT PARCEL

PDI AREA



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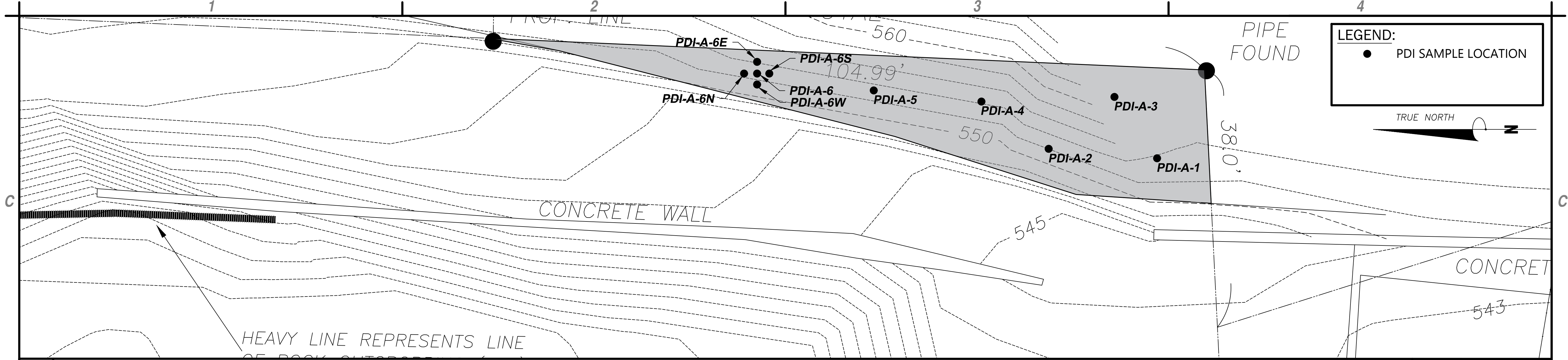
Pre-Design Investigation Report
(SOIL)
for
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121-125 Lake Street, City of Syracuse
Tompkins County, New York

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: X55.002.001		
DATE: JANUARY 2024		
DRAWN BY: N. COULOMBE		
DESIGNED BY: N. BRADFORD		
CHECKED BY: N. BRADFORD		
NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK EDUCATION LAW		

PDI OVERVIEW
MAP

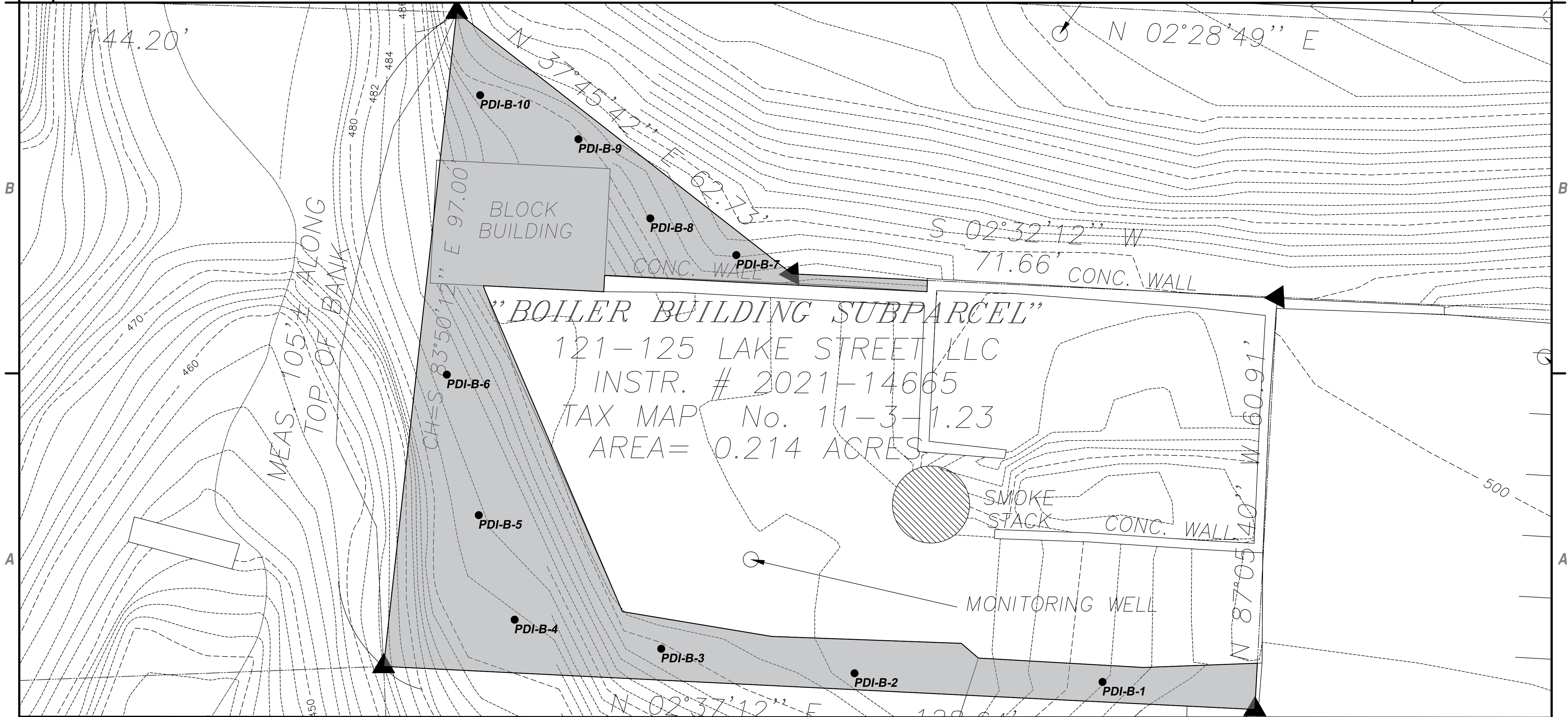
PDI-1

Jun 26, 2024 - 4:07pm
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C1 SOUTHEAST SECTION OF EASTERN PARCEL

SCALE: 1/8" = 1'-0"



A3 NORTHWEST SECTION OF WESTERN PARCEL

SCALE: 1/8" = 1'-0"



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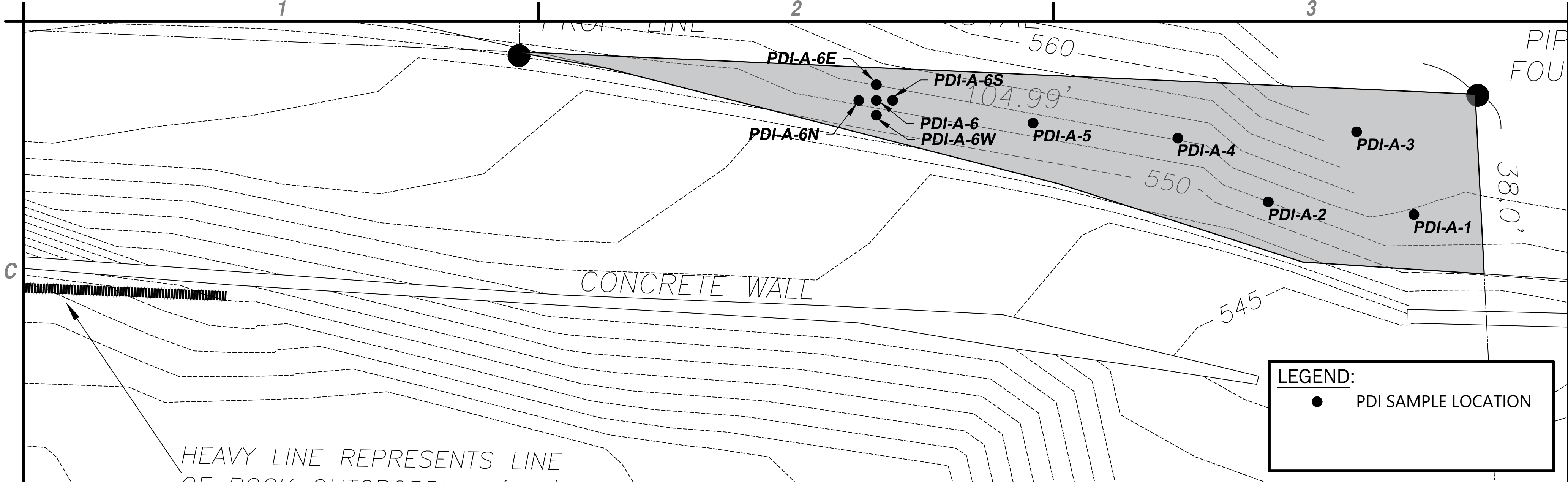
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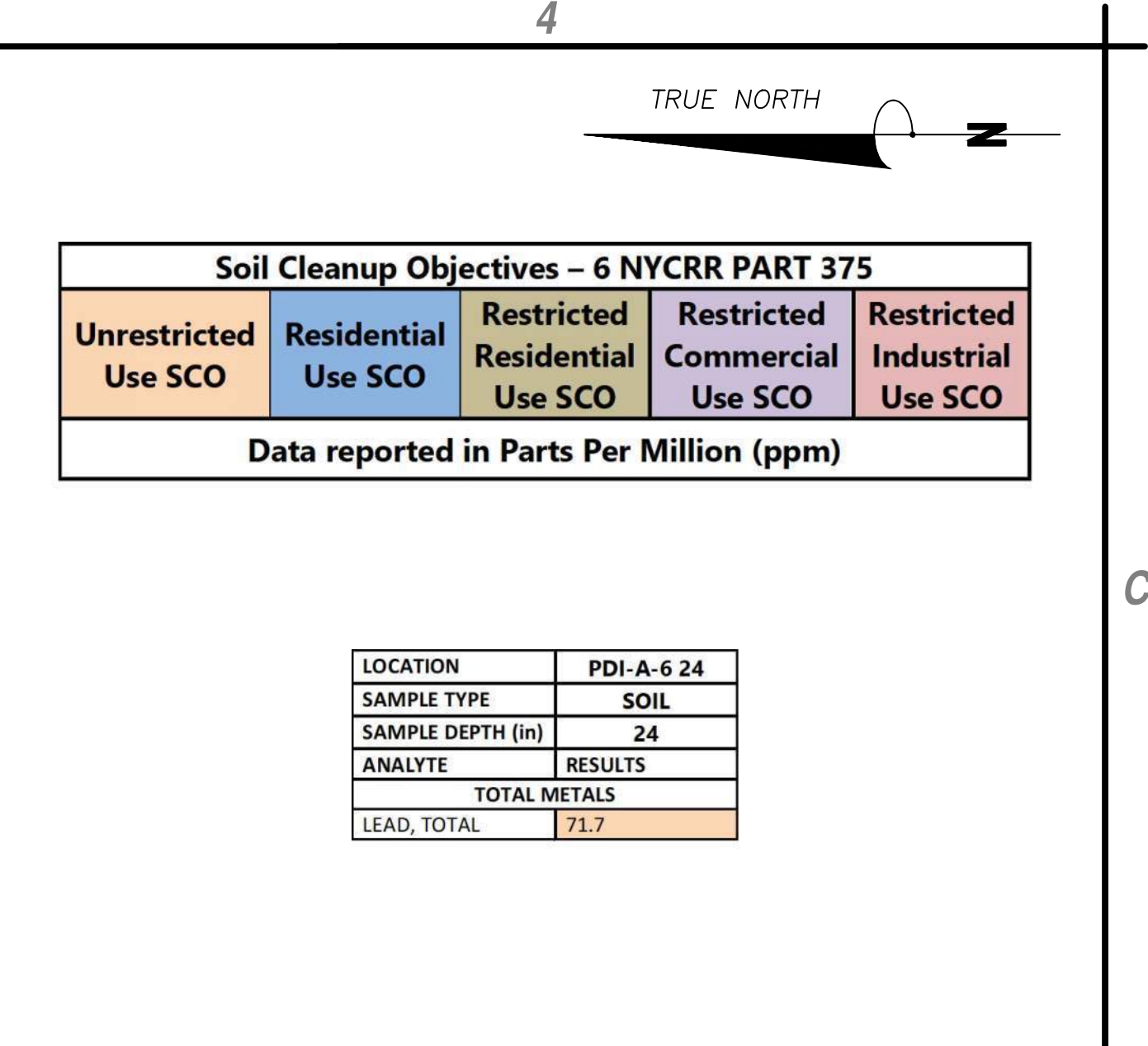
PDI SOIL
SAMPLING
LOCATIONS
MAP

PDI-2

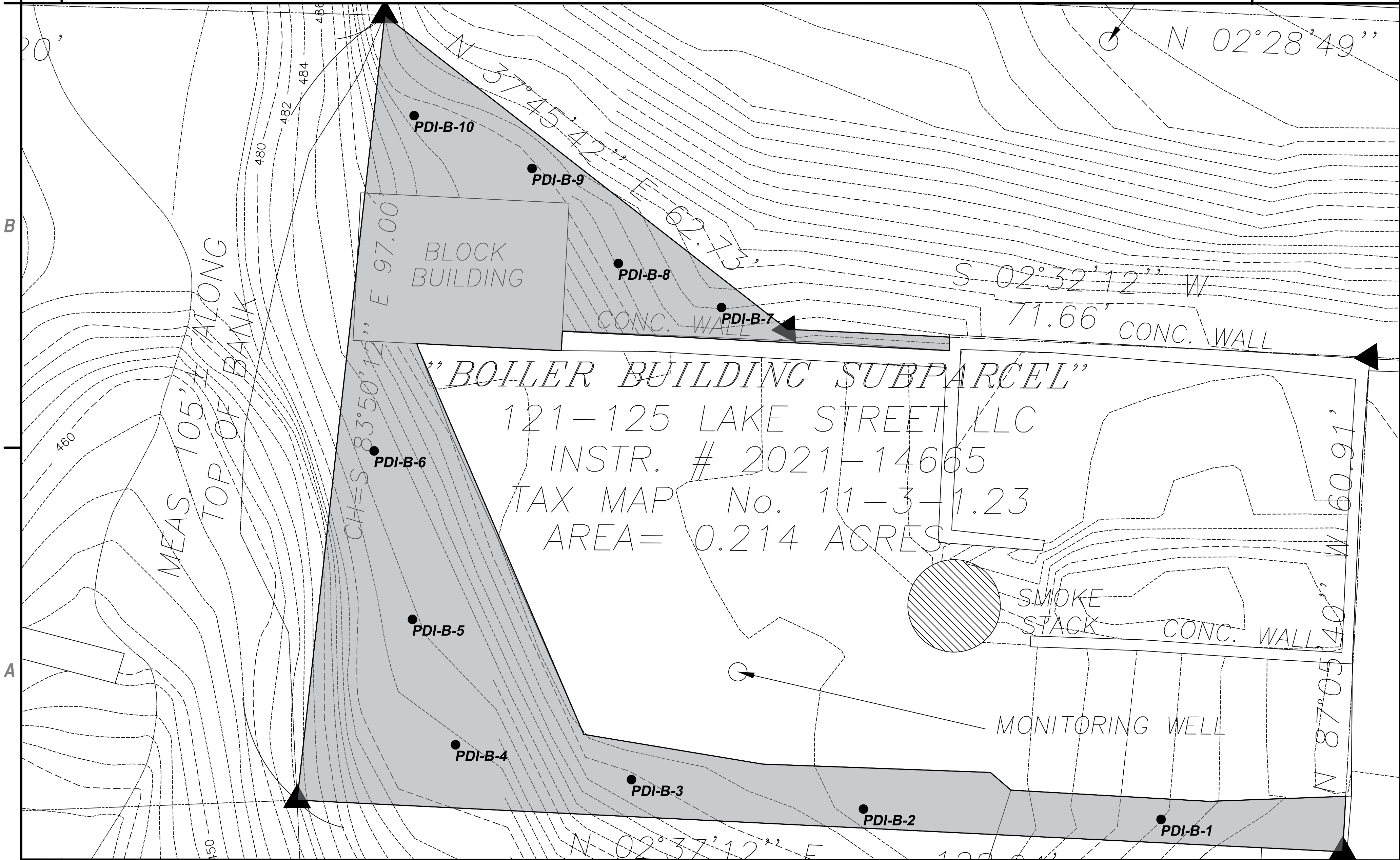
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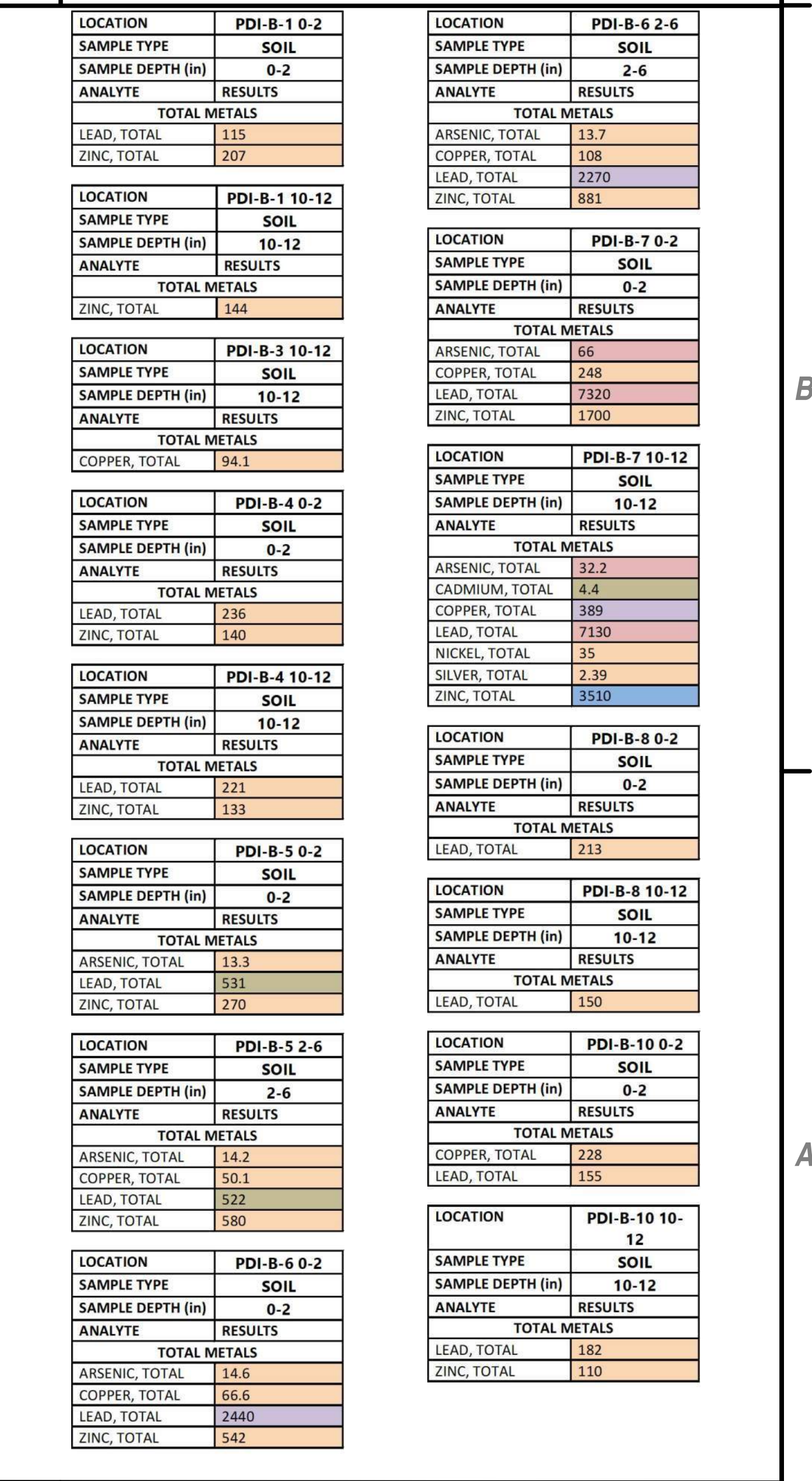
C1 SOUTHEAST SECTION OF EASTERN PARCEL
SCALE: 1/8" = 1'-0"



C4 PDI AREA A - SOIL ANALYTICAL EXCEEDANCES
SCALE: NOT TO SCALE



A1 NORTHWEST SECTION OF WESTERN PARCEL
SCALE: 1/8" = 1'-0"



A4 PDI AREA B - SOIL ANALYTICAL EXCEEDANCES
SCALE: NOT TO SCALE

C&S
COMPANIES

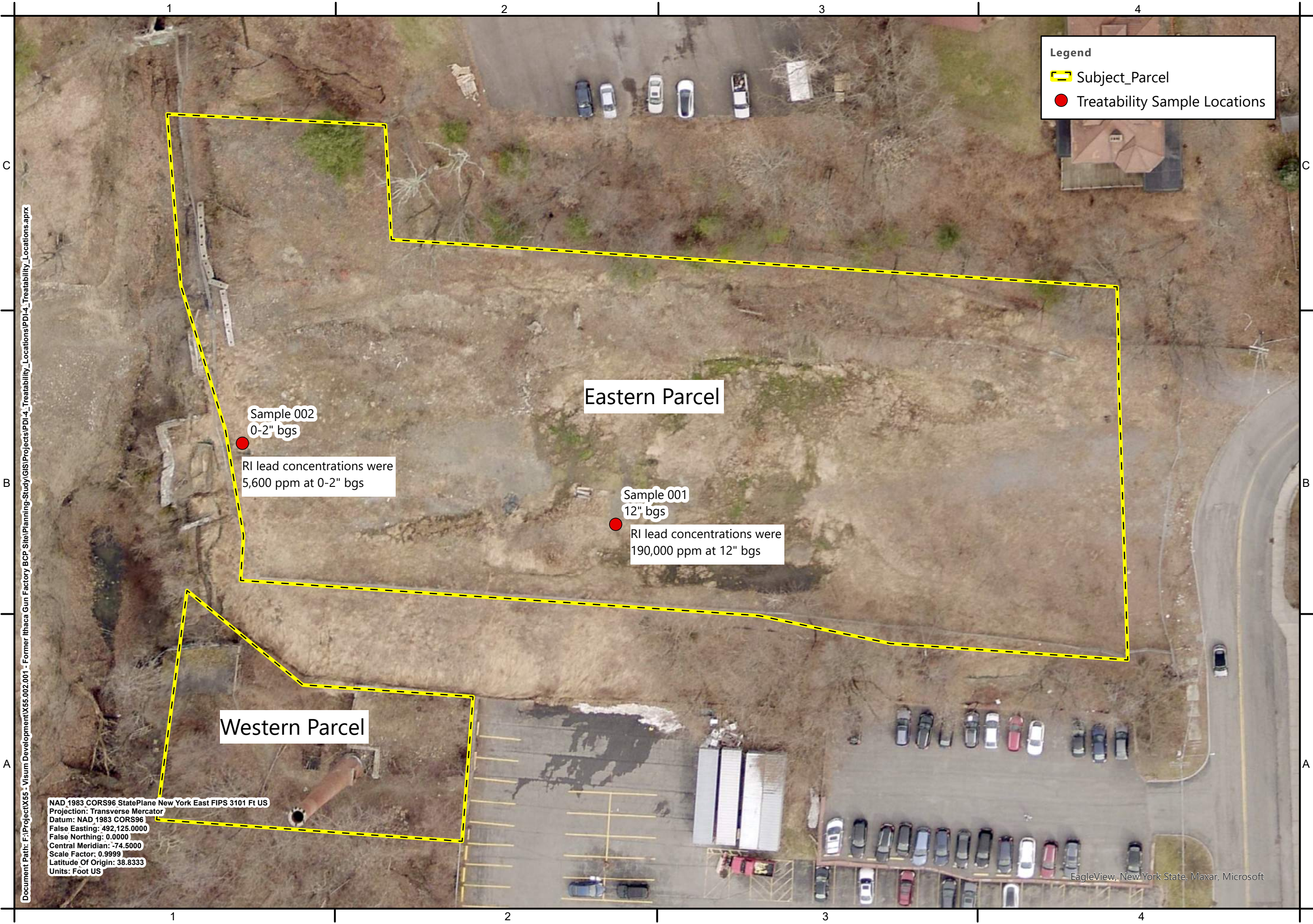
C&S Engineers, Inc.
499 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.cscos.com

Pre-Design Investigation Report
(SOIL)
for
Former Ithaca Gun Factory BCP Site
121-125 Lake Street, City of Syracuse
Tompkins County, New York

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: X55,002.001		
DATE: JANUARY 2024		
DRAWN BY: N. COULOMBE		
DESIGNED BY: N. BRADFORD		
CHECKED BY: N. BRADFORD		
NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK EDUCATION LAW		

PDI SOIL
SAMPLING
EXCEEDANCES
MAP

PDI-3



Legend

- Subject_Parcel
- Treatability Sample Locations



C&S Engineers, Inc.
499 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.cscos.com



0 40 Feet

1:450 Feet

Pre-Design Investigation Report
(SOIL)
For
Former Ithaca Gun Factory BCP Site
121-125 Lake Street, City of Ithaca
Tompkins County, New York

PROJECT NO:	U41.028.001
DATE:	January 2024
SCALE:	AS SHOWN
DRAWN BY:	H. Haas
DESIGNED BY:	H. Haas
CHECKED BY:	H.N. Bradford

Soil
Treatability
Sample
Location
Map

PDI-4

Document Path: F:\Project\X55 - Visum Development\X55.002.001 - Former Ithaca Gun Factory BCP Site\Planning-Study\GIS\Projects\PDI-4_Treatability_Locations.aprx

NAD 1983 CORS96 StatePlane New York East FIPS 3101 Ft US
Projection: Transverse Mercator
Datum: NAD 1983 CORS96
False Easting: 492,125.0000
False Northing: 0.0000
Central Meridian: -74.5000
Scale Factor: 0.9999
Latitude Of Origin: 38.8333
Units: Foot US

EagleView, New York State, Maxar, Microsoft

Tables

Table 1 -	Soil Analytical Results – Area A – TAL Metals
Table 2 -	Soil Analytical Results – Area A – All Contaminants
Table 3 -	Soil Analytical Results – Area B – TAL Metals

Soil Analytical Results - Area A - TAL Metals
Pre-Design Investigation Report (Soil)
NYSDEC Brownfield Cleanup Program Site No. C755019
121-125 Lake Street, Ithaca, New York

LOCATION							PDI-A-1 0-2		PDI-A-1 10-12		PDI-A-1 24		PDI-A-2 0-2		PDI-A-2 10-12		PDI-A-2 24		PDI-A-3 0-2		PDI-A-3 10-12		PDI-A-3 24		PDI-A-4 0-2		PDI-A-4 10-12		PDI-A-4 24					
SAMPLING DATE							7/22/2022		7/22/2022		3/22/2023		7/22/2022		7/22/2022		3/22/2023		7/22/2022		7/22/2022		3/22/2023		7/22/2022		7/22/2022		3/22/2023					
LAB SAMPLE ID							L2239485-01		L2239485-02		L2315170-01		L2239485-03		L2239485-04		L2315170-01		L2239485-05		L2239485-06		L2315170-01		L2239485-07		L2239485-08		L2315170-01					
SAMPLE TYPE							SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL					
SAMPLE DEPTH (in)							0 - 2		10 - 12		24		0 - 2		10 - 12		24		0 - 2		10 - 12		24		0 - 2		10 - 12		24					
Analytes	CasNum	Unrestricted Use SCO	Residential Use SCO	Restricted Residential Use SCO	Restricted Commercial Use SCO	Restricted Industrial Use SCO	Results		Qualifier		Results		Qualifier		Results		Qualifier		Results		Qualifier		Results		Qualifier		Results		Qualifier		Results		Qualifier	
General Chemistry																																		
Solids, Total	NONE						91.8%		92.7%		88.6%		95.6%		96.5%		94.2%		92.6%		95.3%		90.0%		95.4%		95.9%		80.0%					
Total Metals																																		
Aluminum, Total	7429-90-5						6480		7440		9250		7250		6790		8460		6240		8010		12200		7060		7540		11900					
Antimony, Total	7440-36-0						4.24		U		0.517		J		0.924		J		4.06		U		0.389		J		0.959		J		4.22		U	
Arsenic, Total	7440-38-2	13	16	16	16	16	5.09		5.52		5.22		5.46		5.52		4.69		4.7		5.52		6.96		5.55		5.84		6.39					
Barium, Total	7440-39-3	350	350	400	400	10000	54.9		50		27.1		28.8		18.7		21.4		56.6		31.6		33.1		28.5		23.9		32.2					
Beryllium, Total	7440-41-7	7.2	14	72	590	2700	0.305		J		0.33		J		0.359		J		0.317		J		0.251		J		0.239		J					
Cadmium, Total	7440-43-9	2.5	2.5	4.3	9.3	60	0.475		J		0.491		J		0.171		J		0.471		J		0.454		J		0.128		J					
Calcium, Total	7440-70-2						7190		5250		724		3020		23400		30100		10000		3020		765		2160		5940		21000					
Chromium, Total	7440-47-3						10.4		11.5		12.8		11.4		10.4		11.9		10.1		12.1		16.7		11.2		11.4		16.4					
Cobalt, Total	7440-48-4						6.77		7.16		8.97		6.85		6.51		8.17		6.32		7.43		10.4		6.7		6.67		10.9					
Copper, Total	7440-50-8	50	270	270	270	10000	13.8		13.8		18.6		15.3		17.3		28		12.7		12.6		21.3		16.7		17		20.7					
Iron, Total	7439-89-6						15400		17000		20900		17000		20300		19400		17700		21300		26400		23200		20700		25500					
Lead, Total	7439-92-1	63	400	400	1000	3900	18.8		35.1		20.2		22.8		15.2		7.59		34.1		16.7		12.2		35.4		30.1		19.6					
Magnesium, Total	7439-95-4						4120		3760		2760		3120		4170		6980		3850		3300		3310		3010		3410		5130					
Manganese, Total	7439-96-5	1600	2000	2000	10000	10000	372		414		543		307		308		358		403		296		389		303		323		427					
Mercury, Total	7439-97-6	0.18	0.81	0.81	2.8	5.7	-		-		0.063		J		-		-		0.067		U		-		-		0.047		J					
Nickel, Total	7440-02-0	30	140	310	310	10000	16.2		17.1		19		17.6		17		19.8		14.9		17.9		24.6		16.8		17.5		26.3					
Potassium, Total	7440-09-7						404		359		374		423		285		291		401		297		446		340		320		528					
Selenium, Total	7782-49-2	3.9	36	180	1500	6800	1.7		U		0.288		J		1.78		U		1.62		U		1.64		U		1.69		U					
Silver, Total	7440-22-4	2	36	180	1500	6800	0.848		U		0.847		U		0.444		U		0.812		U		0.81		U		0.41		U					
Sodium, Total	7440-23-5						31.1		J		26.1		J		18.5		J		21.4		J		29.8		J		43.8		J					
Thallium, Total	7440-28-0						1.7		U		1.69		U		0.59		J		1.62		U		1.64		U		1.64		U					
Vanadium, Total	7440-62-2						11.7		12.7		13.1		12.3		11.2		11.1		11.3		11.3		13		17.8		11.9		11.7					
Zinc, Total	7440-66-6	109	2200	10000	10000	10000	54.6		59.1		52.1		56.9		46.3		53.2		77.6		56.3		65.1		49.3		51		74.2					

Soil Analytical Results - Area A - TAL Metals
Pre-Design Investigation Report (Soil)
NYSDEC Brownfield Cleanup Program Site No. C755019
121-125 Lake Street, Ithaca, New York

LOCATION							PDI-A-5 0-2		PDI-A-5 10-12		PDI-A-5 24		PDI-A-6 0-2		PDI-A-6 10-12		PDI-A-6 24		PDI-A-6S 0-2		PDI-A-6S 12		PDI-A-6S 24		PDI-A-6E 0-2		PDI-A-6E 12		PDI-A-6E 24	
SAMPLING DATE							7/22/2022		7/22/2022		3/22/2023		7/22/2022		7/22/2022		3/22/2023		4/3/2023		4/3/2023		4/3/2023		4/3/2023		4/3/2023		4/3/2023	
LAB SAMPLE ID							L2239485-09		L2239485-10		L2315170-01		L2239485-11		L2239485-12		L2315170-01		L2317327-01		L2317327-05		L2317327-06		L2317327-02		L2317327-07		L2317327-08	
SAMPLE TYPE							SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (in)							0 - 2		10 - 12		24		0 - 2		10 - 12		24		0 - 2		12		24		0 - 2		12		24	
Analytes	CasNum	Unrestricted Use SCO	Residential Use SCO	Restricted Residential Use SCO	Restricted Commercial Use SCO	Restricted Industrial Use SCO	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier
							General Chemistry		General Chemistry		General Chemistry		General Chemistry		General Chemistry		General Chemistry		General Chemistry		General Chemistry		General Chemistry		General Chemistry		General Chemistry		General Chemistry	
Solids, Total	NONE						93.9%		91.8%		78.9%		91.6%		92.1%		83.7%		68.4%		82.5%		83.2%		76.5%		83.1%		83.1%	
Total Metals							Total Metals																							
Aluminum, Total	7429-90-5						6570		6730		11000		6660		6760		9880		-	-	-	-	-	-	-	-	-	-	-	-
Antimony, Total	7440-36-0						4.17	U	4.18	U	1.21	J	4.16	U	4.14	U	2.01	J	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	7440-38-2	13	16	16	16	16	4.89		4.84		6.87		5.08		5.08		7.61		-	-	-	-	-	-	-	-	-	-	-	-
Barium, Total	7440-39-3	350	350	400	400	10000	57.8		62.1		99.9		49		57.4		74.3		-	-	-	-	-	-	-	-	-	-	-	-
Beryllium, Total	7440-41-7	7.2	14	72	590	2700	0.308	J	0.318	J	0.45	J	0.3	J	0.323	J	0.385	J	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium, Total	7440-43-9	2.5	2.5	4.3	9.3	60	0.434	J	0.427	J	0.254	J	0.466	J	0.447	J	0.237	J	-	-	-	-	-	-	-	-	-	-	-	-
Calcium, Total	7440-70-2						8240		8020		10900		8050		8980		12100		-	-	-	-	-	-	-	-	-	-	-	-
Chromium, Total	7440-47-3						10.6		10.8		15.6		10.8		11.2		14.2		-	-	-	-	-	-	-	-	-	-	-	-
Cobalt, Total	7440-48-4						6.65		6.74		10.7		7.23		6.96		9.59		-	-	-	-	-	-	-	-	-	-	-	-
Copper, Total	7440-50-8	50	270	270	270	10000	13.4		15.6		19.3		13.3		14.1		19		-	-	-	-	-	-	-	-	-	-	-	-
Iron, Total	7439-89-6						18500		18600		22400		19200		21400		21200		-	-	-	-	-	-	-	-	-	-	-	-
Lead, Total	7439-92-1	63	400	400	1000	3900	14.8		12.2		16.8		22.6		15.4		71.7		24.2		15.6		17.3		19.8		16.6		15.1	
Magnesium, Total	7439-95-4						4290		4310		5750		4320		4570		4960		-	-	-	-	-	-	-	-	-	-	-	-
Manganese, Total	7439-96-5	1600	2000	2000	10000	10000	380		393		567		403		403		461		-	-	-	-	-	-	-	-	-	-	-	-
Mercury, Total	7439-97-6	0.18	0.81	0.81	2.8	5.7	-	-	-	-	0.057	J	-	-	-	-	0.099		-	-	-	-	-	-	-	-	-	-	-	-
Nickel, Total	7440-02-0	30	140	310	310	10000	15.6		15.5		22.8		17.1		16.2		21.1		-	-	-	-	-	-	-	-	-	-	-	-
Potassium, Total	7440-09-7						496		452		736		506		473		660		-	-	-	-	-	-	-	-	-	-	-	-
Selenium, Total	7782-49-2	3.9	36	180	1500	6800	1.67	U	1.67	U	1.93	U	1.66	U	1.66	U	1.81	U	-	-	-	-	-	-	-	-	-	-	-	-
Silver, Total	7440-22-4	2	36	180	1500	6800	0.834	U	0.837	U	0.482	U	0.832	U	0.828	U	0.453	U	-	-	-	-	-	-	-	-	-	-	-	-
Sodium, Total	7440-23-5						30.8	J	30.6	J	52.3	J	30	J	32.5	J	50.2	J	-	-	-	-	-	-	-	-	-	-	-	-
Thallium, Total	7440-28-0						1.67	U	1.67	U	0.398	J	1.66	U	1.66	U	0.367	J	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium, Total	7440-62-2						12		12.6		17.6		12		12.9		15.4		-	-	-	-	-	-	-	-	-	-	-	-
Zinc, Total	7440-66-6	109	2200	10000	10000	10000	47.2		46.4		71		52.3		47.7		72.4		-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All units are mg/kg unless otherwise indicated

Definitions:	
Unrestricted Use SCO	- New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Residential Use SCO	- New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Restricted Residential Use SCO	- New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Restricted Commercial Use SCO	- New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Restricted Industrial Use SCO	- New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
mg/kg	- Milligrams per kilogram
%	- Percent
in	- Inches
U	- The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	- The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
-	- Sample not analyzed for respective analyte

Table 1

Soil Analytical Results - Area A - TAL Metals
Pre-Design Investigation Report (Soil)
NYSDEC Brownfield Cleanup Program Site No. C755019
121-125 Lake Street, Ithaca, New York

LOCATION							PDI-A-6W 0-2		PDI-A-6W 12		PDI-A-6W 24		PDI-A-6N 0-2		PDI-A-6N 12		PDI-A-6N 24		DUP (PDI-A-5 24)		DUP-1 (PDI-A-6W 0-2)	
SAMPLING DATE							4/3/2023		4/3/2023		4/3/2023		4/3/2023		4/3/2023		4/3/2023		3/22/2023		4/3/2023	
LAB SAMPLE ID							L2317327-03		L2317327-09		L2317327-10		L2317327-04		L2317327-11		L2317327-12		L2315170-01		L2317327-13	
SAMPLE TYPE							SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (in)							0 - 2		12		24		0 - 2		12		24		24		0 - 2	
Analytes	CasNum	Unrestricted Use SCO	Residential Use SCO	Restricted Residential Use SCO	Restricted Commercial Use SCO	Restricted Industrial Use SCO	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier
General Chemistry																						
Solids, Total	NONE						70.5%		83.2%		91.1%		83.9%		82.2%		85.2%		71.3%		69.8%	
Total Metals																						
Aluminum, Total	7429-90-5						-	-	-	-	-	-	-	-	-	-	-	-	11100		-	-
Antimony, Total	7440-36-0						-	-	-	-	-	-	-	-	-	-	-	-	1.13	J	-	-
Arsenic, Total	7440-38-2	13	16	16	16	16	-	-	-	-	-	-	-	-	-	-	-	-	6.32		-	-
Barium, Total	7440-39-3	350	350	400	400	10000	-	-	-	-	-	-	-	-	-	-	-	-	97.5		-	-
Beryllium, Total	7440-41-7	7.2	14	72	590	2700	-	-	-	-	-	-	-	-	-	-	-	-	0.468	J	-	-
Cadmium, Total	7440-43-9	2.5	2.5	4.3	9.3	60	-	-	-	-	-	-	-	-	-	-	-	-	0.244	J	-	-
Calcium, Total	7440-70-2						-	-	-	-	-	-	-	-	-	-	-	-	10900		-	-
Chromium, Total	7440-47-3						-	-	-	-	-	-	-	-	-	-	-	-	16		-	-
Cobalt, Total	7440-48-4						-	-	-	-	-	-	-	-	-	-	-	-	10.6		-	-
Copper, Total	7440-50-8	50	270	270	270	10000	-	-	-	-	-	-	-	-	-	-	-	-	19.8		-	-
Iron, Total	7439-89-6						-	-	-	-	-	-	-	-	-	-	-	-	22300		-	-
Lead, Total	7439-92-1	63	400	400	1000	3900	42.5		53.6		32.7		25.9		14.8		56.7		16.3		44	
Magnesium, Total	7439-95-4						-	-	-	-	-	-	-	-	-	-	-	-	5750		-	-
Manganese, Total	7439-96-5	1600	2000	2000	10000	10000	-	-	-	-	-	-	-	-	-	-	-	-	592		-	-
Mercury, Total	7439-97-6	0.18	0.81	0.81	2.8	5.7	-	-	-	-	-	-	-	-	-	-	-	-	0.055	J	-	-
Nickel, Total	7440-02-0	30	140	310	310	10000	-	-	-	-	-	-	-	-	-	-	-	-	22.4		-	-
Potassium, Total	7440-09-7						-	-	-	-	-	-	-	-	-	-	-	-	661		-	-
Selenium, Total	7782-49-2	3.9	36	180	1500	6800	-	-	-	-	-	-	-	-	-	-	-	-	1.95	U	-	-
Silver, Total	7440-22-4	2	36	180	1500	6800	-	-	-	-	-	-	-	-	-	-	-	-	0.487	U	-	-
Sodium, Total	7440-23-5						-	-	-	-	-	-	-	-	-	-	-	-	51.8	J	-	-
Thallium, Total	7440-28-0						-	-	-	-	-	-	-	-	-	-	-	-	0.5	J	-	-
Vanadium, Total	7440-62-2						-	-	-	-	-	-	-	-	-	-	-	-	17.6		-	-
Zinc, Total	7440-66-6	109	2200	10000	10000	10000	-	-	-	-	-	-	-	-	-	-	-	-	71.3		-	-

Notes:
All units are mg/kg unless otherwise indicated

Unrestricted Use SCO	- New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Residential Use SCO	- New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Restricted Residential Use SCO	- New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December
Restricted Commercial Use SCO	- New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Restricted Industrial Use SCO	- New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
mg/kg	- Milligrams per kilogram
%	- Percent
in	- Inches
U	- The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	- The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
-	- Sample not analyzed for respective analyte

Soil Analytical Results - Area A - All Contaminants
Pre-Design Investigation Report (Soil)
NYSDEC Brownfield Cleanup Program Site No. C755019
121-125 Lake Street, Ithaca, New York

LOCATION							PD1-A-4 2		PD1-A-4 12		PD1-A-4 24		DUP (PD1-A-4 2)		
SAMPLING DATE							3/22/2023		3/22/2023		3/22/2023		3/22/2023		
LAB SAMPLE ID							L2315171-01		L2315171-02		L2315171-03		L2315171-04		
SAMPLE TYPE							SOIL		SOIL		SOIL		SOIL		
SAMPLE DEPTH (in)							0 - 2		10 - 12		24		0 - 2		
Analytes		CasNum	Unrestricted Use SCO	Residential Use SCO	Restricted Residential Use SCO	Restricted Commercial Use SCO	Restricted Industrial Use SCO	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier
Chlorinated Herbicides by GC								Chlorinated Herbicides by GC							
2,4,5-T		93-76-5						0.207	U	0.182	U	0.179	U	0.196	U
2,4,5-TP (Silvex)		93-72-1	3.8	58	100	500	1000	0.207	U	0.182	U	0.179	U	0.196	U
2,4-D		94-75-7						0.207	U	0.182	U	0.179	U	0.196	U
General Chemistry								General Chemistry							
Solids, Total		NONE						79.2%		90.1%		91.0%		82.4%	
Organochlorine Pesticides by GC								Organochlorine Pesticides by GC							
4,4'-DDD		72-54-8	0.0033	2.6	13	92	180	0.00192	U	0.0017	U	0.00171	U	0.00183	U
4,4'-DDE		72-55-9	0.0033	1.8	8.9	62	120	0.000924	J	0.0017	U	0.00171	U	0.000895	J J
4,4'-DDT		50-29-3	0.0033	1.7	7.9	47	94	0.00192	U	0.0017	U	0.00171	U	0.00183	U
Aldrin		309-00-2	0.005	0.019	0.097	0.68	1.4	0.00192	U	0.0017	U	0.00171	U	0.00183	U
Alpha-BHC		319-84-6	0.02	0.097	0.48	3.4	6.8	0.000801	U	0.00071	U	0.000714	U	0.000762	U
Beta-BHC		319-85-7	0.036	0.072	0.36	3	14	0.00192	U	0.0017	U	0.00171	U	0.00183	U
Chlordane		57-74-9						0.016	U	0.0142	U	0.0143	U	0.0152	U
cis-Chlordane		5103-71-9	0.094	0.91	4.2	24	47	0.0024	U	0.00213	U	0.00214	U	0.00228	U
Delta-BHC		319-86-8	0.04	100	100	500	1000	0.00192	U	0.0017	U	0.00171	U	0.00183	U
Dieldrin		60-57-1	0.005	0.039	0.2	1.4	2.8	0.0012	U	0.00106	U	0.00107	U	0.00114	U
Endosulfan I		959-98-8	2.4	4.8	24	200	920	0.00192	U	0.0017	U	0.00171	U	0.00183	U
Endosulfan II		33213-65-9	2.4	4.8	24	200	920	0.00192	U	0.0017	U	0.00171	U	0.00183	U
Endosulfan sulfate		1031-07-8	2.4	4.8	24	200	920	0.000801	U	0.00071	U	0.000714	U	0.000762	U
Endrin		72-20-8	0.014	2.2	11	89	410	0.000801	U	0.00071	U	0.000714	U	0.000762	U
Endrin aldehyde		7421-93-4						0.0024	U	0.00213	U	0.00214	U	0.00228	U
Endrin ketone		53494-70-5						0.00192	U	0.0017	U	0.00171	U	0.00183	U
Heptachlor		76-44-8	0.042	0.42	2.1	15	29	0.000961	U	0.000852	U	0.000856	U	0.000914	U
Heptachlor epoxide		1024-57-3						0.0036	U	0.00319	U	0.00321	U	0.00343	U
Lindane		58-89-9	0.1	0.28	1.3	9.2	23	0.000801	U	0.00071	U	0.000714	U	0.000762	U
Methoxychlor		72-43-5						0.0036	U	0.00319	U	0.00321	U	0.00343	U
Toxaphene		8001-35-2						0.036	U	0.0319	U	0.0321	U	0.0343	U
trans-Chlordane		5103-74-2						0.0024	U	0.00213	U	0.00214	U	0.00228	U
Perfluorinated Alkyl Acids by Isotope Dilution								Perfluorinated Alkyl Acids by Isotope Dilution							
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)		39108-34-4						0.000608	U	0.000532	U UJ	0.000531	U	0.00059	U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)		27619-97-2						0.000608	U	0.000532	U UJ	0.000531	U	0.00059	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)		2991-50-6						0.000608	U	0.00145	U R	0.00198	U R	0.000235	J J
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)		2355-31-9						0.000608	U	0.00145	U R	0.00198	U UJ	0.00059	U UJ
Perfluorobutanesulfonic Acid (PFBS)		375-73-5						0.000304	U	0.000266	U UJ	0.000265	U UJ	0.000295	U UJ
Perfluorobutanoic Acid (PFBA)		375-22-4						0.000143	J	0.000069	J J	0.00004	J J	0.000184	J
Perfluorodecanesulfonic Acid (PFDS)		335-77-3						0.000608	U	0.000532	U UJ	0.000531	U UJ	0.00059	U UJ
Perfluorodecanoic Acid (PFDA)		335-76-2						0.000304	U	0.000266	U UJ	0.000265	U UJ	0.000295	U UJ
Perfluorododecanoic Acid (PFDoA)		307-55-1						0.000608	U	0.000532	U UJ	0.000531	U UJ	0.00059	U UJ
Perfluoroheptanesulfonic Acid (PFHpS)		375-92-8						0.000608	U	0.000532	U UJ	0.000531	U UJ	0.00059	U UJ
Perfluoroheptanoic Acid (PFHpA)		375-85-9						0.000083	J	0.000266	U UJ	0.000265	U UJ	0.000082	J J
Perfluorohexanesulfonic Acid (PFHxS)		355-46-4						0.000304	U	0.000266	U UJ	0.000265	U UJ	0.000295	U UJ
Perfluorohexanoic Acid (PFHxA)		307-24-4						0.000608	U	0.000532	U UJ	0.000531	U UJ	0.00059	U UJ
Perfluorononanoic Acid (PFNA)		375-95-1						0.000105	J J	0.000266	U UJ	0.000265	U UJ	0.000098	J J
Perfluorooctanesulfonamide (FOSA)		754-91-6						0.000608	U	0.000532	U	0.000531	U	0.00059	U
Perfluorooctanesulfonic Acid (PFOS)		1763-23-1	0.88	8.8	44	440	440	0.000209	J J	0.000266	U UJ	0.000265	U UJ	0.000175	J J
Perfluorooctanoic Acid (PFOA)		335-67-1	0.66	6.6	33	500	600	0.00011	J	0.000266	U UJ	0.000265	U UJ	0.000125	J J
Perfluoropentanoic Acid (PFPeA)		2706-90-3						0.000608	U	0.000532	U UJ	0.000531	U UJ	0.00059	U
Perfluorotetradecanoic Acid (PFTA)		376-06-7						0.000608	U	0.000763	F R	0.00198	U R	0.000211	JF EMPC
Perfluorotridecanoic Acid (PFTrDA)		72629-94-8						0.000608	U	0.000532	U UJ	0.00198	U UJ	0.00059	U UJ
Perfluoroundecanoic Acid (PFUnA)		2058-94-8						0.000608	U	0.000532	U UJ	0.000531	U UJ	0.00059	U UJ
PFOA/PFOS, Total		null						0.000319	J	0.000266	U UJ	0.000265	U UJ	0.0003	J J
Polychlorinated Biphenyls by GC								Polychlorinated Biphenyls by GC							
Aroclor 1016		12674-11-2	0.1	1	1	1	25	0.041	U	0.0355	U	0.0356	U	0.0396	U
Aroclor 1221		11104-28-2	0.1	1	1	1	25	0.041	U	0.0355	U	0.0356	U	0.0396	U
Aroclor 1232		11141-16-5	0.1	1	1	1	25	0.041	U	0.0355	U	0.0356	U	0.0396	U
Aroclor 1242		53469-21-9	0.1	1	1	1	25	0.041	U	0.0355	U	0.0356	U	0.0396	U
Aroclor 1248		12672-29-6	0.1	1	1	1	25	0.041	U	0.0355	U	0.0251	J	0.0396	U
Aroclor 1254		11097-69-1	0.1	1	1	1	25	0.041	U	0.0355	U	0.0356	U	0.0396	U
Aroclor 1260		11096-82-5	0.1	1	1	1	25	0.041	U	0.0355	U	0.0356	U	0.0396	U
Aroclor 1262		37324-23-5	0.1	1	1	1	25	0.041	U	0.0355	U	0.0356	U	0.0396	U
Aroclor 1268		11100-14-4	0.1	1	1	1	25	0.041	U	0.0355	U	0.0356	U	0.0396	U
PCBs, Total		1336-36-3	0.1	1	1	1	25	0.041	U	0.0355	U	0.0251	J	0.0396	U
Semivolatile Organics by GC/MS								Semivolatile Organics by GC/MS							
1,2,4,5-Tetrachlorobenzene		95-94-3						0.21	U	0.18	U	0.18	U	0.2	U
1,4-Dioxane		123-91-1	0.1	9.8	13	130	250	0.031	U	0.027	U	0.027	U	0.03	U
2,3,4,6-Tetrachlorophenol		58-90-2						0.21	U	0.18	U	0.18	U	0.2	U
2,4,5-Trichlorophenol		95-95-4						0.21	U	0.18	U	0.18	U	0.2	U
2,4,6-Trichlorophenol		88-06-2						0.12	U	0.11	U	0.11	U	0.12	U
2,4-Dichlorophenol		120-83-83													

Soil Analytical Results - Area A - All Contaminants
Pre-Design Investigation Report (Soil)
NYSDEC Brownfield Cleanup Program Site No. C755019
121-125 Lake Street, Ithaca, New York

LOCATION							PD1-A-4 2		PD1-A-4 12		PD1-A-4 24		DUP (PD1-A-4 2)	
SAMPLING DATE							3/22/2023		3/22/2023		3/22/2023		3/22/2023	
LAB SAMPLE ID							L2315171-01		L2315171-02		L2315171-03		L2315171-04	
SAMPLE TYPE							SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (in)							0 - 2		10 - 12		24		0 - 2	
Analytes	CasNum	Unrestricted Use SCO	Residential Use SCO	Restricted Residential Use SCO	Restricted Commercial Use SCO	Restricted Industrial Use SCO	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier
Biphenyl	92-52-4						0.47	U	0.42	U	0.42	U	0.46	U
Bis(2-chloroethoxy)methane	111-91-1						0.22	U	0.2	U	0.2	U	0.22	U
Bis(2-chloroethyl)ether	111-44-4						0.19	U	0.16	U	0.16	U	0.18	U
Bis(2-chloroisopropyl)ether	108-60-1						0.25	U	0.22	U	0.22	U	0.24	U
Bis(2-ethylhexyl)phthalate	117-81-7						0.21	U	0.18	U	0.18	U	0.2	U
Butyl benzyl phthalate	85-68-7						0.21	U	0.18	U	0.18	U	0.2	U
Caprolactam	105-60-2						0.21	U	0.18	U	0.18	U	0.2	U
Carbazole	86-74-8						0.21	U	0.18	U	0.18	U	0.2	U
Chrysene	218-01-9	1	1	3.9	56	110	0.033	J	0.11	U	0.11	U	0.12	U
Di-n-butylphthalate	84-74-2						0.21	U	0.18	U	0.18	U	0.2	U
Di-n-octylphthalate	117-84-0						0.21	U	0.18	U	0.18	U	0.2	U
Dibenzo(a,h)anthracene	53-70-3	0.33	0.33	0.33	0.56	1.1	0.12	U	0.11	U	0.11	U	0.12	U
Dibenzofuran	132-64-9	7	14	59	350	1000	0.21	U	0.18	U	0.18	U	0.2	U
Diethyl phthalate	84-66-2						0.21	U	0.18	U	0.18	U	0.2	U
Dimethyl phthalate	131-11-3						0.21	U	0.18	U	0.18	U	0.2	U
Fluoranthene	206-44-0	100	100	100	500	1000	0.052	J	0.11	U	0.11	U	0.04	J
Fluorene	86-73-7	30	100	100	500	1000	0.21	U	0.18	U	0.18	U	0.2	U
Hexachlorobenzene	118-74-1	0.33	0.33	1.2	6	12	0.12	U	0.11	U	0.11	U	0.12	U
Hexachlorobutadiene	87-68-3						0.21	U	0.18	U	0.18	U	0.2	U
Hexachlorocyclopentadiene	77-47-4						0.59	U	0.52	U	0.52	U	0.58	U
Hexachloroethane	67-72-1						0.16	U	0.15	U	0.15	U	0.16	U
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	0.5	0.5	5.6	11	0.16	U	0.15	U	0.15	U	0.16	U
Isophorone	78-59-1						0.19	U	0.16	U	0.16	U	0.18	U
n-Nitrosodi-n-propylamine	621-64-7						0.21	U	0.18	U	0.18	U	0.2	U
Naphthalene	91-20-3	12	100	100	500	1000	0.21	U	0.18	U	0.18	U	0.2	U
NDPA/DPA	86-30-6						0.16	U	0.15	U	0.15	U	0.16	U
Nitrobenzene	98-95-3						0.19	U	0.16	U	0.16	U	0.18	U
p-Chloro-m-cresol	59-50-7						0.21	U	0.18	U	0.18	U	0.2	U
Pentachlorophenol	87-86-5	0.8	2.4	6.7	6.7	55	0.16	U	0.14	J	0.15	U	0.16	U
Phenanthrene	85-01-8	100	100	100	500	1000	0.032	J	0.11	U	0.11	U	0.12	U
Phenol	108-95-2	0.33	100	100	500	1000	0.21	U	0.18	U	0.18	U	0.2	U
Pyrene	129-00-0	100	100	100	500	1000	0.05	J	0.11	U	0.11	U	0.038	J
Volatile Organics by EPA 5035							Volatile Organics by EPA 5035							
1,1,1-Trichloroethane	71-55-6	0.68	100	100	500	1000	0.00057	U	0.00049	U	0.0005	U	0.00061	U
1,1,2,2-Tetrachloroethane	79-34-5						0.00057	U	0.00049	U	0.0005	U	0.00061	U
1,1,2-Trichloroethane	79-00-5						0.0011	U	0.00098	U	0.001	U	0.0012	U
1,1-Dichloroethane	75-34-3	0.27	19	26	240	480	0.0011	U	0.00098	U	0.001	U	0.0012	U
1,1-Dichloroethene	75-35-4	0.33	100	100	500	1000	0.0011	U	0.00098	U	0.001	U	0.0012	U
1,2,4-Trichlorobenzene	120-82-1						0.0023	U UJ	0.002	U	0.002	U	0.0024	U
1,2,4-Trimethylbenzene	95-63-6	3.6	47	52	190	380	0.0023	U	0.002	U	0.002	U	0.0024	U
1,2-Dibromo-3-chloropropane	96-12-8						0.0034	U	0.0029	U	0.003	U	0.0037	U
1,2-Dibromoethane	106-93-4						0.0011	U	0.00098	U	0.001	U	0.0012	U
1,2-Dichlorobenzene	95-50-1	1.1	100	100	500	1000	0.0023	U	0.002	U	0.002	U	0.0024	U
1,2-Dichloroethane	107-06-2	0.02	2.3	3.1	30	60	0.0011	U	0.00098	U	0.001	U	0.0012	U
1,2-Dichloropropane	78-87-5						0.0011	U	0.00098	U	0.001	U	0.0012	U
1,3,5-Trimethylbenzene	108-67-8	8.4	47	52	190	380	0.0023	U	0.002	U	0.002	U	0.0024	U
1,3-Dichlorobenzene	541-73-1	2.4	17	49	280	560	0.0023	U	0.002	U	0.002	U	0.0024	U
1,4-Dichlorobenzene	106-46-7	1.8	9.8	13	130	250	0.0023	U	0.002	U	0.002	U	0.0024	U
2-Butanone	78-93-3	0.12	100	100	500	1000	0.011	U	0.0098	U	0.01	U	0.012	U
2-Hexanone	591-78-6						0.011	U UJ	0.0098	U	0.01	U	0.012	U
4-Methyl-2-pentanone	108-10-1						0.011	U	0.0098	U	0.01	U	0.012	U
Acetone	67-64-1	0.05	100	100	500	1000	0.011	U	0.0098	U	0.01	U	0.012	U
Benzene	71-43-2	0.06	2.9	4.8	44	89	0.00057	U	0.00049	U	0.0005	U	0.00061	U
Bromodichloromethane	75-27-4						0.00057	U	0.00049	U	0.0005	U	0.00061	U
Bromoform	75-25-2						0.0046	U	0.0039	U UJ	0.004	U UJ	0.0049	U UJ
Bromomethane	74-83-9						0.0023	U	0.002	U	0.002	U	0.0024	U
Carbon disulfide	75-15-0						0.011	U	0.0098	U	0.01	U	0.012	U
Carbon tetrachloride	56-23-5	0.76	1.4	2.4	22	44	0.0011	U	0.00098	U UJ	0.001	U UJ	0.0012	U UJ
Chlorobenzene	108-90-7	1.1	100	100	500	1000	0.00057	U	0.00049	U	0.0005	U	0.00061	U
Chloroethane	75-00-3						0.0023	U	0.002	U	0.002	U	0.0024	U
Chloroform	67-66-3	0.37	10	49	350	700	0.0017	U	0.0015	U	0.0015	U	0.0018	U
Chloromethane	74-87-3						0.0046	U	0.0039	U	0.004	U	0.0049	U
cis-1,2-Dichloroethene	156-59-2	0.25	59	100	500	1000	0.0011	U	0.00098	U	0.001	U	0.0012	U
cis-1,3-Dichloropropene	10061-01-5						0.00057	U	0.00049	U	0.0005	U	0.00061	U
Cyclohexane	110-82-7						0.011	U	0.0098	U	0.01	U	0.012	U
Dibromochloromethane	124-48-1						0.0011	U	0.00098	U	0.001	U	0.0012	U
Dichlorodifluoromethane	75-71-8						0.011	U	0.0098	U	0.01	U	0.012	U
Ethylbenzene	100-41-4	1	30	41	390	780	0.0011	U	0.00098	U	0.001	U	0.0012	U
Freon-113	76-13-1						0.0046	U	0.0039	U	0.004	U	0.0049	U
Isopropylbenzene	98-82-8						0.0011	U	0.00098	U	0.001	U	0.0012	U
Methyl Acetate	79-20-9						0.0046	U	0.0039	U	0.004	U	0.0049	U
Methyl cyclohexane	108-87-2						0.0046	U	0.0039	U	0.004	U	0.0049	U
Methyl tert butyl ether	1634-04-4	0.93	62	100	500	1000	0.0023	U	0.002	U	0.002	U	0.0024	U
Methylene chloride	75-09-2	0.05	51	100	500	1000	0.0057	U	0.0049	U	0.005	U	0.0061	U
n-Butylbenzene	104-51-8	12	100	100	500	1000	0.0011	U UJ	0.00098	U	0.001	U	0.0012	U
n-Propylbenzene	103-65-1	3.9	100	100	500	1000	0.0011	U	0.00098	U	0.001	U	0.0012	U
Naphthalene	91-20-3	12	100	100	500	1000	0.002	J J-	0.0039	U	0.004	U	0.0049	U
o-Xylene	95-47-6						0.0011	U	0.00098	U	0.001	U	0.0012	U
p-Isopropyltoluene	99-87-6						0.0011	U	0.00098	U	0.001	U	0.0012	U
p/m-Xylene	179601-23-1						0.0023	U	0.002	U	0.002	U	0.0024	U
sec-Butylbenzene	135-98-8	11	100	100	500	1000	0.0011	U	0.00098	U	0.001	U	0.0012	U
Styrene	100-42-5						0.0011	U	0.00098	U	0.001	U	0.0012	U
tert-Butylbenzene	98-06-6	5.9	100	100	500	1000	0.0023	U	0.002	U	0.002	U	0.0024	U
Tetrachloroethene	127-18-4	1.3	5.5	19	150	300	0.00057	U	0.00049	U	0.0005	U	0.00061	U
Toluene	108-88-3	0.7	100	100	500	1000	0.0011	U	0.00098	U	0.001	U	0.0012	U
trans-1,2-Dichloroethene	156-60-5	0.19	100	100	500	1000	0.0017	U	0.0015	U	0.0015	U	0.0018	U
trans-1,3-Dichloropropene	10061-02-6						0.0011	U	0.00098	U	0.001	U	0.0012	U
Trichloroethene	79-01-6	0.47	10	21	200	400	0.00057	U	0.00049	U	0.0005	U	0.00061	U
Trichlorofluoromethane	75-69-4						0.0046	U	0.0039	U	0.004	U	0.0049	U
Vinyl chloride	75-01-4	0.02	0.21	0.9	13	27	0.0011	U	0.00098	U	0.001	U	0.0012	U

Table 3

Soil Analytical Results - Area B - TAL Metals
Pre-Design Investigation Report (Soil)
NYSDEC Brownfield Cleanup Program Site No. C755019
121-125 Lake Street, Ithaca, New York

LOCATION							PDI-B-1 0-2		PDI-B-1 10-12		PDI-B-2 0-2		PDI-B-2 10-12		PDI-B-3 0-2		PDI-B-3 10-12		PDI-B-4 0-2		PDI-B-4 10-12		PDI-B-50-2		PDI-B-5 0-6	
SAMPLING DATE							7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022	
LAB SAMPLE ID							L2239485-13		L2239485-14		L2239485-15		L2239485-16		L2239485-17		L2239485-18		L2239485-19		L2239485-20		L2239485-21		L2239485-22	
SAMPLE TYPE							SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (in)							0 - 2		10 - 12		0 - 2		10 - 12		0 - 2		10 - 12		0 - 2		10 - 12		0 - 2		0 - 6	
Analytes	CasNum	Unrestricted Use SCO	Residential Use SCO	Restricted Residential Use SCO	Restricted Commercial Use SCO	Restricted Industrial Use SCO	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier
	General Chemistry						General Chemistry																			
	Solids, Total	NONE					59.2%		74.5%		90.6%		94.0%		95.2%		96.0%		82.9%		80.4%		90.0%		89.1%	
	Total Metals						Total Metals																			
	Aluminum, Total	7429-90-5						3650		4940		5920		6290		6230	J-	6050		5700		6120		8270		9480
Antimony, Total	7440-36-0						0.748	J	0.632	J	4.26	U	4.16	U	4.13	U UJ	4.02	U	1.22	J	1.05	J	3.72	J	3.65	J
Arsenic, Total	7440-38-2	13	16	16	16	16	2.87		3.55		4.2		4.52		4.46		4.44		6.33		5.88		13.3		14.2	
Barium, Total	7440-39-3	350	350	400	400	10000	75.5		56.4		34.2		32.5		40.5	J-	34.4		67.7		65		76.5		79.8	
Beryllium, Total	7440-41-7	7.2	14	72	590	2700	0.16	J	0.225	J	0.264	J	0.258	J	0.281	J	0.274	J	0.29	J	0.311	J	0.386	J	0.469	
Cadmium, Total	7440-43-9	2.5	2.5	4.3	9.3	60	0.708	J	0.515	J	0.392	J	0.374	J	0.306	J	0.29	J	0.57	J	0.594	J	0.894		1.01	
Calcium, Total	7440-70-2						32200		32200		17200		25300		25100	J-	27500		13500		13100		6100		5120	
Chromium, Total	7440-47-3						17.2		12		9.55		9.57		9.53		9.26		10.4		11.2		15.1		16.9	
Cobalt, Total	7440-48-4						4.29		5.51		5.81		5.98		6.14	J-	5.88		7.42		8.16		10.6		11.4	
Copper, Total	7440-50-8	50	270	270	270	10000	37.2		24.9		15.1		15.1		15.1		94.1		33.7		34.1		44		50.1	
Iron, Total	7439-89-6						11200		12300		13700		14300		15000	J-	14600		16900		17400		29200		30900	
Lead, Total	7439-92-1	63	400	400	1000	3900	115		62.3		30		20.4		22.7		22		236		221		531		522	
Magnesium, Total	7439-95-4						5160		7700		4830		5340		7800	J-	7330		3040		3120		2970		3290	
Manganese, Total	7439-96-5	1600	2000	2000	10000	10000	365		361		375		358		377	J-	353		629		651		428		523	
Nickel, Total	7440-02-0	30	140	310	310	10000	12		13.2		14.2		14.8		16		15.5		14.4		15.2		17.3		19.8	
Potassium, Total	7440-09-7						723		528		395		330		469		359		641		594		455		383	
Selenium, Total	7782-49-2	3.9	36	180	1500	6800	0.481	J	0.322	J	1.7	U	1.66	U	1.65	U UJ	1.61	U	0.752	J	0.783	J	1.21	J	1.56	J
Silver, Total	7440-22-4	2	36	180	1500	6800	1.34	U	1.07	U	0.853	U	0.832	U	0.826	U	0.805	U	0.471	J	0.471	J	0.394	J	0.425	J
Sodium, Total	7440-23-5						99.8	J	59.2	J	34.5	J	35.7	J	42.9	J	44.9	J	44.1	J	39.1	J	77	J	116	J
Thallium, Total	7440-28-0						2.67	U	2.14	U	0.324	J	0.416	J	1.65	U UJ	1.61	U	0.29	J	0.321	J	0.377	J	0.451	J
Vanadium, Total	7440-62-2						8.25		10.1		10.6		10.7		10.9		10.8		9.74		10.1		16.2		16.7	
Zinc, Total	7440-66-6	109	2200	10000	10000	10000	207		144		66.9		51.4		55	J-	49.5		140		133		270		580	

Notes:
All units are mg/kg unless otherwise indicated

Definitions:	
Unrestricted Use SCO	- New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Residential Use SCO	- New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Restricted Residential Use SCO	- New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Restricted Commercial Use SCO	- New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Restricted Industrial Use SCO	- New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
mg/kg	- Milligrams per kilogram
%	- Percent
in	- Inches
U	- The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	- The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
J-	- The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
UJ	- The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
U UJ	- Laboratory qualifier is displayed in black text; validation data qualifier is displayed in red text.

Soil Analytical Results - Area B - TAL Metals
Pre-Design Investigation Report (Soil)
NYSDEC Brownfield Cleanup Program Site No. C755019
121-125 Lake Street, Ithaca, New York

LOCATION							PDI-B-6 0-2		PDI-B-6 0-6		PDI-B-7 0-2		PDI-B-7 10-12		PDI-B-8 0-2		PDI-B-8 10-12		PDI-B-90-2		PDI-B-9 10-12		PDI-B-10 0-2		PDI-B-10 10-12		
SAMPLING DATE							7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022		7/22/2022		
LAB SAMPLE ID							L2239485-23		L2239485-24		L2239485-25		L2239485-26		L2239485-27		L2239485-28		L2239485-29		L2239485-30		L2239485-31		L2239485-32		
SAMPLE TYPE							SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		
SAMPLE DEPTH (in)							0 - 2		0 - 6		0 - 2		10 - 12		0 - 2		10 - 12		0 - 2		10 - 12		0 - 2		10 - 12		
Analytes	CasNum	Unrestricted Use SCO	Residential Use SCO	Restricted Residential Use SCO	Restricted Commercial Use SCO	Restricted Industrial Use SCO	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	
General Chemistry							General Chemistry																				
Solids, Total		NONE					90.1%		92.0%		90.0%		91.4%		92.1%		92.1%		93.8%		94.2%		94.5%		93.5%		
Total Metals							Total Metals																				
Aluminum, Total	7429-90-5						8420		9010		5590		5280		7820		8000		7880		7550		8780		8750		
Antimony, Total	7440-36-0						28.4		20.2		126		60		1.43 J		0.646 J		4.24 U		4.09 U		1.38 J		1.39 J		
Arsenic, Total	7440-38-2	13	16	16	16	16	14.6		13.7		66		32.2		6.25		5.73		6.76		6.38		7.35		8.74		
Barium, Total	7440-39-3	350	350	400	400	10000	89.6		57.9		69.2		65.4		54.5		44.2		57.6		50.4		48.3		54.8		
Beryllium, Total	7440-41-7	7.2	14	72	590	2700	0.468		0.57		0.34 J		0.34 J		0.354 J		0.323 J		0.322 J		0.311 J		0.38 J		0.396 J		
Cadmium, Total	7440-43-9	2.5	2.5	4.3	9.3	60	1.47		1.55		2.22		4.4		0.422 J		0.366 J		0.365 J		0.336 J		0.47 J		0.512 J		
Calcium, Total	7440-70-2						6480		3800		27300		15400		32500		30200		40300		40900		6310		16100		
Chromium, Total	7440-47-3						18.2		16.6		15.9		20.5		11.6		11.8		12.6		12.2		13.3		13.5		
Cobalt, Total	7440-48-4						11.2		11.7		6.34		12		8.06		8.72		8.63		8.25		11.7		10.1		
Copper, Total	7440-50-8	50	270	270	270	10000	66.6		108		248		389		22.3		20.2		21		19.5		228		24.3		
Iron, Total	7439-89-6						33200		24600		20800		59700		18800		18100		18600		17900		21600		20900		
Lead, Total	7439-92-1	63	400	400	1000	3900	2440		2270		7320		7130		213		150		19.9		12.4		155		182		
Magnesium, Total	7439-95-4						3760		3780		3620		3060		9410		9390		13200		13100		4030		4500		
Manganese, Total	7439-96-5	1600	2000	2000	10000	10000	333		325		326		424		528		487		566		539		522		592		
Nickel, Total	7440-02-0	30	140	310	310	10000	22.4		21.7		16.6		35		16		16.6		18.5		17.7		19.8		19.1		
Potassium, Total	7440-09-7						458		458		581		434		492		478		476		422		410		482		
Selenium, Total	7782-49-2	3.9	36	180	1500	6800	3.12		3.81		0.28 J		0.553 J		1.69 U		1.7 U		1.7 U		1.64 U		1.65 U		0.33 J		
Silver, Total	7440-22-4	2	36	180	1500	6800	1.46		1.22		1.58		2.39		0.844 U		0.849 U		0.849 U		0.818 U		0.825 U		0.826 U		
Sodium, Total	7440-23-5						36.2 J		44.7 J		88.2 J		55.2 J		40.4 J		37.9 J		50 J		51.8 J		35.4 J		41 J		
Thallium, Total	7440-28-0						0.286 J		0.311 J		1.7 U		0.332 J		0.498 J		0.4 J		0.458 J		0.442 J		0.396 J		0.537 J		
Vanadium, Total	7440-62-2						18.4		17.2		17.7		16.1		12.6		12.4		12.4		11.9		13.1		13.7		
Zinc, Total	7440-66-6	109	2200	10000	10000	10000	542		881		1700		3510		89.7		75.3		66		58.8		86.3		110		

Notes:
All units are mg/kg unless otherwise indicated

Definitions:	
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U UJ	- Laboratory qualifier is displayed in black text; validation data qualifier is displayed in red text.

Appendices

Appendix A - Laboratory Analytical Reports

Appendix B - Treatability Study Results

Appendix C - Data Usability Summary Report (DUSR)

Appendix A

Appendix A - Laboratory Analytical Reports



ANALYTICAL REPORT

Lab Number:	L2239485
Client:	C&S Companies 499 Col. Eileen Collins Blvd. Syracuse, NY 13212
ATTN:	Nevin Bradford
Phone:	(315) 703-4284
Project Name:	FORMER ITHACA GUN FACTORY PDI
Project Number:	Y55.002.001
Report Date:	09/27/22

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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: FORMER ITHACA GUN FACTORY PDI

Project Number: Y55.002.001

Lab Number: L2239485

Report Date: 09/27/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2239485-01	PDI-A-1-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 10:50	07/22/22
L2239485-02	PDI-A-1-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:00	07/22/22
L2239485-03	PDI-A-2-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:28	07/22/22
L2239485-04	PDI-A-2-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:31	07/22/22
L2239485-05	PDI-A-3-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:14	07/22/22
L2239485-06	PDI-A-3-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:17	07/22/22
L2239485-07	PDI-A-4-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:41	07/22/22
L2239485-08	PDI-A-4-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:46	07/22/22
L2239485-09	PDI-A-5-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:56	07/22/22
L2239485-10	PDI-A-5-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 12:00	07/22/22
L2239485-11	PDI-A-6-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 12:08	07/22/22
L2239485-12	PDI-A-6-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 12:13	07/22/22
L2239485-13	PDI-B-1-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 15:05	07/22/22
L2239485-14	PDI-B-1-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 15:08	07/22/22
L2239485-15	PDI-B-2-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:10	07/22/22
L2239485-16	PDI-B-2-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:18	07/22/22
L2239485-17	PDI-B-3-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:02	07/22/22
L2239485-18	PDI-B-3-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:08	07/22/22
L2239485-19	PDI-B-4-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:41	07/22/22
L2239485-20	PDI-B-4-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:45	07/22/22
L2239485-21	PDI-B-5-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:48	07/22/22
L2239485-22	PDI-B-5-0-6	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:50	07/22/22
L2239485-23	PDI-B-6-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:55	07/22/22
L2239485-24	PDI-B-6-0-6	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:58	07/22/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2239485-25	PDI-B-7-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 12:55	07/22/22
L2239485-26	PDI-B-7-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:00	07/22/22
L2239485-27	PDI-B-8-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:06	07/22/22
L2239485-28	PDI-B-8-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:11	07/22/22
L2239485-29	PDI-B-9-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:17	07/22/22
L2239485-30	PDI-B-9-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:26	07/22/22
L2239485-31	PDI-B-10-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:30	07/22/22
L2239485-32	PDI-B-10-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:38	07/22/22

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

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: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

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.

Sample Receipt

The element list for metals analysis was specified by the client.

Total Metals

L2239485-01 through -32: The sample has elevated detection limits for all elements due to the dilution required by matrix interferences encountered during analysis.

The WG1683064-3 MS recoveries for aluminum (950%), calcium (0%), iron (3020%), magnesium (0%) and manganese (3%), performed on L2239485-17, do not apply because the sample concentrations are greater than four times the spike amounts added.

The WG1683064-3 MS recoveries, performed on L2239485-17, are outside the acceptance criteria for antimony (48%) and selenium (72%). A post digestion spike was performed and was within acceptance criteria.

The WG1683064-3 MS recoveries, performed on L2239485-17, are outside the acceptance criteria for cobalt (72%), thallium (71%) and zinc (69%). A post digestion spike was performed and yielded unacceptable recoveries for cobalt (68%), thallium (72%) and zinc (63%). The serial dilution recoveries were not applicable; therefore, these elements fail the matrix test and the results reported in the native sample should be considered estimated.

The WG1683064-6 serial dilution analysis, associated with L2239485-17, had a %D above the acceptance criteria for aluminum (21%), barium (22%), calcium (25%), iron (28%), magnesium (28%) and manganese (27%).

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:

Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative

Date: 09/27/22

METALS

Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-01

Date Collected: 07/22/22 10:50

Client ID: PDI-A-1-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6480		mg/kg	8.48	2.29	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.24	0.322	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Arsenic, Total	5.09		mg/kg	0.848	0.176	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Barium, Total	54.9		mg/kg	0.848	0.148	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Beryllium, Total	0.305	J	mg/kg	0.424	0.028	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Cadmium, Total	0.475	J	mg/kg	0.848	0.083	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Calcium, Total	7190		mg/kg	8.48	2.97	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Chromium, Total	10.4		mg/kg	0.848	0.081	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Cobalt, Total	6.77		mg/kg	1.70	0.141	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Copper, Total	13.8		mg/kg	0.848	0.219	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Iron, Total	15400		mg/kg	4.24	0.765	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Lead, Total	18.8		mg/kg	4.24	0.227	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Magnesium, Total	4120		mg/kg	8.48	1.30	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Manganese, Total	372		mg/kg	0.848	0.135	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Nickel, Total	16.2		mg/kg	2.12	0.205	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Potassium, Total	404		mg/kg	212	12.2	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.70	0.219	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.848	0.240	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Sodium, Total	31.1	J	mg/kg	170	2.67	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.70	0.267	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Vanadium, Total	11.7		mg/kg	0.848	0.172	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC
Zinc, Total	54.6		mg/kg	4.24	0.248	2	09/02/22 23:15	09/09/22 19:35	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-02

Date Collected: 07/22/22 11:00

Client ID: PDI-A-1-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7440		mg/kg	8.47	2.29	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Antimony, Total	0.517	J	mg/kg	4.24	0.322	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Arsenic, Total	5.52		mg/kg	0.847	0.176	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Barium, Total	50.0		mg/kg	0.847	0.147	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Beryllium, Total	0.330	J	mg/kg	0.424	0.028	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Cadmium, Total	0.491	J	mg/kg	0.847	0.083	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Calcium, Total	5250		mg/kg	8.47	2.96	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Chromium, Total	11.5		mg/kg	0.847	0.081	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Cobalt, Total	7.16		mg/kg	1.69	0.141	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Copper, Total	13.8		mg/kg	0.847	0.219	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Iron, Total	17000		mg/kg	4.24	0.765	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Lead, Total	35.1		mg/kg	4.24	0.227	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Magnesium, Total	3760		mg/kg	8.47	1.30	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Manganese, Total	414		mg/kg	0.847	0.135	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Nickel, Total	17.1		mg/kg	2.12	0.205	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Potassium, Total	359		mg/kg	212	12.2	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Selenium, Total	0.288	J	mg/kg	1.69	0.219	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.847	0.240	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Sodium, Total	26.1	J	mg/kg	169	2.67	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.69	0.267	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Vanadium, Total	12.7		mg/kg	0.847	0.172	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC
Zinc, Total	59.1		mg/kg	4.24	0.248	2	09/02/22 23:15	09/09/22 19:40	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-03

Date Collected: 07/22/22 11:28

Client ID: PDI-A-2-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7250		mg/kg	8.12	2.19	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.06	0.309	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Arsenic, Total	5.46		mg/kg	0.812	0.169	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Barium, Total	28.8		mg/kg	0.812	0.141	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Beryllium, Total	0.317	J	mg/kg	0.406	0.027	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Cadmium, Total	0.471	J	mg/kg	0.812	0.080	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Calcium, Total	3020		mg/kg	8.12	2.84	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Chromium, Total	11.4		mg/kg	0.812	0.078	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Cobalt, Total	6.85		mg/kg	1.62	0.135	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Copper, Total	15.3		mg/kg	0.812	0.210	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Iron, Total	17000		mg/kg	4.06	0.733	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Lead, Total	22.8		mg/kg	4.06	0.218	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Magnesium, Total	3120		mg/kg	8.12	1.25	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Manganese, Total	307		mg/kg	0.812	0.129	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Nickel, Total	17.6		mg/kg	2.03	0.196	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Potassium, Total	423		mg/kg	203	11.7	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.62	0.210	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.812	0.230	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Sodium, Total	21.4	J	mg/kg	162	2.56	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.62	0.256	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Vanadium, Total	12.3		mg/kg	0.812	0.165	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC
Zinc, Total	56.9		mg/kg	4.06	0.238	2	09/02/22 23:15	09/09/22 19:45	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-04

Date Collected: 07/22/22 11:31

Client ID: PDI-A-2-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6790		mg/kg	8.10	2.19	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Antimony, Total	0.389	J	mg/kg	4.05	0.308	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Arsenic, Total	5.52		mg/kg	0.810	0.168	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Barium, Total	18.7		mg/kg	0.810	0.141	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Beryllium, Total	0.251	J	mg/kg	0.405	0.027	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Cadmium, Total	0.454	J	mg/kg	0.810	0.079	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Calcium, Total	23400		mg/kg	8.10	2.84	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Chromium, Total	10.4		mg/kg	0.810	0.078	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Cobalt, Total	6.51		mg/kg	1.62	0.134	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Copper, Total	17.3		mg/kg	0.810	0.209	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Iron, Total	20300		mg/kg	4.05	0.732	2	09/02/22 23:15	09/11/22 15:10	EPA 3050B	1,6010D	EW
Lead, Total	15.2		mg/kg	4.05	0.217	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Magnesium, Total	4170		mg/kg	8.10	1.25	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Manganese, Total	308		mg/kg	0.810	0.129	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Nickel, Total	17.0		mg/kg	2.02	0.196	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Potassium, Total	285		mg/kg	202	11.7	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.62	0.209	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.810	0.229	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Sodium, Total	29.8	J	mg/kg	162	2.55	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.62	0.255	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Vanadium, Total	11.2		mg/kg	0.810	0.164	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC
Zinc, Total	46.3		mg/kg	4.05	0.237	2	09/02/22 23:15	09/09/22 20:44	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-05

Date Collected: 07/22/22 11:14

Client ID: PDI-A-3-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6240		mg/kg	8.43	2.28	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.22	0.320	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Arsenic, Total	4.70		mg/kg	0.843	0.175	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Barium, Total	56.6		mg/kg	0.843	0.147	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Beryllium, Total	0.295	J	mg/kg	0.422	0.028	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Cadmium, Total	0.514	J	mg/kg	0.843	0.083	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Calcium, Total	10000		mg/kg	8.43	2.95	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Chromium, Total	10.1		mg/kg	0.843	0.081	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Cobalt, Total	6.32		mg/kg	1.69	0.140	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Copper, Total	12.7		mg/kg	0.843	0.218	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Iron, Total	17700		mg/kg	4.22	0.761	2	09/02/22 23:15	09/11/22 15:15	EPA 3050B	1,6010D	EW
Lead, Total	34.1		mg/kg	4.22	0.226	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Magnesium, Total	3850		mg/kg	8.43	1.30	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Manganese, Total	403		mg/kg	0.843	0.134	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Nickel, Total	14.9		mg/kg	2.11	0.204	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Potassium, Total	401		mg/kg	211	12.1	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.69	0.218	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.843	0.238	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Sodium, Total	30.1	J	mg/kg	169	2.66	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.69	0.266	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Vanadium, Total	11.3		mg/kg	0.843	0.171	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC
Zinc, Total	77.6		mg/kg	4.22	0.247	2	09/02/22 23:15	09/09/22 20:49	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-06

Date Collected: 07/22/22 11:17

Client ID: PDI-A-3-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8010		mg/kg	8.20	2.21	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.10	0.312	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Arsenic, Total	5.52		mg/kg	0.820	0.170	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Barium, Total	31.6		mg/kg	0.820	0.143	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Beryllium, Total	0.320	J	mg/kg	0.410	0.027	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Cadmium, Total	0.484	J	mg/kg	0.820	0.080	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Calcium, Total	3020		mg/kg	8.20	2.87	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Chromium, Total	12.1		mg/kg	0.820	0.079	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Cobalt, Total	7.43		mg/kg	1.64	0.136	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Copper, Total	12.6		mg/kg	0.820	0.212	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Iron, Total	21300		mg/kg	4.10	0.740	2	09/02/22 23:15	09/11/22 15:19	EPA 3050B	1,6010D	EW
Lead, Total	16.7		mg/kg	4.10	0.220	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Magnesium, Total	3300		mg/kg	8.20	1.26	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Manganese, Total	296		mg/kg	0.820	0.130	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Nickel, Total	17.9		mg/kg	2.05	0.198	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Potassium, Total	297		mg/kg	205	11.8	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.64	0.212	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.820	0.232	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Sodium, Total	21.1	J	mg/kg	164	2.58	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.64	0.258	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Vanadium, Total	13.0		mg/kg	0.820	0.166	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC
Zinc, Total	56.3		mg/kg	4.10	0.240	2	09/02/22 23:15	09/09/22 20:54	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-07

Date Collected: 07/22/22 11:41

Client ID: PDI-A-4-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7060		mg/kg	8.02	2.16	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Antimony, Total	0.553	J	mg/kg	4.01	0.305	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Arsenic, Total	5.55		mg/kg	0.802	0.167	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Barium, Total	28.5		mg/kg	0.802	0.140	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Beryllium, Total	0.297	J	mg/kg	0.401	0.027	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Cadmium, Total	0.457	J	mg/kg	0.802	0.079	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Calcium, Total	2160		mg/kg	8.02	2.81	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Chromium, Total	11.2		mg/kg	0.802	0.077	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Cobalt, Total	6.70		mg/kg	1.60	0.133	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Copper, Total	16.7		mg/kg	0.802	0.207	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Iron, Total	23200		mg/kg	4.01	0.724	2	09/02/22 23:15	09/11/22 15:24	EPA 3050B	1,6010D	EW
Lead, Total	35.4		mg/kg	4.01	0.215	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Magnesium, Total	3010		mg/kg	8.02	1.24	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Manganese, Total	303		mg/kg	0.802	0.128	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Nickel, Total	16.8		mg/kg	2.00	0.194	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Potassium, Total	340		mg/kg	200	11.5	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.60	0.207	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.802	0.227	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Sodium, Total	18.2	J	mg/kg	160	2.53	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.60	0.253	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Vanadium, Total	11.9		mg/kg	0.802	0.163	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC
Zinc, Total	49.3		mg/kg	4.01	0.235	2	09/02/22 23:15	09/09/22 20:59	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-08

Date Collected: 07/22/22 11:46

Client ID: PDI-A-4-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7540		mg/kg	8.29	2.24	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Antimony, Total	0.489	J	mg/kg	4.14	0.315	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Arsenic, Total	5.84		mg/kg	0.829	0.172	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Barium, Total	23.9		mg/kg	0.829	0.144	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Beryllium, Total	0.298	J	mg/kg	0.414	0.027	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Cadmium, Total	0.456	J	mg/kg	0.829	0.081	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Calcium, Total	5940		mg/kg	8.29	2.90	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Chromium, Total	11.4		mg/kg	0.829	0.080	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Cobalt, Total	6.67		mg/kg	1.66	0.138	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Copper, Total	17.0		mg/kg	0.829	0.214	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Iron, Total	20700		mg/kg	4.14	0.748	2	09/02/22 23:15	09/11/22 15:28	EPA 3050B	1,6010D	EW
Lead, Total	30.1		mg/kg	4.14	0.222	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Magnesium, Total	3410		mg/kg	8.29	1.28	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Manganese, Total	323		mg/kg	0.829	0.132	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Nickel, Total	17.5		mg/kg	2.07	0.200	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Potassium, Total	320		mg/kg	207	11.9	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.66	0.214	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.829	0.234	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Sodium, Total	20.2	J	mg/kg	166	2.61	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.66	0.261	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Vanadium, Total	11.7		mg/kg	0.829	0.168	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC
Zinc, Total	51.0		mg/kg	4.14	0.243	2	09/02/22 23:15	09/09/22 21:04	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-09

Date Collected: 07/22/22 11:56

Client ID: PDI-A-5-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6570		mg/kg	8.34	2.25	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.17	0.317	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Arsenic, Total	4.89		mg/kg	0.834	0.173	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Barium, Total	57.8		mg/kg	0.834	0.145	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Beryllium, Total	0.308	J	mg/kg	0.417	0.028	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Cadmium, Total	0.434	J	mg/kg	0.834	0.082	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Calcium, Total	8240		mg/kg	8.34	2.92	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Chromium, Total	10.6		mg/kg	0.834	0.080	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Cobalt, Total	6.65		mg/kg	1.67	0.138	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Copper, Total	13.4		mg/kg	0.834	0.215	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Iron, Total	18500		mg/kg	4.17	0.753	2	09/02/22 23:15	09/11/22 15:33	EPA 3050B	1,6010D	EW
Lead, Total	14.8		mg/kg	4.17	0.224	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Magnesium, Total	4290		mg/kg	8.34	1.28	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Manganese, Total	380		mg/kg	0.834	0.132	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Nickel, Total	15.6		mg/kg	2.08	0.202	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Potassium, Total	496		mg/kg	208	12.0	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.67	0.215	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.834	0.236	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Sodium, Total	30.8	J	mg/kg	167	2.63	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.67	0.263	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Vanadium, Total	12.0		mg/kg	0.834	0.169	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC
Zinc, Total	47.2		mg/kg	4.17	0.244	2	09/02/22 23:15	09/09/22 21:09	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-10

Date Collected: 07/22/22 12:00

Client ID: PDI-A-5-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6730		mg/kg	8.37	2.26	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.18	0.318	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Arsenic, Total	4.84		mg/kg	0.837	0.174	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Barium, Total	62.1		mg/kg	0.837	0.146	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Beryllium, Total	0.318	J	mg/kg	0.418	0.028	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Cadmium, Total	0.427	J	mg/kg	0.837	0.082	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Calcium, Total	8020		mg/kg	8.37	2.93	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Chromium, Total	10.8		mg/kg	0.837	0.080	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Cobalt, Total	6.74		mg/kg	1.67	0.139	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Copper, Total	15.6		mg/kg	0.837	0.216	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Iron, Total	18600		mg/kg	4.18	0.755	2	09/02/22 23:15	09/11/22 15:37	EPA 3050B	1,6010D	EW
Lead, Total	12.2		mg/kg	4.18	0.224	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Magnesium, Total	4310		mg/kg	8.37	1.29	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Manganese, Total	393		mg/kg	0.837	0.133	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Nickel, Total	15.5		mg/kg	2.09	0.202	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Potassium, Total	452		mg/kg	209	12.0	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.67	0.216	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.837	0.237	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Sodium, Total	30.6	J	mg/kg	167	2.64	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.67	0.264	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Vanadium, Total	12.6		mg/kg	0.837	0.170	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC
Zinc, Total	46.4		mg/kg	4.18	0.245	2	09/02/22 23:15	09/09/22 21:14	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-11

Date Collected: 07/22/22 12:08

Client ID: PDI-A-6-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6660		mg/kg	8.32	2.25	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.16	0.316	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Arsenic, Total	5.08		mg/kg	0.832	0.173	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Barium, Total	49.0		mg/kg	0.832	0.145	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Beryllium, Total	0.300	J	mg/kg	0.416	0.027	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Cadmium, Total	0.466	J	mg/kg	0.832	0.082	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Calcium, Total	8050		mg/kg	8.32	2.91	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Chromium, Total	10.8		mg/kg	0.832	0.080	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Cobalt, Total	7.23		mg/kg	1.66	0.138	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Copper, Total	13.3		mg/kg	0.832	0.215	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Iron, Total	19200		mg/kg	4.16	0.751	2	09/02/22 23:15	09/11/22 15:42	EPA 3050B	1,6010D	EW
Lead, Total	22.6		mg/kg	4.16	0.223	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Magnesium, Total	4320		mg/kg	8.32	1.28	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Manganese, Total	403		mg/kg	0.832	0.132	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Nickel, Total	17.1		mg/kg	2.08	0.201	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Potassium, Total	506		mg/kg	208	12.0	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.66	0.215	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.832	0.235	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Sodium, Total	30.0	J	mg/kg	166	2.62	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.66	0.262	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Vanadium, Total	12.0		mg/kg	0.832	0.169	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC
Zinc, Total	52.3		mg/kg	4.16	0.244	2	09/02/22 23:15	09/09/22 21:19	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-12

Date Collected: 07/22/22 12:13

Client ID: PDI-A-6-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6760		mg/kg	8.28	2.24	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.14	0.315	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Arsenic, Total	5.08		mg/kg	0.828	0.172	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Barium, Total	57.4		mg/kg	0.828	0.144	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Beryllium, Total	0.323	J	mg/kg	0.414	0.027	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Cadmium, Total	0.447	J	mg/kg	0.828	0.081	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Calcium, Total	8980		mg/kg	8.28	2.90	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Chromium, Total	11.2		mg/kg	0.828	0.080	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Cobalt, Total	6.96		mg/kg	1.66	0.137	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Copper, Total	14.1		mg/kg	0.828	0.214	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Iron, Total	21400		mg/kg	4.14	0.748	2	09/02/22 23:15	09/11/22 15:46	EPA 3050B	1,6010D	EW
Lead, Total	15.4		mg/kg	4.14	0.222	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Magnesium, Total	4570		mg/kg	8.28	1.28	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Manganese, Total	403		mg/kg	0.828	0.132	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Nickel, Total	16.2		mg/kg	2.07	0.200	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Potassium, Total	473		mg/kg	207	11.9	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.66	0.214	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.828	0.234	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Sodium, Total	32.5	J	mg/kg	166	2.61	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.66	0.261	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Vanadium, Total	12.9		mg/kg	0.828	0.168	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC
Zinc, Total	47.7		mg/kg	4.14	0.243	2	09/02/22 23:15	09/09/22 21:24	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-13

Date Collected: 07/22/22 15:05

Client ID: PDI-B-1-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 59%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3650		mg/kg	13.4	3.60	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Antimony, Total	0.748	J	mg/kg	6.68	0.507	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Arsenic, Total	2.87		mg/kg	1.34	0.278	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Barium, Total	75.5		mg/kg	1.34	0.232	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Beryllium, Total	0.160	J	mg/kg	0.668	0.044	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Cadmium, Total	0.708	J	mg/kg	1.34	0.131	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Calcium, Total	32200		mg/kg	13.4	4.67	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Chromium, Total	17.2		mg/kg	1.34	0.128	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Cobalt, Total	4.29		mg/kg	2.67	0.222	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Copper, Total	37.2		mg/kg	1.34	0.344	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Iron, Total	11200		mg/kg	6.68	1.20	2	09/02/22 23:15	09/11/22 15:51	EPA 3050B	1,6010D	EW
Lead, Total	115		mg/kg	6.68	0.358	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Magnesium, Total	5160		mg/kg	13.4	2.06	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Manganese, Total	365		mg/kg	1.34	0.212	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Nickel, Total	12.0		mg/kg	3.34	0.323	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Potassium, Total	723		mg/kg	334	19.2	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Selenium, Total	0.481	J	mg/kg	2.67	0.344	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	1.34	0.378	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Sodium, Total	99.8	J	mg/kg	267	4.21	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	2.67	0.421	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Vanadium, Total	8.25		mg/kg	1.34	0.271	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC
Zinc, Total	207		mg/kg	6.68	0.391	2	09/02/22 23:15	09/09/22 21:29	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-14

Date Collected: 07/22/22 15:08

Client ID: PDI-B-1-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 75%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4940		mg/kg	10.7	2.89	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Antimony, Total	0.632	J	mg/kg	5.36	0.407	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Arsenic, Total	3.55		mg/kg	1.07	0.223	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Barium, Total	56.4		mg/kg	1.07	0.186	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Beryllium, Total	0.225	J	mg/kg	0.536	0.035	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Cadmium, Total	0.515	J	mg/kg	1.07	0.105	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Calcium, Total	32200		mg/kg	10.7	3.75	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Chromium, Total	12.0		mg/kg	1.07	0.103	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Cobalt, Total	5.51		mg/kg	2.14	0.178	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Copper, Total	24.9		mg/kg	1.07	0.277	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Iron, Total	12300		mg/kg	5.36	0.968	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Lead, Total	62.3		mg/kg	5.36	0.287	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Magnesium, Total	7700		mg/kg	10.7	1.65	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Manganese, Total	361		mg/kg	1.07	0.170	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Nickel, Total	13.2		mg/kg	2.68	0.259	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Potassium, Total	528		mg/kg	268	15.4	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Selenium, Total	0.322	J	mg/kg	2.14	0.277	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	1.07	0.303	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Sodium, Total	59.2	J	mg/kg	214	3.38	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	2.14	0.338	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Vanadium, Total	10.1		mg/kg	1.07	0.218	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC
Zinc, Total	144		mg/kg	5.36	0.314	2	09/02/22 23:15	09/09/22 22:55	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-15

Date Collected: 07/22/22 14:10

Client ID: PDI-B-2-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5920		mg/kg	8.53	2.30	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.26	0.324	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Arsenic, Total	4.20		mg/kg	0.853	0.177	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Barium, Total	34.2		mg/kg	0.853	0.148	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Beryllium, Total	0.264	J	mg/kg	0.426	0.028	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Cadmium, Total	0.392	J	mg/kg	0.853	0.084	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Calcium, Total	17200		mg/kg	8.53	2.98	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Chromium, Total	9.55		mg/kg	0.853	0.082	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Cobalt, Total	5.81		mg/kg	1.70	0.142	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Copper, Total	15.1		mg/kg	0.853	0.220	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Iron, Total	13700		mg/kg	4.26	0.770	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Lead, Total	30.0		mg/kg	4.26	0.228	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Magnesium, Total	4830		mg/kg	8.53	1.31	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Manganese, Total	375		mg/kg	0.853	0.136	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Nickel, Total	14.2		mg/kg	2.13	0.206	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Potassium, Total	395		mg/kg	213	12.3	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.70	0.220	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.853	0.241	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Sodium, Total	34.5	J	mg/kg	170	2.69	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Thallium, Total	0.324	J	mg/kg	1.70	0.269	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Vanadium, Total	10.6		mg/kg	0.853	0.173	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC
Zinc, Total	66.9		mg/kg	4.26	0.250	2	09/02/22 23:15	09/09/22 23:00	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-16

Date Collected: 07/22/22 14:18

Client ID: PDI-B-2-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6290		mg/kg	8.32	2.24	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.16	0.316	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Arsenic, Total	4.52		mg/kg	0.832	0.173	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Barium, Total	32.5		mg/kg	0.832	0.145	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Beryllium, Total	0.258	J	mg/kg	0.416	0.027	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Cadmium, Total	0.374	J	mg/kg	0.832	0.082	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Calcium, Total	25300		mg/kg	8.32	2.91	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Chromium, Total	9.57		mg/kg	0.832	0.080	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Cobalt, Total	5.98		mg/kg	1.66	0.138	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Copper, Total	15.1		mg/kg	0.832	0.214	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Iron, Total	14300		mg/kg	4.16	0.751	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Lead, Total	20.4		mg/kg	4.16	0.223	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Magnesium, Total	5340		mg/kg	8.32	1.28	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Manganese, Total	358		mg/kg	0.832	0.132	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Nickel, Total	14.8		mg/kg	2.08	0.201	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Potassium, Total	330		mg/kg	208	12.0	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.66	0.214	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.832	0.235	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Sodium, Total	35.7	J	mg/kg	166	2.62	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Thallium, Total	0.416	J	mg/kg	1.66	0.262	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Vanadium, Total	10.7		mg/kg	0.832	0.169	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC
Zinc, Total	51.4		mg/kg	4.16	0.244	2	09/02/22 23:15	09/09/22 23:05	EPA 3050B	1,6010D	MC



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-17

Date Collected: 07/22/22 14:02

Client ID: PDI-B-3-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6230		mg/kg	8.26	2.23	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Antimony, Total	ND		mg/kg	4.13	0.314	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Arsenic, Total	4.46		mg/kg	0.826	0.172	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Barium, Total	40.5		mg/kg	0.826	0.144	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Beryllium, Total	0.281	J	mg/kg	0.413	0.027	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Cadmium, Total	0.306	J	mg/kg	0.826	0.081	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Calcium, Total	25100		mg/kg	8.26	2.89	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Chromium, Total	9.53		mg/kg	0.826	0.079	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Cobalt, Total	6.14		mg/kg	1.65	0.137	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Copper, Total	15.1		mg/kg	0.826	0.213	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Iron, Total	15000		mg/kg	4.13	0.746	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Lead, Total	22.7		mg/kg	4.13	0.221	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Magnesium, Total	7800		mg/kg	8.26	1.27	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Manganese, Total	377		mg/kg	0.826	0.131	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Nickel, Total	16.0		mg/kg	2.06	0.200	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Potassium, Total	469		mg/kg	206	11.9	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Selenium, Total	ND		mg/kg	1.65	0.213	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Silver, Total	ND		mg/kg	0.826	0.234	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Sodium, Total	42.9	J	mg/kg	165	2.60	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Thallium, Total	ND		mg/kg	1.65	0.260	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Vanadium, Total	10.9		mg/kg	0.826	0.168	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV
Zinc, Total	55.0		mg/kg	4.13	0.242	2	09/03/22 00:43	09/26/22 21:20	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-18

Date Collected: 07/22/22 14:08

Client ID: PDI-B-3-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6050		mg/kg	8.05	2.17	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Antimony, Total	ND		mg/kg	4.02	0.306	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Arsenic, Total	4.44		mg/kg	0.805	0.167	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Barium, Total	34.4		mg/kg	0.805	0.140	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Beryllium, Total	0.274	J	mg/kg	0.402	0.027	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Cadmium, Total	0.290	J	mg/kg	0.805	0.079	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Calcium, Total	27500		mg/kg	8.05	2.82	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Chromium, Total	9.26		mg/kg	0.805	0.077	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Cobalt, Total	5.88		mg/kg	1.61	0.134	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Copper, Total	94.1		mg/kg	0.805	0.208	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Iron, Total	14600		mg/kg	4.02	0.727	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Lead, Total	22.0		mg/kg	4.02	0.216	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Magnesium, Total	7330		mg/kg	8.05	1.24	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Manganese, Total	353		mg/kg	0.805	0.128	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Nickel, Total	15.5		mg/kg	2.01	0.195	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Potassium, Total	359		mg/kg	201	11.6	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Selenium, Total	ND		mg/kg	1.61	0.208	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Silver, Total	ND		mg/kg	0.805	0.228	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Sodium, Total	44.9	J	mg/kg	161	2.54	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Thallium, Total	ND		mg/kg	1.61	0.254	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Vanadium, Total	10.8		mg/kg	0.805	0.163	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV
Zinc, Total	49.5		mg/kg	4.02	0.236	2	09/03/22 00:43	09/26/22 21:15	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-19

Date Collected: 07/22/22 14:41

Client ID: PDI-B-4-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5700		mg/kg	9.06	2.44	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Antimony, Total	1.22	J	mg/kg	4.53	0.344	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Arsenic, Total	6.33		mg/kg	0.906	0.188	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Barium, Total	67.7		mg/kg	0.906	0.158	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Beryllium, Total	0.290	J	mg/kg	0.453	0.030	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Cadmium, Total	0.570	J	mg/kg	0.906	0.089	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Calcium, Total	13500		mg/kg	9.06	3.17	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Chromium, Total	10.4		mg/kg	0.906	0.087	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Cobalt, Total	7.42		mg/kg	1.81	0.150	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Copper, Total	33.7		mg/kg	0.906	0.234	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Iron, Total	16900		mg/kg	4.53	0.818	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Lead, Total	236		mg/kg	4.53	0.243	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Magnesium, Total	3040		mg/kg	9.06	1.39	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Manganese, Total	629		mg/kg	0.906	0.144	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Nickel, Total	14.4		mg/kg	2.26	0.219	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Potassium, Total	641		mg/kg	226	13.0	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Selenium, Total	0.752	J	mg/kg	1.81	0.234	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Silver, Total	0.471	J	mg/kg	0.906	0.256	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Sodium, Total	44.1	J	mg/kg	181	2.85	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Thallium, Total	0.290	J	mg/kg	1.81	0.285	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Vanadium, Total	9.74		mg/kg	0.906	0.184	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV
Zinc, Total	140		mg/kg	4.53	0.265	2	09/03/22 00:43	09/26/22 21:55	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-20

Date Collected: 07/22/22 14:45

Client ID: PDI-B-4-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6120		mg/kg	9.43	2.55	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Antimony, Total	1.05	J	mg/kg	4.71	0.358	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Arsenic, Total	5.88		mg/kg	0.943	0.196	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Barium, Total	65.0		mg/kg	0.943	0.164	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Beryllium, Total	0.311	J	mg/kg	0.471	0.031	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Cadmium, Total	0.594	J	mg/kg	0.943	0.092	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Calcium, Total	13100		mg/kg	9.43	3.30	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Chromium, Total	11.2		mg/kg	0.943	0.091	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Cobalt, Total	8.16		mg/kg	1.88	0.156	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Copper, Total	34.1		mg/kg	0.943	0.243	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Iron, Total	17400		mg/kg	4.71	0.852	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Lead, Total	221		mg/kg	4.71	0.253	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Magnesium, Total	3120		mg/kg	9.43	1.45	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Manganese, Total	651		mg/kg	0.943	0.150	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Nickel, Total	15.2		mg/kg	2.36	0.228	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Potassium, Total	594		mg/kg	236	13.6	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Selenium, Total	0.783	J	mg/kg	1.88	0.243	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Silver, Total	0.471	J	mg/kg	0.943	0.267	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Sodium, Total	39.1	J	mg/kg	188	2.97	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Thallium, Total	0.321	J	mg/kg	1.88	0.297	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Vanadium, Total	10.1		mg/kg	0.943	0.191	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV
Zinc, Total	133		mg/kg	4.71	0.276	2	09/03/22 00:43	09/26/22 22:00	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-21

Date Collected: 07/22/22 14:48

Client ID: PDI-B-5-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8270		mg/kg	8.76	2.36	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Antimony, Total	3.72	J	mg/kg	4.38	0.333	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Arsenic, Total	13.3		mg/kg	0.876	0.182	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Barium, Total	76.5		mg/kg	0.876	0.152	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Beryllium, Total	0.386	J	mg/kg	0.438	0.029	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Cadmium, Total	0.894		mg/kg	0.876	0.086	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Calcium, Total	6100		mg/kg	8.76	3.07	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Chromium, Total	15.1		mg/kg	0.876	0.084	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Cobalt, Total	10.6		mg/kg	1.75	0.145	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Copper, Total	44.0		mg/kg	0.876	0.226	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Iron, Total	29200		mg/kg	4.38	0.791	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Lead, Total	531		mg/kg	4.38	0.235	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Magnesium, Total	2970		mg/kg	8.76	1.35	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Manganese, Total	428		mg/kg	0.876	0.139	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Nickel, Total	17.3		mg/kg	2.19	0.212	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Potassium, Total	455		mg/kg	219	12.6	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Selenium, Total	1.21	J	mg/kg	1.75	0.226	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Silver, Total	0.394	J	mg/kg	0.876	0.248	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Sodium, Total	77.0	J	mg/kg	175	2.76	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Thallium, Total	0.377	J	mg/kg	1.75	0.276	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Vanadium, Total	16.2		mg/kg	0.876	0.178	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV
Zinc, Total	270		mg/kg	4.38	0.257	2	09/03/22 00:43	09/26/22 22:05	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-22

Date Collected: 07/22/22 14:50

Client ID: PDI-B-5-0-6

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	9480		mg/kg	8.85	2.39	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Antimony, Total	3.65	J	mg/kg	4.42	0.336	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Arsenic, Total	14.2		mg/kg	0.885	0.184	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Barium, Total	79.8		mg/kg	0.885	0.154	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Beryllium, Total	0.469		mg/kg	0.442	0.029	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Cadmium, Total	1.01		mg/kg	0.885	0.087	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Calcium, Total	5120		mg/kg	8.85	3.10	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Chromium, Total	16.9		mg/kg	0.885	0.085	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Cobalt, Total	11.4		mg/kg	1.77	0.147	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Copper, Total	50.1		mg/kg	0.885	0.228	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Iron, Total	30900		mg/kg	4.42	0.799	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Lead, Total	522		mg/kg	4.42	0.237	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Magnesium, Total	3290		mg/kg	8.85	1.36	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Manganese, Total	523		mg/kg	0.885	0.141	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Nickel, Total	19.8		mg/kg	2.21	0.214	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Potassium, Total	383		mg/kg	221	12.7	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Selenium, Total	1.56	J	mg/kg	1.77	0.228	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Silver, Total	0.425	J	mg/kg	0.885	0.250	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Sodium, Total	116	J	mg/kg	177	2.79	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Thallium, Total	0.451	J	mg/kg	1.77	0.279	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Vanadium, Total	16.7		mg/kg	0.885	0.180	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV
Zinc, Total	580		mg/kg	4.42	0.259	2	09/03/22 00:43	09/26/22 22:10	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-23

Date Collected: 07/22/22 14:55

Client ID: PDI-B-6-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8420		mg/kg	8.68	2.34	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Antimony, Total	28.4		mg/kg	4.34	0.330	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Arsenic, Total	14.6		mg/kg	0.868	0.180	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Barium, Total	89.6		mg/kg	0.868	0.151	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Beryllium, Total	0.468		mg/kg	0.434	0.029	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Cadmium, Total	1.47		mg/kg	0.868	0.085	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Calcium, Total	6480		mg/kg	8.68	3.04	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Chromium, Total	18.2		mg/kg	0.868	0.083	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Cobalt, Total	11.2		mg/kg	1.74	0.144	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Copper, Total	66.6		mg/kg	0.868	0.224	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Iron, Total	33200		mg/kg	4.34	0.784	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Lead, Total	2440		mg/kg	4.34	0.232	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Magnesium, Total	3760		mg/kg	8.68	1.34	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Manganese, Total	333		mg/kg	0.868	0.138	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Nickel, Total	22.4		mg/kg	2.17	0.210	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Potassium, Total	458		mg/kg	217	12.5	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Selenium, Total	3.12		mg/kg	1.74	0.224	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Silver, Total	1.46		mg/kg	0.868	0.246	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Sodium, Total	36.2	J	mg/kg	174	2.73	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Thallium, Total	0.286	J	mg/kg	1.74	0.273	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Vanadium, Total	18.4		mg/kg	0.868	0.176	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV
Zinc, Total	542		mg/kg	4.34	0.254	2	09/03/22 00:43	09/26/22 22:15	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-24

Date Collected: 07/22/22 14:58

Client ID: PDI-B-6-0-6

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	9010		mg/kg	8.63	2.33	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Antimony, Total	20.2		mg/kg	4.32	0.328	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Arsenic, Total	13.7		mg/kg	0.863	0.180	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Barium, Total	57.9		mg/kg	0.863	0.150	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Beryllium, Total	0.570		mg/kg	0.432	0.029	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Cadmium, Total	1.55		mg/kg	0.863	0.085	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Calcium, Total	3800		mg/kg	8.63	3.02	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Chromium, Total	16.6		mg/kg	0.863	0.083	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Cobalt, Total	11.7		mg/kg	1.73	0.143	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Copper, Total	108		mg/kg	0.863	0.223	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Iron, Total	24600		mg/kg	4.32	0.780	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Lead, Total	2270		mg/kg	4.32	0.231	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Magnesium, Total	3780		mg/kg	8.63	1.33	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Manganese, Total	325		mg/kg	0.863	0.137	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Nickel, Total	21.7		mg/kg	2.16	0.209	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Potassium, Total	458		mg/kg	216	12.4	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Selenium, Total	3.81		mg/kg	1.73	0.223	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Silver, Total	1.22		mg/kg	0.863	0.244	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Sodium, Total	44.7	J	mg/kg	173	2.72	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Thallium, Total	0.311	J	mg/kg	1.73	0.272	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Vanadium, Total	17.2		mg/kg	0.863	0.175	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV
Zinc, Total	881		mg/kg	4.32	0.253	2	09/03/22 00:43	09/26/22 22:20	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-25

Date Collected: 07/22/22 12:55

Client ID: PDI-B-7-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5590		mg/kg	8.49	2.29	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Antimony, Total	126		mg/kg	4.24	0.322	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Arsenic, Total	66.0		mg/kg	0.849	0.176	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Barium, Total	69.2		mg/kg	0.849	0.148	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Beryllium, Total	0.340	J	mg/kg	0.424	0.028	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Cadmium, Total	2.22		mg/kg	0.849	0.083	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Calcium, Total	27300		mg/kg	8.49	2.97	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Chromium, Total	15.9		mg/kg	0.849	0.082	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Cobalt, Total	6.34		mg/kg	1.70	0.141	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Copper, Total	248		mg/kg	0.849	0.219	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Iron, Total	20800		mg/kg	4.24	0.766	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Lead, Total	7320		mg/kg	4.24	0.227	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Magnesium, Total	3620		mg/kg	8.49	1.31	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Manganese, Total	326		mg/kg	0.849	0.135	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Nickel, Total	16.6		mg/kg	2.12	0.205	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Potassium, Total	581		mg/kg	212	12.2	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Selenium, Total	0.280	J	mg/kg	1.70	0.219	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Silver, Total	1.58		mg/kg	0.849	0.240	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Sodium, Total	88.2	J	mg/kg	170	2.67	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Thallium, Total	ND		mg/kg	1.70	0.267	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Vanadium, Total	17.7		mg/kg	0.849	0.172	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV
Zinc, Total	1700		mg/kg	4.24	0.249	2	09/03/22 00:43	09/26/22 22:25	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-26

Date Collected: 07/22/22 13:00

Client ID: PDI-B-7-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5280		mg/kg	8.51	2.30	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Antimony, Total	60.0		mg/kg	4.25	0.323	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Arsenic, Total	32.2		mg/kg	0.851	0.177	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Barium, Total	65.4		mg/kg	0.851	0.148	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Beryllium, Total	0.340	J	mg/kg	0.425	0.028	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Cadmium, Total	4.40		mg/kg	0.851	0.083	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Calcium, Total	15400		mg/kg	8.51	2.98	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Chromium, Total	20.5		mg/kg	0.851	0.082	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Cobalt, Total	12.0		mg/kg	1.70	0.141	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Copper, Total	389		mg/kg	0.851	0.219	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Iron, Total	59700		mg/kg	21.3	3.84	10	09/03/22 00:43	09/27/22 09:08	EPA 3050B	1,6010D	JF
Lead, Total	7130		mg/kg	4.25	0.228	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Magnesium, Total	3060		mg/kg	8.51	1.31	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Manganese, Total	424		mg/kg	0.851	0.135	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Nickel, Total	35.0		mg/kg	2.13	0.206	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Potassium, Total	434		mg/kg	213	12.2	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Selenium, Total	0.553	J	mg/kg	1.70	0.219	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Silver, Total	2.39		mg/kg	0.851	0.241	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Sodium, Total	55.2	J	mg/kg	170	2.68	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Thallium, Total	0.332	J	mg/kg	1.70	0.268	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Vanadium, Total	16.1		mg/kg	0.851	0.173	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV
Zinc, Total	3510		mg/kg	4.25	0.249	2	09/03/22 00:43	09/26/22 23:06	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-27

Date Collected: 07/22/22 13:06

Client ID: PDI-B-8-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7820		mg/kg	8.44	2.28	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Antimony, Total	1.43	J	mg/kg	4.22	0.320	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Arsenic, Total	6.25		mg/kg	0.844	0.175	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Barium, Total	54.5		mg/kg	0.844	0.147	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Beryllium, Total	0.354	J	mg/kg	0.422	0.028	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Cadmium, Total	0.422	J	mg/kg	0.844	0.083	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Calcium, Total	32500		mg/kg	8.44	2.95	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Chromium, Total	11.6		mg/kg	0.844	0.081	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Cobalt, Total	8.06		mg/kg	1.69	0.140	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Copper, Total	22.3		mg/kg	0.844	0.218	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Iron, Total	18800		mg/kg	4.22	0.762	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Lead, Total	213		mg/kg	4.22	0.226	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Magnesium, Total	9410		mg/kg	8.44	1.30	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Manganese, Total	528		mg/kg	0.844	0.134	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Nickel, Total	16.0		mg/kg	2.11	0.204	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Potassium, Total	492		mg/kg	211	12.1	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Selenium, Total	ND		mg/kg	1.69	0.218	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Silver, Total	ND		mg/kg	0.844	0.239	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Sodium, Total	40.4	J	mg/kg	169	2.66	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Thallium, Total	0.498	J	mg/kg	1.69	0.266	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Vanadium, Total	12.6		mg/kg	0.844	0.171	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV
Zinc, Total	89.7		mg/kg	4.22	0.247	2	09/03/22 00:43	09/26/22 23:11	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-28

Date Collected: 07/22/22 13:11

Client ID: PDI-B-8-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8000		mg/kg	8.50	2.30	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Antimony, Total	0.646	J	mg/kg	4.25	0.323	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Arsenic, Total	5.73		mg/kg	0.850	0.177	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Barium, Total	44.2		mg/kg	0.850	0.148	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Beryllium, Total	0.323	J	mg/kg	0.425	0.028	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Cadmium, Total	0.366	J	mg/kg	0.850	0.083	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Calcium, Total	30200		mg/kg	8.50	2.98	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Chromium, Total	11.8		mg/kg	0.850	0.082	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Cobalt, Total	8.72		mg/kg	1.70	0.141	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Copper, Total	20.2		mg/kg	0.850	0.219	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Iron, Total	18100		mg/kg	4.25	0.768	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Lead, Total	150		mg/kg	4.25	0.228	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Magnesium, Total	9390		mg/kg	8.50	1.31	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Manganese, Total	487		mg/kg	0.850	0.135	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Nickel, Total	16.6		mg/kg	2.12	0.206	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Potassium, Total	478		mg/kg	212	12.2	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Selenium, Total	ND		mg/kg	1.70	0.219	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Silver, Total	ND		mg/kg	0.850	0.241	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Sodium, Total	37.9	J	mg/kg	170	2.68	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Thallium, Total	0.400	J	mg/kg	1.70	0.268	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Vanadium, Total	12.4		mg/kg	0.850	0.173	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV
Zinc, Total	75.3		mg/kg	4.25	0.249	2	09/03/22 00:43	09/26/22 23:16	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-29

Date Collected: 07/22/22 13:17

Client ID: PDI-B-9-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7880		mg/kg	8.49	2.29	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Antimony, Total	ND		mg/kg	4.24	0.322	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Arsenic, Total	6.76		mg/kg	0.849	0.176	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Barium, Total	57.6		mg/kg	0.849	0.148	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Beryllium, Total	0.322	J	mg/kg	0.424	0.028	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Cadmium, Total	0.365	J	mg/kg	0.849	0.083	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Calcium, Total	40300		mg/kg	8.49	2.97	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Chromium, Total	12.6		mg/kg	0.849	0.082	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Cobalt, Total	8.63		mg/kg	1.70	0.141	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Copper, Total	21.0		mg/kg	0.849	0.219	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Iron, Total	18600		mg/kg	4.24	0.766	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Lead, Total	19.9		mg/kg	4.24	0.227	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Magnesium, Total	13200		mg/kg	8.49	1.31	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Manganese, Total	566		mg/kg	0.849	0.135	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Nickel, Total	18.5		mg/kg	2.12	0.205	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Potassium, Total	476		mg/kg	212	12.2	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Selenium, Total	ND		mg/kg	1.70	0.219	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Silver, Total	ND		mg/kg	0.849	0.240	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Sodium, Total	50.0	J	mg/kg	170	2.67	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Thallium, Total	0.458	J	mg/kg	1.70	0.267	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Vanadium, Total	12.4		mg/kg	0.849	0.172	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV
Zinc, Total	66.0		mg/kg	4.24	0.249	2	09/03/22 00:43	09/26/22 23:21	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-30

Date Collected: 07/22/22 13:26

Client ID: PDI-B-9-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7550		mg/kg	8.18	2.21	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Antimony, Total	ND		mg/kg	4.09	0.311	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Arsenic, Total	6.38		mg/kg	0.818	0.170	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Barium, Total	50.4		mg/kg	0.818	0.142	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Beryllium, Total	0.311	J	mg/kg	0.409	0.027	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Cadmium, Total	0.336	J	mg/kg	0.818	0.080	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Calcium, Total	40900		mg/kg	8.18	2.86	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Chromium, Total	12.2		mg/kg	0.818	0.079	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Cobalt, Total	8.25		mg/kg	1.64	0.136	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Copper, Total	19.5		mg/kg	0.818	0.211	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Iron, Total	17900		mg/kg	4.09	0.739	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Lead, Total	12.4		mg/kg	4.09	0.219	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Magnesium, Total	13100		mg/kg	8.18	1.26	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Manganese, Total	539		mg/kg	0.818	0.130	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Nickel, Total	17.7		mg/kg	2.05	0.198	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Potassium, Total	422		mg/kg	205	11.8	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Selenium, Total	ND		mg/kg	1.64	0.211	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Silver, Total	ND		mg/kg	0.818	0.232	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Sodium, Total	51.8	J	mg/kg	164	2.58	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Thallium, Total	0.442	J	mg/kg	1.64	0.258	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Vanadium, Total	11.9		mg/kg	0.818	0.166	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV
Zinc, Total	58.8		mg/kg	4.09	0.240	2	09/03/22 00:43	09/26/22 23:27	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-31

Date Collected: 07/22/22 13:30

Client ID: PDI-B-10-0-2

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8780		mg/kg	8.25	2.23	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Antimony, Total	1.38	J	mg/kg	4.13	0.314	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Arsenic, Total	7.35		mg/kg	0.825	0.172	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Barium, Total	48.3		mg/kg	0.825	0.144	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Beryllium, Total	0.380	J	mg/kg	0.413	0.027	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Cadmium, Total	0.470	J	mg/kg	0.825	0.081	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Calcium, Total	6310		mg/kg	8.25	2.89	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Chromium, Total	13.3		mg/kg	0.825	0.079	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Cobalt, Total	11.7		mg/kg	1.65	0.137	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Copper, Total	228		mg/kg	0.825	0.213	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Iron, Total	21600		mg/kg	4.13	0.745	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Lead, Total	155		mg/kg	4.13	0.221	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Magnesium, Total	4030		mg/kg	8.25	1.27	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Manganese, Total	522		mg/kg	0.825	0.131	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Nickel, Total	19.8		mg/kg	2.06	0.200	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Potassium, Total	410		mg/kg	206	11.9	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Selenium, Total	ND		mg/kg	1.65	0.213	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Silver, Total	ND		mg/kg	0.825	0.234	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Sodium, Total	35.4	J	mg/kg	165	2.60	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Thallium, Total	0.396	J	mg/kg	1.65	0.260	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Vanadium, Total	13.1		mg/kg	0.825	0.168	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV
Zinc, Total	86.3		mg/kg	4.13	0.242	2	09/03/22 00:43	09/26/22 23:32	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI**Lab Number:** L2239485**Project Number:** Y55.002.001**Report Date:** 09/27/22**SAMPLE RESULTS**

Lab ID: L2239485-32

Date Collected: 07/22/22 13:38

Client ID: PDI-B-10-10-12

Date Received: 07/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8750		mg/kg	8.26	2.23	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Antimony, Total	1.39	J	mg/kg	4.13	0.314	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Arsenic, Total	8.74		mg/kg	0.826	0.172	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Barium, Total	54.8		mg/kg	0.826	0.144	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Beryllium, Total	0.396	J	mg/kg	0.413	0.027	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Cadmium, Total	0.512	J	mg/kg	0.826	0.081	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Calcium, Total	16100		mg/kg	8.26	2.89	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Chromium, Total	13.5		mg/kg	0.826	0.079	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Cobalt, Total	10.1		mg/kg	1.65	0.137	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Copper, Total	24.3		mg/kg	0.826	0.213	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Iron, Total	20900		mg/kg	4.13	0.746	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Lead, Total	182		mg/kg	4.13	0.221	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Magnesium, Total	4500		mg/kg	8.26	1.27	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Manganese, Total	592		mg/kg	0.826	0.131	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Nickel, Total	19.1		mg/kg	2.06	0.200	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Potassium, Total	482		mg/kg	206	11.9	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Selenium, Total	0.330	J	mg/kg	1.65	0.213	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Silver, Total	ND		mg/kg	0.826	0.234	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Sodium, Total	41.0	J	mg/kg	165	2.60	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Thallium, Total	0.537	J	mg/kg	1.65	0.260	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Vanadium, Total	13.7		mg/kg	0.826	0.168	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV
Zinc, Total	110		mg/kg	4.13	0.242	2	09/03/22 00:43	09/26/22 23:37	EPA 3050B	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI

Lab Number: L2239485

Project Number: Y55.002.001

Report Date: 09/27/22

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): 01-16 Batch: WG1683062-1										
Aluminum, Total	ND		mg/kg	4.00	1.08	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Antimony, Total	ND		mg/kg	2.00	0.152	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	0.083	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Barium, Total	ND		mg/kg	0.400	0.070	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	0.013	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	0.039	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Calcium, Total	ND		mg/kg	4.00	1.40	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Chromium, Total	ND		mg/kg	0.400	0.038	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Cobalt, Total	ND		mg/kg	0.800	0.066	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Copper, Total	ND		mg/kg	0.400	0.103	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Iron, Total	ND		mg/kg	2.00	0.361	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Lead, Total	ND		mg/kg	2.00	0.107	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Magnesium, Total	ND		mg/kg	4.00	0.616	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Manganese, Total	ND		mg/kg	0.400	0.064	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Nickel, Total	ND		mg/kg	1.00	0.097	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Potassium, Total	ND		mg/kg	100	5.76	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Selenium, Total	ND		mg/kg	0.800	0.103	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Silver, Total	ND		mg/kg	0.400	0.113	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Sodium, Total	2.07	J	mg/kg	80.0	1.26	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Thallium, Total	ND		mg/kg	0.800	0.126	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	0.081	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC
Zinc, Total	ND		mg/kg	2.00	0.117	1	09/02/22 23:15	09/09/22 17:13	1,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 17-32 Batch: WG1683064-1										
Aluminum, Total	ND		mg/kg	4.00	1.08	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Antimony, Total	ND		mg/kg	2.00	0.152	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Arsenic, Total	ND		mg/kg	0.400	0.083	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV



Project Name: FORMER ITHACA GUN FACTORY PDI

Lab Number: L2239485

Project Number: Y55.002.001

Report Date: 09/27/22

Method Blank Analysis Batch Quality Control

Barium, Total	ND	mg/kg	0.400	0.070	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Beryllium, Total	ND	mg/kg	0.200	0.013	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Cadmium, Total	ND	mg/kg	0.400	0.039	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Calcium, Total	ND	mg/kg	4.00	1.40	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Chromium, Total	ND	mg/kg	0.400	0.038	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Cobalt, Total	ND	mg/kg	0.800	0.066	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Copper, Total	ND	mg/kg	0.400	0.103	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Iron, Total	ND	mg/kg	2.00	0.361	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Lead, Total	ND	mg/kg	2.00	0.107	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Magnesium, Total	ND	mg/kg	4.00	0.616	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Manganese, Total	ND	mg/kg	0.400	0.064	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Nickel, Total	ND	mg/kg	1.00	0.097	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Potassium, Total	ND	mg/kg	100	5.76	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Selenium, Total	ND	mg/kg	0.800	0.103	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Silver, Total	ND	mg/kg	0.400	0.113	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Sodium, Total	ND	mg/kg	80.0	1.26	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Thallium, Total	ND	mg/kg	0.800	0.126	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Vanadium, Total	ND	mg/kg	0.400	0.081	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV
Zinc, Total	ND	mg/kg	2.00	0.117	1	09/03/22 00:43	09/26/22 20:55	1,6010D	BV

Prep Information

Digestion Method: EPA 3050B



Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN FACTORY PDI

Lab Number: L2239485

Project Number: Y55.002.001

Report Date: 09/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-16 Batch: WG1683062-2 SRM Lot Number: D113-540								
Aluminum, Total	73		-		51-149	-		
Antimony, Total	141		-		20-250	-		
Arsenic, Total	105		-		70-130	-		
Barium, Total	89		-		75-125	-		
Beryllium, Total	90		-		75-125	-		
Cadmium, Total	97		-		75-125	-		
Calcium, Total	92		-		73-128	-		
Chromium, Total	100		-		70-130	-		
Cobalt, Total	104		-		75-125	-		
Copper, Total	100		-		75-125	-		
Iron, Total	101		-		36-164	-		
Lead, Total	104		-		72-128	-		
Magnesium, Total	89		-		63-138	-		
Manganese, Total	94		-		77-123	-		
Nickel, Total	101		-		70-130	-		
Potassium, Total	86		-		59-141	-		
Selenium, Total	100		-		66-134	-		
Silver, Total	100		-		70-131	-		
Sodium, Total	91		-		35-164	-		
Thallium, Total	104		-		70-130	-		
Vanadium, Total	103		-		74-126	-		

Lab Control Sample Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN FACTORY PDI**Project Number:** Y55.002.001**Lab Number:** L2239485**Report Date:** 09/27/22

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-16 Batch: WG1683062-2 SRM Lot Number: D113-540					
Zinc, Total	98	-	70-130	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17-32 Batch: WG1683064-2 SRM Lot Number: D113-540					
Aluminum, Total	75	-	51-149	-	
Antimony, Total	102	-	20-250	-	
Arsenic, Total	96	-	70-130	-	
Barium, Total	91	-	75-125	-	
Beryllium, Total	90	-	75-125	-	
Cadmium, Total	90	-	75-125	-	
Calcium, Total	94	-	73-128	-	
Chromium, Total	91	-	70-130	-	
Cobalt, Total	92	-	75-125	-	
Copper, Total	89	-	75-125	-	
Iron, Total	101	-	36-164	-	
Lead, Total	91	-	72-128	-	
Magnesium, Total	92	-	63-138	-	
Manganese, Total	92	-	77-123	-	
Nickel, Total	89	-	70-130	-	
Potassium, Total	87	-	59-141	-	
Selenium, Total	95	-	66-134	-	
Silver, Total	94	-	70-131	-	
Sodium, Total	96	-	35-164	-	
Thallium, Total	92	-	70-130	-	
Vanadium, Total	92	-	74-126	-	

Lab Control Sample Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN FACTORY PDI**Project Number:** Y55.002.001**Lab Number:** L2239485**Report Date:** 09/27/22

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17-32 Batch: WG1683064-2 SRM Lot Number: D113-540					
Zinc, Total	92	-	70-130	-	

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

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): 01-16			QC Batch ID: WG1683062-3			QC Sample: L2247674-01			Client ID: MS Sample			
Aluminum, Total	4280	200	4130	0	Q	-	-		75-125	-		20
Antimony, Total	ND	50	34.9	70	Q	-	-		75-125	-		20
Arsenic, Total	4.54	12	15.2	89		-	-		75-125	-		20
Barium, Total	32.2	200	190	79		-	-		75-125	-		20
Beryllium, Total	0.160J	5	4.43	88		-	-		75-125	-		20
Cadmium, Total	0.235J	5.3	4.53	85		-	-		75-125	-		20
Calcium, Total	1280	1000	2030	75		-	-		75-125	-		20
Chromium, Total	8.29	20	23.4	75		-	-		75-125	-		20
Cobalt, Total	3.24	50	42.2	78		-	-		75-125	-		20
Copper, Total	13.4	25	35.5	88		-	-		75-125	-		20
Iron, Total	5990	100	5880	0	Q	-	-		75-125	-		20
Lead, Total	24.8	53	69.3	84		-	-		75-125	-		20
Magnesium, Total	1480	1000	2030	55	Q	-	-		75-125	-		20
Manganese, Total	70.1	50	108	76		-	-		75-125	-		20
Nickel, Total	5.42	50	44.7	78		-	-		75-125	-		20
Potassium, Total	959	1000	1760	80		-	-		75-125	-		20
Selenium, Total	0.185J	12	9.92	82		-	-		75-125	-		20
Silver, Total	ND	30	24.7	82		-	-		75-125	-		20
Sodium, Total	76.1J	1000	933	93		-	-		75-125	-		20
Thallium, Total	ND	12	9.31	78		-	-		75-125	-		20
Vanadium, Total	12.0	50	52.6	81		-	-		75-125	-		20

Matrix Spike Analysis Batch Quality Control

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-16 QC Batch ID: WG1683062-3 QC Sample: L2247674-01 Client ID: MS Sample									
Zinc, Total	34.3	50	83.8	99	-	-	75-125	-	20

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17-32 QC Batch ID: WG1683064-3 QC Sample: L2239485-17 Client ID: PDI-B-3-0-2									
Aluminum, Total	6230	159	7740	950	Q	-	75-125	-	20
Antimony, Total	ND	39.7	19.0	48	Q	-	75-125	-	20
Arsenic, Total	4.46	9.53	12.0	79		-	75-125	-	20
Barium, Total	40.5	159	174	84		-	75-125	-	20
Beryllium, Total	0.281J	3.97	3.68	93		-	75-125	-	20
Cadmium, Total	0.306J	4.21	3.48	83		-	75-125	-	20
Calcium, Total	25100	794	19400	0	Q	-	75-125	-	20
Chromium, Total	9.53	15.9	23.0	85		-	75-125	-	20
Cobalt, Total	6.14	39.7	34.8	72	Q	-	75-125	-	20
Copper, Total	15.1	19.9	30.3	76		-	75-125	-	20
Iron, Total	15000	79.4	17400	3020	Q	-	75-125	-	20
Lead, Total	22.7	42.1	54.6	76		-	75-125	-	20
Magnesium, Total	7800	794	7590	0	Q	-	75-125	-	20
Manganese, Total	377	39.7	378	3	Q	-	75-125	-	20
Nickel, Total	16.0	39.7	45.7	75		-	75-125	-	20
Potassium, Total	469	794	1120	82		-	75-125	-	20
Selenium, Total	ND	9.53	6.85	72	Q	-	75-125	-	20
Silver, Total	ND	23.8	19.2	80		-	75-125	-	20
Sodium, Total	42.9J	794	721	91		-	75-125	-	20
Thallium, Total	ND	9.53	6.77	71	Q	-	75-125	-	20
Vanadium, Total	10.9	39.7	43.2	81		-	75-125	-	20

Matrix Spike Analysis Batch Quality Control

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17-32 QC Batch ID: WG1683064-3 QC Sample: L2239485-17 Client ID: PDI-B-3-0-2									
Zinc, Total	55.0	39.7	82.6	69	Q	-	-	75-125	- 20

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L2239485
Report Date: 09/27/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-16 QC Batch ID: WG1683062-4 QC Sample: L2247674-01 Client ID: DUP Sample						
Arsenic, Total	4.54	3.34	mg/kg	30	Q	20
Barium, Total	32.2	29.8	mg/kg	8		20
Cadmium, Total	0.235J	0.221J	mg/kg	NC		20
Chromium, Total	8.29	8.34	mg/kg	1		20
Lead, Total	24.8	18.6	mg/kg	29	Q	20
Selenium, Total	0.185J	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN FACTORY PDI

Project Number: Y55.002.001

Lab Number: L2239485

Report Date: 09/27/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17-32 QC Batch ID: WG1683064-4 QC Sample: L2239485-17 Client ID: PDI-B-3-0-2					
Aluminum, Total	6230	6460	mg/kg	4	20
Antimony, Total	ND	ND	mg/kg	NC	20
Arsenic, Total	4.46	4.94	mg/kg	10	20
Barium, Total	40.5	42.9	mg/kg	6	20
Beryllium, Total	0.281J	0.301J	mg/kg	NC	20
Cadmium, Total	0.306J	0.310J	mg/kg	NC	20
Calcium, Total	25100	22900	mg/kg	9	20
Chromium, Total	9.53	9.90	mg/kg	4	20
Cobalt, Total	6.14	6.44	mg/kg	5	20
Copper, Total	15.1	15.3	mg/kg	1	20
Iron, Total	15000	15600	mg/kg	4	20
Lead, Total	22.7	25.6	mg/kg	12	20
Magnesium, Total	7800	6850	mg/kg	13	20
Manganese, Total	377	403	mg/kg	7	20
Nickel, Total	16.0	18.3	mg/kg	13	20
Potassium, Total	469	456	mg/kg	3	20
Selenium, Total	ND	ND	mg/kg	NC	20
Silver, Total	ND	ND	mg/kg	NC	20
Sodium, Total	42.9J	39.8J	mg/kg	NC	20

Project Name: FORMER ITHACA GUN FACTORY PDI**Project Number:** Y55.002.001**Lab Duplicate Analysis***Batch Quality Control***Lab Number:** L2239485**Report Date:** 09/27/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17-32 QC Batch ID: WG1683064-4 QC Sample: L2239485-17 Client ID: PDI-B-3-0-2					
Thallium, Total	ND	0.335J	mg/kg	NC	20
Vanadium, Total	10.9	11.2	mg/kg	3	20
Zinc, Total	55.0	52.5	mg/kg	5	20

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

**Lab Serial Dilution
Analysis
Batch Quality Control**

Lab Number: L2239485
Report Date: 09/27/22

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17-32 QC Batch ID: WG1683064-6 QC Sample: L2239485-17 Client ID: PDI-B-3-0-2						
Aluminum, Total	6230	7560	mg/kg	21	Q	20
Barium, Total	40.5	49.6	mg/kg	22	Q	20
Calcium, Total	25100	31400	mg/kg	25	Q	20
Iron, Total	15000	19200	mg/kg	28	Q	20
Magnesium, Total	7800	9970	mg/kg	28	Q	20
Manganese, Total	377	478	mg/kg	27	Q	20

INORGANICS & MISCELLANEOUS

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-01
Client ID: PDI-A-1-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 10:50
Date Received: 07/22/22
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	91.8		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-02
Client ID: PDI-A-1-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 11:00
Date Received: 07/22/22
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	92.7		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-03
Client ID: PDI-A-2-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 11:28
Date Received: 07/22/22
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	95.6		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-04
Client ID: PDI-A-2-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 11:31
Date Received: 07/22/22
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	96.5		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-05
Client ID: PDI-A-3-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 11:14
Date Received: 07/22/22
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	92.6		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-06
Client ID: PDI-A-3-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 11:17
Date Received: 07/22/22
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	95.3		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-07
Client ID: PDI-A-4-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 11:41
Date Received: 07/22/22
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	95.4		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-08
Client ID: PDI-A-4-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 11:46
Date Received: 07/22/22
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	95.9		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-09
Client ID: PDI-A-5-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 11:56
Date Received: 07/22/22
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	93.9		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-10
Client ID: PDI-A-5-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 12:00
Date Received: 07/22/22
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	91.8		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-11
Client ID: PDI-A-6-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 12:08
Date Received: 07/22/22
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	91.6		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-12
Client ID: PDI-A-6-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 12:13
Date Received: 07/22/22
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	92.1		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-13
Client ID: PDI-B-1-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 15:05
Date Received: 07/22/22
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	59.2		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-14
Client ID: PDI-B-1-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 15:08
Date Received: 07/22/22
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	74.5		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-15
Client ID: PDI-B-2-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 14:10
Date Received: 07/22/22
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	90.6		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-16
Client ID: PDI-B-2-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 14:18
Date Received: 07/22/22
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	94.0		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-17
Client ID: PDI-B-3-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 14:02
Date Received: 07/22/22
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	95.2		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-18
Client ID: PDI-B-3-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 14:08
Date Received: 07/22/22
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	96.0		%	0.100	NA	1	-	07/23/22 10:31	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-19
Client ID: PDI-B-4-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 14:41
Date Received: 07/22/22
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	82.9		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-20
Client ID: PDI-B-4-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 14:45
Date Received: 07/22/22
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	80.4		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-21
Client ID: PDI-B-5-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 14:48
Date Received: 07/22/22
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	90.0		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-22
Client ID: PDI-B-5-0-6
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 14:50
Date Received: 07/22/22
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	89.1		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-23
Client ID: PDI-B-6-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 14:55
Date Received: 07/22/22
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	90.1		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-24
Client ID: PDI-B-6-0-6
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 14:58
Date Received: 07/22/22
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	92.0		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-25
Client ID: PDI-B-7-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 12:55
Date Received: 07/22/22
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	90.0		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-26
Client ID: PDI-B-7-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 13:00
Date Received: 07/22/22
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	91.4		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-27
Client ID: PDI-B-8-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 13:06
Date Received: 07/22/22
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	92.1		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-28
Client ID: PDI-B-8-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 13:11
Date Received: 07/22/22
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	92.1		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-29
Client ID: PDI-B-9-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 13:17
Date Received: 07/22/22
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	93.8		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-30
Client ID: PDI-B-9-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 13:26
Date Received: 07/22/22
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	94.2		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-31
Client ID: PDI-B-10-0-2
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 13:30
Date Received: 07/22/22
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	94.5		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

SAMPLE RESULTS

Lab ID: L2239485-32
Client ID: PDI-B-10-10-12
Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Date Collected: 07/22/22 13:38
Date Received: 07/22/22
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	93.5		%	0.100	NA	1	-	07/23/22 10:43	121,2540G	RI



Lab Duplicate Analysis *Batch Quality Control*

Project Name: FORMER ITHACA GUN FACTORY PDI

Project Number: Y55.002.001

Lab Number: L2239485

Report Date: 09/27/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18 QC Batch ID: WG1666482-1 QC Sample: L2239485-01 Client ID: PDI-A-1-0-2						
Solids, Total	91.8	92.0	%	0		20
General Chemistry - Westborough Lab Associated sample(s): 19-32 QC Batch ID: WG1666483-1 QC Sample: L2239485-20 Client ID: PDI-B-4-10-12						
Solids, Total	80.4	81.1	%	1		20

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Serial_No:09272212:15
Lab Number: L2239485
Report Date: 09/27/22

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(*)
L2239485-01A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),E&I-FEE(),BA-Ti(180),ASP-B(),AS-Ti(180),AG-Ti(180),NI-Ti(180),AL-Ti(180),CR-Ti(180),TL-Ti(180),ZN-Ti(180),PB-Ti(180),SE-Ti(180),CU-Ti(180),SB-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),MN-Ti(180),MG-Ti(180),CD-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L2239485-01B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-02A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),CR-Ti(180),NI-Ti(180),AL-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SE-Ti(180),ZN-Ti(180),SB-Ti(180),CO-Ti(180),V-Ti(180),MN-Ti(180),MG-Ti(180),FE-Ti(180),CD-Ti(180),K-Ti(180),CA-Ti(180),NA-Ti(180)
L2239485-02B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-03A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),CR-Ti(180),TL-Ti(180),NI-Ti(180),AL-Ti(180),CU-Ti(180),PB-Ti(180),SE-Ti(180),SB-Ti(180),ZN-Ti(180),V-Ti(180),CO-Ti(180),MN-Ti(180),MG-Ti(180),FE-Ti(180),NA-Ti(180),CD-Ti(180),CA-Ti(180),K-Ti(180)
L2239485-03B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-04A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),TL-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),SB-Ti(180),PB-Ti(180),CU-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),MN-Ti(180),MG-Ti(180),FE-Ti(180),CD-Ti(180),NA-Ti(180),CA-Ti(180),K-Ti(180)
L2239485-04B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-05A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),TL-Ti(180),CR-Ti(180),NI-Ti(180),AL-Ti(180),SE-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),ZN-Ti(180),V-Ti(180),CO-Ti(180),MN-Ti(180),FE-Ti(180),MG-Ti(180),CD-Ti(180),NA-Ti(180),CA-Ti(180),K-Ti(180)
L2239485-05B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Serial_No: 09272212:15
Lab Number: L2239485
Report Date: 09/27/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2239485-06A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),CR-Ti(180),TL-Ti(180),NI-Ti(180),AL-Ti(180),CU-Ti(180),SB-Ti(180),Zn-Ti(180),PB-Ti(180),SE-Ti(180),V-Ti(180),CO-Ti(180),FE-Ti(180),MN-Ti(180),MG-Ti(180),NA-Ti(180),CD-Ti(180),K-Ti(180),CA-Ti(180)
L2239485-06B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-07A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),CR-Ti(180),AL-Ti(180),TL-Ti(180),NI-Ti(180),SE-Ti(180),Zn-Ti(180),SB-Ti(180),PB-Ti(180),CU-Ti(180),V-Ti(180),CO-Ti(180),MG-Ti(180),MN-Ti(180),FE-Ti(180),CA-Ti(180),NA-Ti(180),K-Ti(180),CD-Ti(180)
L2239485-07B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-08A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),CR-Ti(180),TL-Ti(180),AL-Ti(180),NI-Ti(180),CU-Ti(180),PB-Ti(180),Zn-Ti(180),SE-Ti(180),SB-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),MG-Ti(180),MN-Ti(180),CD-Ti(180),NA-Ti(180),CA-Ti(180),K-Ti(180)
L2239485-08B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-09A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),NI-Ti(180),CR-Ti(180),AL-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SE-Ti(180),SB-Ti(180),Zn-Ti(180),V-Ti(180),CO-Ti(180),FE-Ti(180),MG-Ti(180),MN-Ti(180),NA-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180)
L2239485-09B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-10A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),NI-Ti(180),TL-Ti(180),CR-Ti(180),AL-Ti(180),Zn-Ti(180),CU-Ti(180),SE-Ti(180),PB-Ti(180),SB-Ti(180),CO-Ti(180),V-Ti(180),MG-Ti(180),MN-Ti(180),FE-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L2239485-10B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-11B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),TL-Ti(180),CR-Ti(180),AL-Ti(180),NI-Ti(180),TS(7),PB-Ti(180),SB-Ti(180),SE-Ti(180),CU-Ti(180),Zn-Ti(180),CO-Ti(180),V-Ti(180),MN-Ti(180),FE-Ti(180),MG-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Serial_No: 09272212:15
Lab Number: L2239485
Report Date: 09/27/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2239485-12B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),TL-Ti(180),AL-Ti(180),NI-Ti(180),CR-Ti(180),TS(7),SE-Ti(180),SB-Ti(180),PB-Ti(180),CU-Ti(180),ZN-Ti(180),V-Ti(180),CO-Ti(180),MN-Ti(180),MG-Ti(180),FE-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L2239485-13B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),NI-Ti(180),TS(7),CR-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),ZN-Ti(180),SE-Ti(180),SB-Ti(180),V-Ti(180),CO-Ti(180),MN-Ti(180),FE-Ti(180),MG-Ti(180),CA-Ti(180),NA-Ti(180),CD-Ti(180),K-Ti(180)
L2239485-14B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),TL-Ti(180),TS(7),AL-Ti(180),NI-Ti(180),CR-Ti(180),ZN-Ti(180),CU-Ti(180),SE-Ti(180),PB-Ti(180),SB-Ti(180),CO-Ti(180),V-Ti(180),MG-Ti(180),MN-Ti(180),FE-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180),CD-Ti(180)
L2239485-15B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),NI-Ti(180),TS(7),AL-Ti(180),CR-Ti(180),TL-Ti(180),ZN-Ti(180),CU-Ti(180),SB-Ti(180),PB-Ti(180),SE-Ti(180),CO-Ti(180),V-Ti(180),MG-Ti(180),MN-Ti(180),FE-Ti(180),NA-Ti(180),CA-Ti(180),K-Ti(180),CD-Ti(180)
L2239485-16B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),TS(7),NI-Ti(180),CR-Ti(180),TL-Ti(180),SB-Ti(180),ZN-Ti(180),SE-Ti(180),CU-Ti(180),PB-Ti(180),V-Ti(180),CO-Ti(180),FE-Ti(180),MG-Ti(180),MN-Ti(180),K-Ti(180),CA-Ti(180),NA-Ti(180),CD-Ti(180)
L2239485-17B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),TS(7),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),PB-Ti(180),SE-Ti(180),ZN-Ti(180),CU-Ti(180),SB-Ti(180),V-Ti(180),CO-Ti(180),FE-Ti(180),MN-Ti(180),MG-Ti(180),CA-Ti(180),CD-Ti(180),NA-Ti(180),K-Ti(180)
L2239485-18A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),TL-Ti(180),CR-Ti(180),NI-Ti(180),SB-Ti(180),CU-Ti(180),PB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),MG-Ti(180),MN-Ti(180),K-Ti(180),CA-Ti(180),CD-Ti(180),NA-Ti(180)
L2239485-18B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-19A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),SB-Ti(180),ZN-Ti(180),PB-Ti(180),SE-Ti(180),CO-Ti(180),V-Ti(180),MN-Ti(180),FE-Ti(180),MG-Ti(180),CA-Ti(180),CD-Ti(180),NA-Ti(180),K-Ti(180)

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2239485-19B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-20A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),NI-Ti(180),CR-Ti(180),TL-Ti(180),AL-Ti(180),SE-Ti(180),SB-Ti(180),PB-Ti(180),CU-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),MN-Ti(180),MG-Ti(180),CA-Ti(180),NA-Ti(180),K-Ti(180),CD-Ti(180)
L2239485-20B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		TS(7)
L2239485-21B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),CR-Ti(180),AL-Ti(180),TL-Ti(180),NI-Ti(180),TS(7),PB-Ti(180),SE-Ti(180),ZN-Ti(180),CU-Ti(180),SB-Ti(180),CO-Ti(180),V-Ti(180),MG-Ti(180),FE-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L2239485-22B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),CR-Ti(180),TL-Ti(180),TS(7),NI-Ti(180),AL-Ti(180),PB-Ti(180),SE-Ti(180),CU-Ti(180),SB-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),MG-Ti(180),MN-Ti(180),NA-Ti(180),K-Ti(180),CD-Ti(180),CA-Ti(180)
L2239485-23B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),TL-Ti(180),CR-Ti(180),AL-Ti(180),NI-Ti(180),TS(7),SB-Ti(180),PB-Ti(180),SE-Ti(180),CU-Ti(180),ZN-Ti(180),V-Ti(180),CO-Ti(180),FE-Ti(180),MN-Ti(180),MG-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180),CD-Ti(180)
L2239485-24B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),TL-Ti(180),NI-Ti(180),AL-Ti(180),TS(7),CR-Ti(180),SB-Ti(180),ZN-Ti(180),SE-Ti(180),CU-Ti(180),PB-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),MG-Ti(180),MN-Ti(180),CD-Ti(180),NA-Ti(180),CA-Ti(180),K-Ti(180)
L2239485-25B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),TL-Ti(180),CR-Ti(180),NI-Ti(180),AL-Ti(180),TS(7),PB-Ti(180),CU-Ti(180),ZN-Ti(180),SB-Ti(180),SE-Ti(180),CO-Ti(180),V-Ti(180),MN-Ti(180),MG-Ti(180),FE-Ti(180),NA-Ti(180),K-Ti(180),CA-Ti(180),CD-Ti(180)
L2239485-26B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),NI-Ti(180),TL-Ti(180),CR-Ti(180),TS(7),AL-Ti(180),SE-Ti(180),CU-Ti(180),SB-Ti(180),PB-Ti(180),ZN-Ti(180),V-Ti(180),CO-Ti(180),MG-Ti(180),MN-Ti(180),FE-Ti(180),CA-Ti(180),CD-Ti(180),NA-Ti(180),K-Ti(180)

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2239485-27B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),AL-Ti(180),TS(7),TL-Ti(180),CR-Ti(180),NI-Ti(180),CU-Ti(180),SB-Ti(180),PB-Ti(180),SE-Ti(180),ZN-Ti(180),V-Ti(180),CO-Ti(180),FE-Ti(180),MN-Ti(180),MG-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L2239485-28B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),TS(7),CR-Ti(180),TL-Ti(180),NI-Ti(180),AL-Ti(180),CU-Ti(180),PB-Ti(180),SE-Ti(180),ZN-Ti(180),SB-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),MN-Ti(180),MG-Ti(180),CA-Ti(180),CD-Ti(180),NA-Ti(180),K-Ti(180)
L2239485-29B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),CR-Ti(180),TL-Ti(180),TS(7),AL-Ti(180),NI-Ti(180),PB-Ti(180),ZN-Ti(180),CU-Ti(180),SB-Ti(180),SE-Ti(180),CO-Ti(180),V-Ti(180),MN-Ti(180),FE-Ti(180),MG-Ti(180),CA-Ti(180),K-Ti(180),CD-Ti(180),NA-Ti(180)
L2239485-30B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),TL-Ti(180),TS(7),CR-Ti(180),NI-Ti(180),ZN-Ti(180),CU-Ti(180),SB-Ti(180),PB-Ti(180),SE-Ti(180),V-Ti(180),CO-Ti(180),MG-Ti(180),MN-Ti(180),FE-Ti(180),K-Ti(180),NA-Ti(180),CA-Ti(180),CD-Ti(180)
L2239485-31B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),TL-Ti(180),TS(7),AL-Ti(180),CR-Ti(180),NI-Ti(180),SB-Ti(180),PB-Ti(180),CU-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),MG-Ti(180),MN-Ti(180),NA-Ti(180),K-Ti(180),CA-Ti(180),CD-Ti(180)
L2239485-32B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),AL-Ti(180),TS(7),NI-Ti(180),TL-Ti(180),CR-Ti(180),SB-Ti(180),CU-Ti(180),ZN-Ti(180),SE-Ti(180),PB-Ti(180),V-Ti(180),CO-Ti(180),MG-Ti(180),FE-Ti(180),MN-Ti(180),NA-Ti(180),CD-Ti(180),CA-Ti(180),K-Ti(180)

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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.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
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.

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Footnotes

- 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.

Chlordane: 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.)

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'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- 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

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Data Qualifiers

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 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.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

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REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 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.



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 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; 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.

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, SM9222D.**

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, EPA 537.1.

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.

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

1 of 4

d 7/23/22

L2239485

 NEW YORK CHAIN OF CUSTODY Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193 Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 3 of 4		Date Rec'd in Lab 7/23/22		ALPHA Job # 12239485	
		Project Information Project Name: FORMER ITHACA GUN FACTORY PDI Project Location: 121 LAKE STREET, ITHACA, NY 14850 Project # X55.002.001 (Use Project name as Project #) ☐		Deliverables ☐ ASP-A ☐ EQulS (1 File) ☐ Other ☒ ASP-B ☐ EQulS (4 File)		Billing Information ☒ Same as Client Info PO #			
Client Information Client: C&S COMPANIES Address: 499 COL EILEEN BLVD SYRACUSE, NY 13212 Phone: (315) 317-2446 Fax: Email: HHAAS@CSCOS.COM		Project Manager: NEVIN BRADFORD / HAYDEN HAAS ALPHAQuote #: Turn-Around Time Standard ☒ Due Date: Rush (only if pre approved) ☐ # of Days:		Regulatory Requirement ☐ NY TOGS ☐ AWQ Standards ☐ NY Restricted Use ☐ NY Unrestricted Use ☐ NYC Sewer Discharge ☐ NY Part 375 ☐ NY CP-51 ☐ Other		Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other:			
These samples have been previously analyzed by Alpha ☐						ANALYSIS		Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)	
Other project specific requirements/comments:						TOTAL METALS		TOTAL	
Please specify Metals or TAL. TOTAL METALS									
ALPHA Lab ID (Lab Use Only)		Sample ID		Collection Date Time		Sample Matrix		Sampler's Initials	
39485-21		PDI-B-5-0-2		7/22/22 1448		SOIL		HPH	
22		PDI-B-5-0-6		7/22/22 1450		SOIL		HPH	
23		PDI-B-6-0-2		7/22/22 1455		SOIL		HPH	
24		PDI-B-6-0-6		7/22/22 1458		SOIL		HPH	
25		PDI-B-7-0-2		7/22/22 1255		SOIL		HPH	
26		PDI-B-7-10-12		7/22/22 1300		SOIL		HPH	
27		PDI-B-8-0-2		7/22/22 1306		SOIL		HPH	
28		PDI-B-8-10-12		7/22/22 1311		SOIL		HPH	
29		PDI-B-9-0-2		7/22/22 1317		SOIL		HPH	
30		PDI-B-9-10-12		7/22/22 1326		SOIL		HPH	
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other		Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type A Preservative A		Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)	
Form No: 01-25 HC (rev. 30-Sept-2013)		Relinquished By: Hayden Haas AKL SS my		Date/Time 7/22/2022 (1712) 7/22/22 16:45 7/22/22 19:00		Received By: AKL SS my		Date/Time 7/22/22 17:12 7/22/22 18:45 7/23/22 00:10	

 NEW YORK CHAIN OF CUSTODY Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193 Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 4 of 4		Date Rec'd in Lab 7/23/22		ALPHA Job # L2239485																																																																																																																																																																																				
		Project Information Project Name: FORMER ITHACA GUN FACTORY PDI Project Location: 121 LAKE STREET, ITHACA, NY 14850 Project # X55.002.061 (Use Project name as Project #) ☐				Deliverables ☐ ASP-A ☒ ASP-B ☐ EQUIS (1 File) ☐ EQUIS (4 File) ☐ Other		Billing Information ☒ Same as Client Info PO #																																																																																																																																																																																				
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Relinquished By: Hayden Haas ALC SS Jimmy Con				Date/Time 7/22/2022 (1712) 7/22/22 18:47 7/22/22 19:00				Received By: ALC SS Jimmy Con ALC				Date/Time 7/27/22 17:12 7/22/22 18:48 7/23/22 00:10																																																																																																																																																																																



ANALYTICAL REPORT

Lab Number:	L2315170
Client:	C&S Companies 499 Col. Eileen Collins Blvd. Syracuse, NY 13212
ATTN:	Nevin Bradford
Phone:	(315) 703-4284
Project Name:	FORMER ITHACA GUN BCP SITE
Project Number:	X55.002.001
Report Date:	03/29/23

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: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315170
Report Date: 03/29/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2315170-01	PDI-A-1 24	SOIL	ITHACA,NY	03/22/23 08:15	03/22/23
L2315170-02	PDI-A-2 24	SOIL	ITHACA,NY	03/22/23 08:35	03/22/23
L2315170-03	PDI-A-3 24	SOIL	ITHACA,NY	03/22/23 08:21	03/22/23
L2315170-04	PDI-A-4 24	SOIL	ITHACA,NY	03/22/23 09:33	03/22/23
L2315170-05	PDI-A-5 24	SOIL	ITHACA,NY	03/22/23 09:53	03/22/23
L2315170-06	PDI-A-6 24	SOIL	ITHACA,NY	03/22/23 10:18	03/22/23
L2315170-07	DUP	SOIL	ITHACA,NY	03/22/23 00:00	03/22/23

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315170
Report Date: 03/29/23

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: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315170
Report Date: 03/29/23

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.

Total Metals

L2315170-01 through -07: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by the sample matrix.

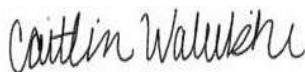
The WG1758553-1 Method Blank, associated with L2315170-01 through -07, has a concentration above the reporting limit for iron and manganese. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

The WG1758553-3/-4 MS/MSD recoveries for aluminum (0%/154%), calcium (72%/400%), iron (0%/0%), magnesium (2%/189%) and manganese (0%/0%), performed on L2315170-05, do not apply because the sample concentrations are greater than four times the spike amounts added.

The WG1758553-3/-4 MS/MSD RPDs for calcium (24%) and magnesium (27%), performed on L2315170-05, are above the acceptance criteria.

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:



Caitlin Walukevich

Title: Technical Director/Representative

Date: 03/29/23

METALS

Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315170**Project Number:** X55.002.001**Report Date:** 03/29/23**SAMPLE RESULTS**

Lab ID: L2315170-01

Date Collected: 03/22/23 08:15

Client ID: PDI-A-1 24

Date Received: 03/22/23

Sample Location: ITHACA,NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	9250		mg/kg	8.89	2.40	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Antimony, Total	0.924	J	mg/kg	4.44	0.338	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Arsenic, Total	5.22		mg/kg	0.889	0.185	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Barium, Total	27.1		mg/kg	0.889	0.155	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Beryllium, Total	0.359	J	mg/kg	0.444	0.029	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Cadmium, Total	0.171	J	mg/kg	0.889	0.087	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Calcium, Total	724		mg/kg	8.89	3.11	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Chromium, Total	12.8		mg/kg	0.889	0.085	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Cobalt, Total	8.97		mg/kg	1.78	0.148	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Copper, Total	18.6		mg/kg	0.889	0.229	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Iron, Total	20900		mg/kg	4.44	0.802	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Lead, Total	20.2		mg/kg	4.44	0.238	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Magnesium, Total	2760		mg/kg	8.89	1.37	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Manganese, Total	543		mg/kg	0.889	0.141	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Mercury, Total	0.063	J	mg/kg	0.072	0.047	1	03/28/23 09:00	03/28/23 14:50	EPA 7471B	1,7471B	ZNK
Nickel, Total	19.0		mg/kg	2.22	0.215	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Potassium, Total	374		mg/kg	222	12.8	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Selenium, Total	ND		mg/kg	1.78	0.229	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Silver, Total	ND		mg/kg	0.444	0.252	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Sodium, Total	18.5	J	mg/kg	178	2.80	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Thallium, Total	0.590	J	mg/kg	1.78	0.280	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Vanadium, Total	13.1		mg/kg	0.889	0.180	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW
Zinc, Total	52.1		mg/kg	4.44	0.260	2	03/28/23 06:55	03/28/23 14:02	EPA 3050B	1,6010D	EGW



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315170**Project Number:** X55.002.001**Report Date:** 03/29/23**SAMPLE RESULTS**

Lab ID: L2315170-02

Date Collected: 03/22/23 08:35

Client ID: PDI-A-2 24

Date Received: 03/22/23

Sample Location: ITHACA,NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8460		mg/kg	8.20	2.22	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Antimony, Total	0.959	J	mg/kg	4.10	0.312	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Arsenic, Total	4.69		mg/kg	0.820	0.171	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Barium, Total	21.4		mg/kg	0.820	0.143	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Beryllium, Total	0.239	J	mg/kg	0.410	0.027	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Cadmium, Total	0.128	J	mg/kg	0.820	0.080	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Calcium, Total	30100		mg/kg	8.20	2.87	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Chromium, Total	11.9		mg/kg	0.820	0.079	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Cobalt, Total	8.17		mg/kg	1.64	0.136	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Copper, Total	28.0		mg/kg	0.820	0.212	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Iron, Total	19400		mg/kg	4.10	0.741	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Lead, Total	7.59		mg/kg	4.10	0.220	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Magnesium, Total	6980		mg/kg	8.20	1.26	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Manganese, Total	358		mg/kg	0.820	0.130	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Mercury, Total	ND		mg/kg	0.067	0.044	1	03/28/23 09:00	03/28/23 14:54	EPA 7471B	1,7471B	ZNK
Nickel, Total	19.8		mg/kg	2.05	0.198	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Potassium, Total	291		mg/kg	205	11.8	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Selenium, Total	ND		mg/kg	1.64	0.212	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Silver, Total	ND		mg/kg	0.410	0.232	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Sodium, Total	43.8	J	mg/kg	164	2.58	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Thallium, Total	ND		mg/kg	1.64	0.258	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Vanadium, Total	11.1		mg/kg	0.820	0.166	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW
Zinc, Total	53.2		mg/kg	4.10	0.240	2	03/28/23 06:55	03/28/23 14:07	EPA 3050B	1,6010D	EGW



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315170**Project Number:** X55.002.001**Report Date:** 03/29/23**SAMPLE RESULTS**

Lab ID: L2315170-03

Date Collected: 03/22/23 08:21

Client ID: PDI-A-3 24

Date Received: 03/22/23

Sample Location: ITHACA,NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	12200		mg/kg	8.59	2.32	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Antimony, Total	1.24	J	mg/kg	4.29	0.326	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Arsenic, Total	6.96		mg/kg	0.859	0.179	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Barium, Total	33.1		mg/kg	0.859	0.149	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Beryllium, Total	0.500		mg/kg	0.429	0.028	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Cadmium, Total	0.200	J	mg/kg	0.859	0.084	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Calcium, Total	765		mg/kg	8.59	3.00	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Chromium, Total	16.7		mg/kg	0.859	0.082	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Cobalt, Total	10.4		mg/kg	1.72	0.142	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Copper, Total	21.3		mg/kg	0.859	0.222	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Iron, Total	26400		mg/kg	4.29	0.775	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Lead, Total	12.2		mg/kg	4.29	0.230	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Magnesium, Total	3310		mg/kg	8.59	1.32	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Manganese, Total	389		mg/kg	0.859	0.136	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Mercury, Total	0.047	J	mg/kg	0.071	0.046	1	03/28/23 09:00	03/28/23 14:57	EPA 7471B	1,7471B	ZNK
Nickel, Total	24.6		mg/kg	2.15	0.208	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Potassium, Total	446		mg/kg	215	12.4	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Selenium, Total	ND		mg/kg	1.72	0.222	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Silver, Total	ND		mg/kg	0.429	0.243	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Sodium, Total	25.6	J	mg/kg	172	2.70	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Thallium, Total	0.388	J	mg/kg	1.72	0.270	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Vanadium, Total	17.8		mg/kg	0.859	0.174	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW
Zinc, Total	65.1		mg/kg	4.29	0.252	2	03/28/23 06:55	03/28/23 14:12	EPA 3050B	1,6010D	EGW



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315170**Project Number:** X55.002.001**Report Date:** 03/29/23**SAMPLE RESULTS**

Lab ID: L2315170-04

Date Collected: 03/22/23 09:33

Client ID: PDI-A-4 24

Date Received: 03/22/23

Sample Location: ITHACA,NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	11900		mg/kg	9.73	2.63	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Antimony, Total	1.40	J	mg/kg	4.86	0.370	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Arsenic, Total	6.39		mg/kg	0.973	0.202	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Barium, Total	32.2		mg/kg	0.973	0.169	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Beryllium, Total	0.378	J	mg/kg	0.486	0.032	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Cadmium, Total	0.206	J	mg/kg	0.973	0.095	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Calcium, Total	21000		mg/kg	9.73	3.40	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Chromium, Total	16.4		mg/kg	0.973	0.093	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Cobalt, Total	10.9		mg/kg	1.94	0.161	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Copper, Total	20.7		mg/kg	0.973	0.251	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Iron, Total	25500		mg/kg	4.86	0.878	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Lead, Total	19.6		mg/kg	4.86	0.261	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Magnesium, Total	5130		mg/kg	9.73	1.50	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Manganese, Total	427		mg/kg	0.973	0.155	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Mercury, Total	0.078	J	mg/kg	0.081	0.053	1	03/28/23 09:00	03/28/23 15:00	EPA 7471B	1,7471B	ZNK
Nickel, Total	26.3		mg/kg	2.43	0.235	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Potassium, Total	528		mg/kg	243	14.0	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Selenium, Total	ND		mg/kg	1.94	0.251	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Silver, Total	ND		mg/kg	0.486	0.275	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Sodium, Total	40.4	J	mg/kg	194	3.06	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Thallium, Total	0.362	J	mg/kg	1.94	0.306	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Vanadium, Total	16.3		mg/kg	0.973	0.197	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW
Zinc, Total	74.2		mg/kg	4.86	0.285	2	03/28/23 06:55	03/28/23 14:17	EPA 3050B	1,6010D	EGW



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315170**Project Number:** X55.002.001**Report Date:** 03/29/23**SAMPLE RESULTS**

Lab ID: L2315170-05

Date Collected: 03/22/23 09:53

Client ID: PDI-A-5 24

Date Received: 03/22/23

Sample Location: ITHACA,NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	11000		mg/kg	9.64	2.60	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Antimony, Total	1.21	J	mg/kg	4.82	0.366	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Arsenic, Total	6.87		mg/kg	0.964	0.201	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Barium, Total	99.9		mg/kg	0.964	0.168	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Beryllium, Total	0.450	J	mg/kg	0.482	0.032	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Cadmium, Total	0.254	J	mg/kg	0.964	0.095	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Calcium, Total	10900		mg/kg	9.64	3.38	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Chromium, Total	15.6		mg/kg	0.964	0.093	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Cobalt, Total	10.7		mg/kg	1.93	0.160	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Copper, Total	19.3		mg/kg	0.964	0.249	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Iron, Total	22400		mg/kg	4.82	0.871	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Lead, Total	16.8		mg/kg	4.82	0.258	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Magnesium, Total	5750		mg/kg	9.64	1.48	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Manganese, Total	567		mg/kg	0.964	0.153	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Mercury, Total	0.057	J	mg/kg	0.081	0.053	1	03/28/23 09:00	03/28/23 14:11	EPA 7471B	1,7471B	ZNK
Nickel, Total	22.8		mg/kg	2.41	0.233	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Potassium, Total	736		mg/kg	241	13.9	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Selenium, Total	ND		mg/kg	1.93	0.249	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Silver, Total	ND		mg/kg	0.482	0.273	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Sodium, Total	52.3	J	mg/kg	193	3.04	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Thallium, Total	0.398	J	mg/kg	1.93	0.304	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Vanadium, Total	17.6		mg/kg	0.964	0.196	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW
Zinc, Total	71.0		mg/kg	4.82	0.283	2	03/28/23 06:55	03/28/23 12:50	EPA 3050B	1,6010D	EGW



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315170**Project Number:** X55.002.001**Report Date:** 03/29/23**SAMPLE RESULTS**

Lab ID: L2315170-06

Date Collected: 03/22/23 10:18

Client ID: PDI-A-6 24

Date Received: 03/22/23

Sample Location: ITHACA,NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	9880		mg/kg	9.06	2.44	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Antimony, Total	2.01	J	mg/kg	4.53	0.344	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Arsenic, Total	7.61		mg/kg	0.906	0.188	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Barium, Total	74.3		mg/kg	0.906	0.158	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Beryllium, Total	0.385	J	mg/kg	0.453	0.030	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Cadmium, Total	0.237	J	mg/kg	0.906	0.089	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Calcium, Total	12100		mg/kg	9.06	3.17	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Chromium, Total	14.2		mg/kg	0.906	0.087	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Cobalt, Total	9.59		mg/kg	1.81	0.150	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Copper, Total	19.0		mg/kg	0.906	0.234	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Iron, Total	21200		mg/kg	4.53	0.818	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Lead, Total	71.7		mg/kg	4.53	0.243	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Magnesium, Total	4960		mg/kg	9.06	1.39	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Manganese, Total	461		mg/kg	0.906	0.144	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Mercury, Total	0.099		mg/kg	0.075	0.049	1	03/28/23 09:00	03/28/23 15:04	EPA 7471B	1,7471B	ZNK
Nickel, Total	21.1		mg/kg	2.26	0.219	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Potassium, Total	660		mg/kg	226	13.0	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Selenium, Total	ND		mg/kg	1.81	0.234	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Silver, Total	ND		mg/kg	0.453	0.256	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Sodium, Total	50.2	J	mg/kg	181	2.85	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Thallium, Total	0.367	J	mg/kg	1.81	0.285	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Vanadium, Total	15.4		mg/kg	0.906	0.184	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW
Zinc, Total	72.4		mg/kg	4.53	0.265	2	03/28/23 06:55	03/28/23 14:22	EPA 3050B	1,6010D	EGW



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315170**Project Number:** X55.002.001**Report Date:** 03/29/23**SAMPLE RESULTS**

Lab ID: L2315170-07

Date Collected: 03/22/23 00:00

Client ID: DUP

Date Received: 03/22/23

Sample Location: ITHACA,NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	11100		mg/kg	9.74	2.63	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Antimony, Total	1.13	J	mg/kg	4.87	0.370	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Arsenic, Total	6.32		mg/kg	0.974	0.202	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Barium, Total	97.5		mg/kg	0.974	0.169	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Beryllium, Total	0.468	J	mg/kg	0.487	0.032	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Cadmium, Total	0.244	J	mg/kg	0.974	0.095	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Calcium, Total	10900		mg/kg	9.74	3.41	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Chromium, Total	16.0		mg/kg	0.974	0.093	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Cobalt, Total	10.6		mg/kg	1.95	0.162	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Copper, Total	19.8		mg/kg	0.974	0.251	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Iron, Total	22300		mg/kg	4.87	0.879	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Lead, Total	16.3		mg/kg	4.87	0.261	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Magnesium, Total	5750		mg/kg	9.74	1.50	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Manganese, Total	592		mg/kg	0.974	0.155	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Mercury, Total	0.055	J	mg/kg	0.081	0.053	1	03/28/23 09:00	03/28/23 15:07	EPA 7471B	1,7471B	ZNK
Nickel, Total	22.4		mg/kg	2.43	0.236	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Potassium, Total	661		mg/kg	243	14.0	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Selenium, Total	ND		mg/kg	1.95	0.251	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Silver, Total	ND		mg/kg	0.487	0.276	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Sodium, Total	51.8	J	mg/kg	195	3.07	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Thallium, Total	0.500	J	mg/kg	1.95	0.307	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Vanadium, Total	17.6		mg/kg	0.974	0.198	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW
Zinc, Total	71.3		mg/kg	4.87	0.285	2	03/28/23 06:55	03/28/23 15:29	EPA 3050B	1,6010D	AMW



Project Name: FORMER ITHACA GUN BCP SITE

Lab Number: L2315170

Project Number: X55.002.001

Report Date: 03/29/23

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): 01-07 Batch: WG1758553-1										
Aluminum, Total	ND		mg/kg	4.00	1.08	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Antimony, Total	ND		mg/kg	2.00	0.152	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Arsenic, Total	ND		mg/kg	0.400	0.083	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Barium, Total	ND		mg/kg	0.400	0.070	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Beryllium, Total	ND		mg/kg	0.200	0.013	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Cadmium, Total	ND		mg/kg	0.400	0.039	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Calcium, Total	1.44	J	mg/kg	4.00	1.40	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Chromium, Total	0.068	J	mg/kg	0.400	0.038	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Cobalt, Total	ND		mg/kg	0.800	0.066	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Copper, Total	0.108	J	mg/kg	0.400	0.103	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Iron, Total	105		mg/kg	2.00	0.361	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Lead, Total	ND		mg/kg	2.00	0.107	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Magnesium, Total	ND		mg/kg	4.00	0.616	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Manganese, Total	0.467		mg/kg	0.400	0.064	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Nickel, Total	ND		mg/kg	1.00	0.097	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Potassium, Total	ND		mg/kg	100	5.76	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Selenium, Total	ND		mg/kg	0.800	0.103	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Silver, Total	ND		mg/kg	0.200	0.113	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Sodium, Total	1.27	J	mg/kg	80.0	1.26	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Thallium, Total	ND		mg/kg	0.800	0.126	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Vanadium, Total	ND		mg/kg	0.400	0.081	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW
Zinc, Total	ND		mg/kg	2.00	0.117	1	03/28/23 06:55	03/28/23 12:24	1,6010D	EGW

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-07 Batch: WG1758554-1										
Mercury, Total	ND		mg/kg	0.083	0.054	1	03/28/23 09:00	03/28/23 14:05	1,7471B	ZNK



Project Name: FORMER ITHACA GUN BCP SITE

Lab Number: L2315170

Project Number: X55.002.001

Report Date: 03/29/23

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Lab Number: L2315170

Project Number: X55.002.001

Report Date: 03/29/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07 Batch: WG1758553-2 SRM Lot Number: D116-540								
Aluminum, Total	95		-		45-155	-		
Antimony, Total	184		-		2-205	-		
Arsenic, Total	118		-		82-119	-		
Barium, Total	101		-		82-118	-		
Beryllium, Total	101		-		82-118	-		
Cadmium, Total	110		-		82-118	-		
Calcium, Total	99		-		81-119	-		
Chromium, Total	104		-		81-118	-		
Cobalt, Total	110		-		83-117	-		
Copper, Total	105		-		83-117	-		
Iron, Total	119		-		58-142	-		
Lead, Total	107		-		83-117	-		
Magnesium, Total	92		-		75-125	-		
Manganese, Total	101		-		82-118	-		
Nickel, Total	112		-		82-118	-		
Potassium, Total	100		-		68-131	-		
Selenium, Total	114		-		78-122	-		
Silver, Total	106		-		79-121	-		
Sodium, Total	98		-		71-130	-		
Thallium, Total	111		-		80-120	-		
Vanadium, Total	107		-		78-122	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315170
Report Date: 03/29/23

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07 Batch: WG1758553-2 SRM Lot Number: D116-540					
Zinc, Total	109	-	80-120	-	
Total Metals - Mansfield Lab Associated sample(s): 01-07 Batch: WG1758554-2 SRM Lot Number: D116-540					
Mercury, Total	91	-	58-142	-	

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315170

Report Date: 03/29/23

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): 01-07 QC Batch ID: WG1758553-3 WG1758553-4 QC Sample: L2315170-05 Client ID: PDI-A-5 24												
Aluminum, Total	11000	194	10900	0	Q	11300	154	Q	75-125	4		20
Antimony, Total	1.21J	48.6	53.1	109		54.3	111		75-125	2		20
Arsenic, Total	6.87	11.7	20.0	112		19.6	109		75-125	2		20
Barium, Total	99.9	194	273	89		279	92		75-125	2		20
Beryllium, Total	0.450J	4.86	4.90	101		4.97	102		75-125	1		20
Cadmium, Total	0.254J	5.15	5.36	104		5.50	106		75-125	3		20
Calcium, Total	10900	972	11600	72	Q	14800	400	Q	75-125	24	Q	20
Chromium, Total	15.6	19.4	32.4	86		33.2	90		75-125	2		20
Cobalt, Total	10.7	48.6	58.2	98		59.6	100		75-125	2		20
Copper, Total	19.3	24.3	42.9	97		43.9	101		75-125	2		20
Iron, Total	22400	97.2	21800	0	Q	21600	0	Q	75-125	1		20
Lead, Total	16.8	51.5	63.4	90		65.3	94		75-125	3		20
Magnesium, Total	5750	972	5770	2	Q	7590	189	Q	75-125	27	Q	20
Manganese, Total	567	48.6	525	0	Q	532	0	Q	75-125	1		20
Nickel, Total	22.8	48.6	68.3	94		70.4	98		75-125	3		20
Potassium, Total	736	972	1600	89		1660	95		75-125	4		20
Selenium, Total	ND	11.7	12.0	103		12.4	106		75-125	3		20
Silver, Total	ND	4.86	4.59	94		4.77	98		75-125	4		20
Sodium, Total	52.3J	972	995	102		1020	105		75-125	2		20
Thallium, Total	0.398J	11.7	11.2	96		11.5	98		75-125	3		20
Vanadium, Total	17.6	48.6	61.4	90		62.9	93		75-125	2		20

Matrix Spike Analysis **Batch Quality Control**

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315170
Report Date: 03/29/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07 QC Batch ID: WG1758553-3 WG1758553-4 QC Sample: L2315170-05 Client ID: PDI-A-5 24									
Zinc, Total	71.0	48.6	113	86	116	92	75-125	3	20
Total Metals - Mansfield Lab Associated sample(s): 01-07 QC Batch ID: WG1758554-3 WG1758554-4 QC Sample: L2315170-05 Client ID: PDI-A-5 24									
Mercury, Total	0.057J	1.63	1.72	106	1.74	108	80-120	1	20

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

**Lab Serial Dilution
Analysis
Batch Quality Control**

Lab Number: L2315170

Report Date: 03/29/23

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07 QC Batch ID: WG1758553-6 QC Sample: L2315170-05 Client ID: PDI-A-5 24						
Aluminum, Total	11000	11200	mg/kg	2		20
Barium, Total	99.9	103	mg/kg	3		20
Calcium, Total	10900	11500	mg/kg	6		20
Iron, Total	22400	24100	mg/kg	8		20
Magnesium, Total	5750	5980	mg/kg	4		20
Manganese, Total	567	601	mg/kg	6		20

INORGANICS & MISCELLANEOUS

Project Name: FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2315170**Report Date:** 03/29/23**SAMPLE RESULTS****Lab ID:** L2315170-01**Client ID:** PDI-A-1 24**Sample Location:** ITHACA,NY**Date Collected:** 03/22/23 08:15**Date Received:** 03/22/23**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	88.6		%	0.100	NA	1	-	03/24/23 09:06	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315170
Report Date: 03/29/23

SAMPLE RESULTS

Lab ID: L2315170-02
Client ID: PDI-A-2 24
Sample Location: ITHACA,NY

Date Collected: 03/22/23 08:35
Date Received: 03/22/23
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	94.2		%	0.100	NA	1	-	03/24/23 09:06	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315170**Project Number:** X55.002.001**Report Date:** 03/29/23**SAMPLE RESULTS****Lab ID:** L2315170-03**Date Collected:** 03/22/23 08:21**Client ID:** PDI-A-3 24**Date Received:** 03/22/23**Sample Location:** ITHACA,NY**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	90.0		%	0.100	NA	1	-	03/24/23 09:06	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315170
Report Date: 03/29/23

SAMPLE RESULTS

Lab ID: L2315170-04
Client ID: PDI-A-4 24
Sample Location: ITHACA,NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
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	80.0		%	0.100	NA	1	-	03/24/23 09:06	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2315170**Report Date:** 03/29/23**SAMPLE RESULTS****Lab ID:** L2315170-05**Client ID:** PDI-A-5 24**Sample Location:** ITHACA,NY**Date Collected:** 03/22/23 09:53**Date Received:** 03/22/23**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	78.9		%	0.100	NA	1	-	03/24/23 09:06	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315170
Report Date: 03/29/23

SAMPLE RESULTS

Lab ID: L2315170-06
Client ID: PDI-A-6 24
Sample Location: ITHACA,NY

Date Collected: 03/22/23 10:18
Date Received: 03/22/23
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	83.7		%	0.100	NA	1	-	03/24/23 09:19	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315170**Project Number:** X55.002.001**Report Date:** 03/29/23**SAMPLE RESULTS****Lab ID:** L2315170-07**Date Collected:** 03/22/23 00:00**Client ID:** DUP**Date Received:** 03/22/23**Sample Location:** ITHACA,NY**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	80.5		%	0.100	NA	1	-	03/24/23 09:19	121,2540G	ROI



Lab Duplicate Analysis *Batch Quality Control*

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315170
Report Date: 03/29/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1758391-1 QC Sample: L2315170-05 Client ID: PDI-A-5 24						
Solids, Total	78.9	78.2	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 06-07 QC Batch ID: WG1758393-1 QC Sample: L2315432-01 Client ID: DUP Sample						
Solids, Total	96.0	96.0	%	0		20

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Serial_No: 03292312:16
Lab Number: L2315170
Report Date: 03/29/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2315170-01A	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2315170-01B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),NI-Ti(180),TL-Ti(180),AL-Ti(180),CR-Ti(180),PB-Ti(180),ZN-Ti(180),SB-Ti(180),SE-Ti(180),CU-Ti(180),V-Ti(180),CO-Ti(180),MN-Ti(180),MG-Ti(180),HG-T(28),FE-Ti(180),K-Ti(180),CD-Ti(180),NA-Ti(180),CA-Ti(180)
L2315170-02A	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2315170-02B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),NI-Ti(180),CR-Ti(180),AL-Ti(180),TL-Ti(180),SE-Ti(180),ZN-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),V-Ti(180),CO-Ti(180),FE-Ti(180),HG-T(28),MN-Ti(180),MG-Ti(180),CA-Ti(180),NA-Ti(180),CD-Ti(180),K-Ti(180)
L2315170-03A	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2315170-03B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),CR-Ti(180),AL-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),SE-Ti(180),SB-Ti(180),ZN-Ti(180),PB-Ti(180),CO-Ti(180),V-Ti(180),HG-T(28),MN-Ti(180),FE-Ti(180),MG-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180),CD-Ti(180)
L2315170-04A	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2315170-04B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),TL-Ti(180),CR-Ti(180),AL-Ti(180),NI-Ti(180),SE-Ti(180),ZN-Ti(180),PB-Ti(180),SB-Ti(180),CU-Ti(180),V-Ti(180),CO-Ti(180),MG-Ti(180),MN-Ti(180),FE-Ti(180),HG-T(28),CA-Ti(180),NA-Ti(180),CD-Ti(180),K-Ti(180)
L2315170-05A	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2315170-05A1	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2315170-05A2	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)

Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315170**Project Number:** X55.002.001**Report Date:** 03/29/23**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2315170-05B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),NI-Ti(180),TL-Ti(180),CR-Ti(180),AL-Ti(180),ZN-Ti(180),SE-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),CO-Ti(180),V-Ti(180),HG-T(28),MN-Ti(180),FE-Ti(180),MG-Ti(180),CA-Ti(180),NA-Ti(180),CD-Ti(180),K-Ti(180)
L2315170-05B1	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),NI-Ti(180),TL-Ti(180),CR-Ti(180),AL-Ti(180),ZN-Ti(180),SE-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),CO-Ti(180),V-Ti(180),HG-T(28),MN-Ti(180),FE-Ti(180),MG-Ti(180),CA-Ti(180),NA-Ti(180),CD-Ti(180),K-Ti(180)
L2315170-05B2	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),NI-Ti(180),TL-Ti(180),CR-Ti(180),AL-Ti(180),ZN-Ti(180),SE-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),CO-Ti(180),V-Ti(180),HG-T(28),MN-Ti(180),FE-Ti(180),MG-Ti(180),CA-Ti(180),NA-Ti(180),CD-Ti(180),K-Ti(180)
L2315170-06A	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2315170-06B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		BE-Ti(180),BA-Ti(180),AS-Ti(180),AG-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),AL-Ti(180),CU-Ti(180),ZN-Ti(180),SB-Ti(180),SE-Ti(180),PB-Ti(180),V-Ti(180),CO-Ti(180),MG-Ti(180),HG-T(28),FE-Ti(180),MN-Ti(180),CD-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L2315170-07A	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2315170-07B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),CR-Ti(180),AL-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),PB-Ti(180),V-Ti(180),CO-Ti(180),MN-Ti(180),MG-Ti(180),HG-T(28),FE-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315170
Report Date: 03/29/23

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.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
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.

Report Format: DU Report with 'J' Qualifiers



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Lab Number: L2315170
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Footnotes

- 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.

Chlordane: 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.)

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'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- 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

Report Format: DU Report with 'J' Qualifiers



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Data Qualifiers

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 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.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

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REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 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 19

Published Date: 4/2/2021 1:14:23 PM

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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 625/625.1:** alpha-Terpineol**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; 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.

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, SM9222D.****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, EPA 537.1.****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.

[illegible]



ANALYTICAL REPORT

Lab Number:	L2315171
Client:	C&S Companies 499 Col. Eileen Collins Blvd. Syracuse, NY 13212
ATTN:	Nevin Bradford
Phone:	(315) 703-4284
Project Name:	FORMER ITHACA GUN BCP SITE
Project Number:	X55.002.001
Report Date:	04/12/23

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: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2315171-01	PD1-A-4 2	SOIL	ITHACA, NY	03/22/23 08:53	03/22/23
L2315171-02	PD1-A-4 12	SOIL	ITHACA, NY	03/22/23 09:20	03/22/23
L2315171-03	PD1-A-4 24	SOIL	ITHACA, NY	03/22/23 09:33	03/22/23
L2315171-04	DUP	SOIL	ITHACA, NY	03/22/23 00:00	03/22/23

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

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: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

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.

Semivolatile Organics

The WG1761820-4/-5 MS/MSD recoveries, performed on L2315171-01, are below the acceptance criteria for 2,4-dinitrophenol (0%/0%) due to the concentration of this compound in the MS/MSD falling below the reported detection limit.

Perfluorinated Alkyl Acids by Isotope Dilution

L2315171-01, -02, -02RE, -03, -03RE, through -04: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

L2315171-02 and -03RE: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

L2315171-02: The Extracted Internal Standard recoveries are less than 10% for n-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-nmefosaa) (4%) and n-deuterioethylperfluoro-1-octanesulfonamidoacetic acid (d5-netfosaa) (2%); however, the extraction efficiency was improved upon re-extraction at a lower volume. The results of the re-extraction analysis are reported for the associated target compounds.

L2315171-02: The Extracted Internal Standard recovery was less than 10% for perfluoro[1,2-¹³C₂]tetradecanoic acid (m2pfteda) (2%); however, re-extraction at a lower volume achieved a similar result. The results of the original extraction are reported for the associated target compounds.

L2315171-03: The Extracted Internal Standard recoveries are less than 10% for n-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-nmefosaa) (4%), n-deuterioethylperfluoro-1-octanesulfonamidoacetic acid (d5-netfosaa) (5%), and perfluoro[1,2-¹³C₂]tetradecanoic acid (m2pfteda) (3%); however, the extraction efficiency was improved upon re-extraction at a lower volume. The results of the re-extraction are reported for the associated target compounds.

The Extracted Internal Standard recoveries for the WG1760033-3/-4 MS/MSD, performed on L2315171-01,

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Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Case Narrative (continued)

are below the acceptance criteria (less than 10%) for perfluoro[13c8]octanesulfonamide (m8fosa) (3%/7%); however, all associated target analytes are within MS criteria; therefore, no further action was taken.

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:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 04/12/23

ORGANICS

VOLATILES

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-01
Client ID: PD1-A-4 2
Sample Location: ITHACA, NY

Date Collected: 03/22/23 08:53
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 04/04/23 19:02
Analyst: JIC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.7	2.6	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	ND		ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.1	0.26	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.30	1
Tetrachloroethene	ND		ug/kg	0.57	0.22	1
Chlorobenzene	ND		ug/kg	0.57	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.6	0.79	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.29	1
1,1,1-Trichloroethane	ND		ug/kg	0.57	0.19	1
Bromodichloromethane	ND		ug/kg	0.57	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.31	1
cis-1,3-Dichloropropene	ND		ug/kg	0.57	0.18	1
Bromoform	ND		ug/kg	4.6	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.57	0.19	1
Benzene	ND		ug/kg	0.57	0.19	1
Toluene	ND		ug/kg	1.1	0.62	1
Ethylbenzene	ND		ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.6	1.1	1
Bromomethane	ND		ug/kg	2.3	0.66	1
Vinyl chloride	ND		ug/kg	1.1	0.38	1
Chloroethane	ND		ug/kg	2.3	0.52	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.27	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.16	1
Trichloroethene	ND		ug/kg	0.57	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.3	0.16	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-01
Client ID: PD1-A-4 2
Sample Location: ITHACA, NY

Date Collected: 03/22/23 08:53
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.3	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.3	0.23	1
p/m-Xylene	ND		ug/kg	2.3	0.64	1
o-Xylene	ND		ug/kg	1.1	0.33	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.20	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	ND		ug/kg	11	5.5	1
Carbon disulfide	ND		ug/kg	11	5.2	1
2-Butanone	ND		ug/kg	11	2.5	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.32	1
n-Butylbenzene	ND		ug/kg	1.1	0.19	1
sec-Butylbenzene	ND		ug/kg	1.1	0.17	1
tert-Butylbenzene	ND		ug/kg	2.3	0.13	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.4	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
Naphthalene	2.0	J	ug/kg	4.6	0.74	1
n-Propylbenzene	ND		ug/kg	1.1	0.19	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	0.31	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.3	0.22	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.3	0.38	1
Methyl Acetate	ND		ug/kg	4.6	1.1	1
Cyclohexane	ND		ug/kg	11	0.62	1
Freon-113	ND		ug/kg	4.6	0.79	1
Methyl cyclohexane	ND		ug/kg	4.6	0.69	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	109		70-130



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02
Client ID: PD1-A-4 12
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 03/30/23 11:31
Analyst: AJK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.9	2.2	1
1,1-Dichloroethane	ND		ug/kg	0.98	0.14	1
Chloroform	ND		ug/kg	1.5	0.14	1
Carbon tetrachloride	ND		ug/kg	0.98	0.22	1
1,2-Dichloropropane	ND		ug/kg	0.98	0.12	1
Dibromochloromethane	ND		ug/kg	0.98	0.14	1
1,1,2-Trichloroethane	ND		ug/kg	0.98	0.26	1
Tetrachloroethene	ND		ug/kg	0.49	0.19	1
Chlorobenzene	ND		ug/kg	0.49	0.12	1
Trichlorofluoromethane	ND		ug/kg	3.9	0.68	1
1,2-Dichloroethane	ND		ug/kg	0.98	0.25	1
1,1,1-Trichloroethane	ND		ug/kg	0.49	0.16	1
Bromodichloromethane	ND		ug/kg	0.49	0.11	1
trans-1,3-Dichloropropene	ND		ug/kg	0.98	0.27	1
cis-1,3-Dichloropropene	ND		ug/kg	0.49	0.15	1
Bromoform	ND		ug/kg	3.9	0.24	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.49	0.16	1
Benzene	ND		ug/kg	0.49	0.16	1
Toluene	ND		ug/kg	0.98	0.53	1
Ethylbenzene	ND		ug/kg	0.98	0.14	1
Chloromethane	ND		ug/kg	3.9	0.91	1
Bromomethane	ND		ug/kg	2.0	0.57	1
Vinyl chloride	ND		ug/kg	0.98	0.33	1
Chloroethane	ND		ug/kg	2.0	0.44	1
1,1-Dichloroethene	ND		ug/kg	0.98	0.23	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.13	1
Trichloroethene	ND		ug/kg	0.49	0.13	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02
Client ID: PD1-A-4 12
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.14	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17	1
Methyl tert butyl ether	ND		ug/kg	2.0	0.20	1
p/m-Xylene	ND		ug/kg	2.0	0.55	1
o-Xylene	ND		ug/kg	0.98	0.28	1
cis-1,2-Dichloroethene	ND		ug/kg	0.98	0.17	1
Styrene	ND		ug/kg	0.98	0.19	1
Dichlorodifluoromethane	ND		ug/kg	9.8	0.89	1
Acetone	ND		ug/kg	9.8	4.7	1
Carbon disulfide	ND		ug/kg	9.8	4.4	1
2-Butanone	ND		ug/kg	9.8	2.2	1
4-Methyl-2-pentanone	ND		ug/kg	9.8	1.2	1
2-Hexanone	ND		ug/kg	9.8	1.2	1
1,2-Dibromoethane	ND		ug/kg	0.98	0.27	1
n-Butylbenzene	ND		ug/kg	0.98	0.16	1
sec-Butylbenzene	ND		ug/kg	0.98	0.14	1
tert-Butylbenzene	ND		ug/kg	2.0	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	0.97	1
Isopropylbenzene	ND		ug/kg	0.98	0.11	1
p-Isopropyltoluene	ND		ug/kg	0.98	0.11	1
Naphthalene	ND		ug/kg	3.9	0.63	1
n-Propylbenzene	ND		ug/kg	0.98	0.17	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.26	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.32	1
Methyl Acetate	ND		ug/kg	3.9	0.93	1
Cyclohexane	ND		ug/kg	9.8	0.53	1
Freon-113	ND		ug/kg	3.9	0.68	1
Methyl cyclohexane	ND		ug/kg	3.9	0.59	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	89		70-130



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03
Client ID: PD1-A-4 24
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 03/30/23 11:57
Analyst: AJK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.0	2.3	1
1,1-Dichloroethane	ND		ug/kg	1.0	0.14	1
Chloroform	ND		ug/kg	1.5	0.14	1
Carbon tetrachloride	ND		ug/kg	1.0	0.23	1
1,2-Dichloropropane	ND		ug/kg	1.0	0.12	1
Dibromochloromethane	ND		ug/kg	1.0	0.14	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.26	1
Tetrachloroethene	ND		ug/kg	0.50	0.20	1
Chlorobenzene	ND		ug/kg	0.50	0.13	1
Trichlorofluoromethane	ND		ug/kg	4.0	0.69	1
1,2-Dichloroethane	ND		ug/kg	1.0	0.26	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17	1
Bromodichloromethane	ND		ug/kg	0.50	0.11	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16	1
Bromoform	ND		ug/kg	4.0	0.24	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.16	1
Benzene	ND		ug/kg	0.50	0.16	1
Toluene	ND		ug/kg	1.0	0.54	1
Ethylbenzene	ND		ug/kg	1.0	0.14	1
Chloromethane	ND		ug/kg	4.0	0.93	1
Bromomethane	ND		ug/kg	2.0	0.58	1
Vinyl chloride	ND		ug/kg	1.0	0.33	1
Chloroethane	ND		ug/kg	2.0	0.45	1
1,1-Dichloroethene	ND		ug/kg	1.0	0.24	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14	1
Trichloroethene	ND		ug/kg	0.50	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03
Client ID: PD1-A-4 24
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17	1
Methyl tert butyl ether	ND		ug/kg	2.0	0.20	1
p/m-Xylene	ND		ug/kg	2.0	0.56	1
o-Xylene	ND		ug/kg	1.0	0.29	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.17	1
Styrene	ND		ug/kg	1.0	0.20	1
Dichlorodifluoromethane	ND		ug/kg	10	0.91	1
Acetone	ND		ug/kg	10	4.8	1
Carbon disulfide	ND		ug/kg	10	4.5	1
2-Butanone	ND		ug/kg	10	2.2	1
4-Methyl-2-pentanone	ND		ug/kg	10	1.3	1
2-Hexanone	ND		ug/kg	10	1.2	1
1,2-Dibromoethane	ND		ug/kg	1.0	0.28	1
n-Butylbenzene	ND		ug/kg	1.0	0.17	1
sec-Butylbenzene	ND		ug/kg	1.0	0.14	1
tert-Butylbenzene	ND		ug/kg	2.0	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	0.99	1
Isopropylbenzene	ND		ug/kg	1.0	0.11	1
p-Isopropyltoluene	ND		ug/kg	1.0	0.11	1
Naphthalene	ND		ug/kg	4.0	0.65	1
n-Propylbenzene	ND		ug/kg	1.0	0.17	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33	1
Methyl Acetate	ND		ug/kg	4.0	0.94	1
Cyclohexane	ND		ug/kg	10	0.54	1
Freon-113	ND		ug/kg	4.0	0.69	1
Methyl cyclohexane	ND		ug/kg	4.0	0.60	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	88		70-130



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04
Client ID: DUP
Sample Location: ITHACA, NY

Date Collected: 03/22/23 00:00
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 03/30/23 12:23
Analyst: AJK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.1	2.8	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.18	1
Chloroform	ND		ug/kg	1.8	0.17	1
Carbon tetrachloride	ND		ug/kg	1.2	0.28	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.15	1
Dibromochloromethane	ND		ug/kg	1.2	0.17	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.33	1
Tetrachloroethene	ND		ug/kg	0.61	0.24	1
Chlorobenzene	ND		ug/kg	0.61	0.16	1
Trichlorofluoromethane	ND		ug/kg	4.9	0.85	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.32	1
1,1,1-Trichloroethane	ND		ug/kg	0.61	0.20	1
Bromodichloromethane	ND		ug/kg	0.61	0.13	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.33	1
cis-1,3-Dichloropropene	ND		ug/kg	0.61	0.19	1
Bromoform	ND		ug/kg	4.9	0.30	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.61	0.20	1
Benzene	ND		ug/kg	0.61	0.20	1
Toluene	ND		ug/kg	1.2	0.66	1
Ethylbenzene	ND		ug/kg	1.2	0.17	1
Chloromethane	ND		ug/kg	4.9	1.1	1
Bromomethane	ND		ug/kg	2.4	0.71	1
Vinyl chloride	ND		ug/kg	1.2	0.41	1
Chloroethane	ND		ug/kg	2.4	0.55	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.29	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.17	1
Trichloroethene	ND		ug/kg	0.61	0.17	1
1,2-Dichlorobenzene	ND		ug/kg	2.4	0.18	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04
Client ID: DUP
Sample Location: ITHACA, NY

Date Collected: 03/22/23 00:00
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.4	0.18	1
1,4-Dichlorobenzene	ND		ug/kg	2.4	0.21	1
Methyl tert butyl ether	ND		ug/kg	2.4	0.25	1
p/m-Xylene	ND		ug/kg	2.4	0.69	1
o-Xylene	ND		ug/kg	1.2	0.36	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.21	1
Styrene	ND		ug/kg	1.2	0.24	1
Dichlorodifluoromethane	ND		ug/kg	12	1.1	1
Acetone	ND		ug/kg	12	5.9	1
Carbon disulfide	ND		ug/kg	12	5.6	1
2-Butanone	ND		ug/kg	12	2.7	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.6	1
2-Hexanone	ND		ug/kg	12	1.4	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.34	1
n-Butylbenzene	ND		ug/kg	1.2	0.20	1
sec-Butylbenzene	ND		ug/kg	1.2	0.18	1
tert-Butylbenzene	ND		ug/kg	2.4	0.14	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.7	1.2	1
Isopropylbenzene	ND		ug/kg	1.2	0.13	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.13	1
Naphthalene	ND		ug/kg	4.9	0.80	1
n-Propylbenzene	ND		ug/kg	1.2	0.21	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.4	0.33	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.4	0.24	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.4	0.41	1
Methyl Acetate	ND		ug/kg	4.9	1.2	1
Cyclohexane	ND		ug/kg	12	0.67	1
Freon-113	ND		ug/kg	4.9	0.85	1
Methyl cyclohexane	ND		ug/kg	4.9	0.74	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	90		70-130

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
 Analytical Date: 03/30/23 10:35
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-04 Batch: WG1761155-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260D
 Analytical Date: 03/30/23 10:35
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-04 Batch: WG1761155-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	0.13	J	ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
 Analytical Date: 03/30/23 10:35
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-04 Batch: WG1761155-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	87		70-130

Project Name: FORMER ITHACA GUN BCP SITE

Lab Number: L2315171

Project Number: X55.002.001

Report Date: 04/12/23

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260D

Analytical Date: 04/04/23 18:23

Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1762962-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260D
 Analytical Date: 04/04/23 18:23
 Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1762962-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	1.1	J	ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
 Analytical Date: 04/04/23 18:23
 Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1762962-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	107		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04 Batch: WG1761155-3 WG1761155-4								
Methylene chloride	76		76		70-130	0		30
1,1-Dichloroethane	96		95		70-130	1		30
Chloroform	82		81		70-130	1		30
Carbon tetrachloride	75		73		70-130	3		30
1,2-Dichloropropane	100		100		70-130	0		30
Dibromochloromethane	77		77		70-130	0		30
1,1,2-Trichloroethane	95		94		70-130	1		30
Tetrachloroethene	79		77		70-130	3		30
Chlorobenzene	85		84		70-130	1		30
Trichlorofluoromethane	72		70		70-139	3		30
1,2-Dichloroethane	88		88		70-130	0		30
1,1,1-Trichloroethane	80		80		70-130	0		30
Bromodichloromethane	81		81		70-130	0		30
trans-1,3-Dichloropropene	98		97		70-130	1		30
cis-1,3-Dichloropropene	91		91		70-130	0		30
Bromoform	77		76		70-130	1		30
1,1,2,2-Tetrachloroethane	103		98		70-130	5		30
Benzene	89		88		70-130	1		30
Toluene	89		87		70-130	2		30
Ethylbenzene	92		90		70-130	2		30
Chloromethane	110		108		52-130	2		30
Bromomethane	83		81		57-147	2		30
Vinyl chloride	89		87		67-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04 Batch: WG1761155-3 WG1761155-4								
Chloroethane	86		84		50-151	2		30
1,1-Dichloroethene	79		77		65-135	3		30
trans-1,2-Dichloroethene	79		78		70-130	1		30
Trichloroethene	82		82		70-130	0		30
1,2-Dichlorobenzene	84		82		70-130	2		30
1,3-Dichlorobenzene	85		83		70-130	2		30
1,4-Dichlorobenzene	84		82		70-130	2		30
Methyl tert butyl ether	93		92		66-130	1		30
p/m-Xylene	89		88		70-130	1		30
o-Xylene	91		91		70-130	0		30
cis-1,2-Dichloroethene	79		79		70-130	0		30
Styrene	92		91		70-130	1		30
Dichlorodifluoromethane	85		82		30-146	4		30
Acetone	120		112		54-140	7		30
Carbon disulfide	122		120		59-130	2		30
2-Butanone	121		104		70-130	15		30
4-Methyl-2-pentanone	110		106		70-130	4		30
2-Hexanone	126		120		70-130	5		30
1,2-Dibromoethane	85		84		70-130	1		30
n-Butylbenzene	104		101		70-130	3		30
sec-Butylbenzene	98		95		70-130	3		30
tert-Butylbenzene	91		89		70-130	2		30
1,2-Dibromo-3-chloropropane	72		68		68-130	6		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04 Batch: WG1761155-3 WG1761155-4								
Isopropylbenzene	96		93		70-130	3		30
p-Isopropyltoluene	92		90		70-130	2		30
Naphthalene	86		83		70-130	4		30
n-Propylbenzene	104		101		70-130	3		30
1,2,4-Trichlorobenzene	82		80		70-130	2		30
1,3,5-Trimethylbenzene	94		91		70-130	3		30
1,2,4-Trimethylbenzene	93		91		70-130	2		30
Methyl Acetate	114		110		51-146	4		30
Cyclohexane	107		104		59-142	3		30
Freon-113	78		75		50-139	4		30
Methyl cyclohexane	86		83		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		106		70-130
Toluene-d8	110		109		70-130
4-Bromofluorobenzene	114		112		70-130
Dibromofluoromethane	88		88		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Lab Number: L2315171

Project Number: X55.002.001

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1762962-3 WG1762962-4								
Methylene chloride	96		88		70-130	9		30
1,1-Dichloroethane	104		93		70-130	11		30
Chloroform	104		94		70-130	10		30
Carbon tetrachloride	103		89		70-130	15		30
1,2-Dichloropropane	103		94		70-130	9		30
Dibromochloromethane	97		91		70-130	6		30
1,1,2-Trichloroethane	91		87		70-130	4		30
Tetrachloroethene	106		89		70-130	17		30
Chlorobenzene	98		88		70-130	11		30
Trichlorofluoromethane	117		100		70-139	16		30
1,2-Dichloroethane	103		98		70-130	5		30
1,1,1-Trichloroethane	111		97		70-130	13		30
Bromodichloromethane	106		98		70-130	8		30
trans-1,3-Dichloropropene	93		87		70-130	7		30
cis-1,3-Dichloropropene	107		100		70-130	7		30
Bromoform	88		86		70-130	2		30
1,1,2,2-Tetrachloroethane	83		81		70-130	2		30
Benzene	106		95		70-130	11		30
Toluene	92		81		70-130	13		30
Ethylbenzene	95		84		70-130	12		30
Chloromethane	116		99		52-130	16		30
Bromomethane	107		94		57-147	13		30
Vinyl chloride	114		96		67-130	17		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: FORMER ITHACA GUN BCP SITE

Lab Number: L2315171

Project Number: X55.002.001

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1762962-3 WG1762962-4								
Chloroethane	108		93		50-151	15		30
1,1-Dichloroethene	108		94		65-135	14		30
trans-1,2-Dichloroethene	109		95		70-130	14		30
Trichloroethene	108		94		70-130	14		30
1,2-Dichlorobenzene	95		89		70-130	7		30
1,3-Dichlorobenzene	95		87		70-130	9		30
1,4-Dichlorobenzene	94		86		70-130	9		30
Methyl tert butyl ether	108		104		66-130	4		30
p/m-Xylene	98		87		70-130	12		30
o-Xylene	100		89		70-130	12		30
cis-1,2-Dichloroethene	106		98		70-130	8		30
Styrene	98		89		70-130	10		30
Dichlorodifluoromethane	115		97		30-146	17		30
Acetone	106		109		54-140	3		30
Carbon disulfide	116		100		59-130	15		30
2-Butanone	79		86		70-130	8		30
4-Methyl-2-pentanone	77		79		70-130	3		30
2-Hexanone	78		77		70-130	1		30
1,2-Dibromoethane	96		92		70-130	4		30
n-Butylbenzene	92		81		70-130	13		30
sec-Butylbenzene	92		80		70-130	14		30
tert-Butylbenzene	92		81		70-130	13		30
1,2-Dibromo-3-chloropropane	77		79		68-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1762962-3 WG1762962-4								
Isopropylbenzene	92		79		70-130	15		30
p-Isopropyltoluene	95		83		70-130	13		30
Naphthalene	84		86		70-130	2		30
n-Propylbenzene	92		80		70-130	14		30
1,2,4-Trichlorobenzene	99		95		70-130	4		30
1,3,5-Trimethylbenzene	94		82		70-130	14		30
1,2,4-Trimethylbenzene	92		83		70-130	10		30
Methyl Acetate	85		88		51-146	3		30
Cyclohexane	105		90		59-142	15		30
Freon-113	110		98		50-139	12		30
Methyl cyclohexane	107		92		70-130	15		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		105		70-130
Toluene-d8	94		93		70-130
4-Bromofluorobenzene	93		92		70-130
Dibromofluoromethane	107		109		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1762962-6 WG1762962-7 QC Sample: L2315171-01 Client ID: PD1-A-4 2												
Methylene chloride	ND	118	120	100		130	108		70-130	10		30
1,1-Dichloroethane	ND	118	120	103		140	116		70-130	14		30
Chloroform	ND	118	130	106		140	118		70-130	12		30
Carbon tetrachloride	ND	118	120	99		140	115		70-130	16		30
1,2-Dichloropropane	ND	118	120	103		140	113		70-130	11		30
Dibromochloromethane	ND	118	110	90		120	97		70-130	10		30
1,1,2-Trichloroethane	ND	118	110	90		110	95		70-130	7		30
Tetrachloroethene	ND	118	99	84		120	96		70-130	15		30
Chlorobenzene	ND	118	93	78		110	89		70-130	14		30
Trichlorofluoromethane	ND	118	140	120		160	134		70-139	13		30
1,2-Dichloroethane	ND	118	130	106		140	114		70-130	9		30
1,1,1-Trichloroethane	ND	118	130	110		150	124		70-130	13		30
Bromodichloromethane	ND	118	120	102		140	112		70-130	11		30
trans-1,3-Dichloropropene	ND	118	92	77		100	83		70-130	9		30
cis-1,3-Dichloropropene	ND	118	100	87		120	96		70-130	12		30
Bromoform	ND	118	91	77		100	84		70-130	10		30
1,1,2,2-Tetrachloroethane	ND	118	90	76		100	83		70-130	10		30
Benzene	ND	118	120	103		140	115		70-130	12		30
Toluene	ND	118	93	79		110	89		70-130	14		30
Ethylbenzene	ND	118	87	74		100	84		70-130	14		30
Chloromethane	ND	118	140	117		150	127		52-130	10		30
Bromomethane	ND	118	120	97		130	104		57-147	8		30
Vinyl chloride	ND	118	140	117		160	129		67-130	11		30

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1762962-6 WG1762962-7 QC Sample: L2315171-01 Client ID: PD1-A-4 2												
Chloroethane	ND	118	130	110		150	123		50-151	12		30
1,1-Dichloroethene	ND	118	130	109		150	123		65-135	14		30
trans-1,2-Dichloroethene	ND	118	130	106		140	118		70-130	13		30
Trichloroethene	ND	118	110	96		130	108		70-130	13		30
1,2-Dichlorobenzene	ND	118	75	63	Q	88	73		70-130	16		30
1,3-Dichlorobenzene	ND	118	72	61	Q	86	72		70-130	18		30
1,4-Dichlorobenzene	ND	118	72	61	Q	85	70		70-130	16		30
Methyl tert butyl ether	ND	118	140	117		150	126		66-130	8		30
p/m-Xylene	ND	237	180	75		210	86		70-130	15		30
o-Xylene	ND	237	190	79		220	89		70-130	14		30
cis-1,2-Dichloroethene	ND	118	120	105		140	116		70-130	11		30
Styrene	ND	237	170	73		200	82		70-130	12		30
Dichlorodifluoromethane	ND	118	140	122		160	133		30-146	11		30
Acetone	ND	118	100	85		110	89		54-140	6		30
Carbon disulfide	ND	118	130	109		150	121		59-130	12		30
2-Butanone	ND	118	82	69	Q	84	70		70-130	3		30
4-Methyl-2-pentanone	ND	118	80	68	Q	86	71		70-130	7		30
2-Hexanone	ND	118	61	52	Q	68	56	Q	70-130	10		30
1,2-Dibromoethane	ND	118	100	88		110	94		70-130	8		30
n-Butylbenzene	ND	118	61	51	Q	78	65	Q	70-130	25		30
sec-Butylbenzene	ND	118	71	60	Q	89	74		70-130	23		30
tert-Butylbenzene	ND	118	77	65	Q	95	79		70-130	22		30
1,2-Dibromo-3-chloropropane	ND	118	81	68		86	72		68-130	7		30

Matrix Spike Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2315171**Report Date:** 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1762962-6 WG1762962-7 QC Sample: L2315171-01 Client ID: PD1-A-4 2												
Isopropylbenzene	ND	118	80	67	Q	98	81		70-130	20		30
p-Isopropyltoluene	ND	118	69	58	Q	88	73		70-130	24		30
Naphthalene	2.0J	118	60	50	Q	63	52	Q	70-130	6		30
n-Propylbenzene	ND	118	73	62	Q	90	75		70-130	21		30
1,2,4-Trichlorobenzene	ND	118	57	48	Q	66	55	Q	70-130	15		30
1,3,5-Trimethylbenzene	ND	118	77	65	Q	94	78		70-130	20		30
1,2,4-Trimethylbenzene	ND	118	76	64	Q	91	76		70-130	19		30
Methyl Acetate	ND	118	78	66		85	70		51-146	8		30
Cyclohexane	ND	118	120	100		140	113		59-142	14		30
Freon-113	ND	118	130	112		160	129		50-139	15		30
Methyl cyclohexane	ND	118	110	95		130	111		70-130	16		30

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		105		70-130
4-Bromofluorobenzene	93		93		70-130
Dibromofluoromethane	110		110		70-130
Toluene-d8	92		92		70-130

SEMIVOLATILES

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-01
Client ID: PD1-A-4 2
Sample Location: ITHACA, NY

Date Collected: 03/22/23 08:53
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 04/04/23 14:56
Analyst: MG
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 04/03/23 11:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	21.	1
Hexachlorobenzene	ND		ug/kg	120	23.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	28.	1
2-Chloronaphthalene	ND		ug/kg	210	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	55.	1
2,4-Dinitrotoluene	ND		ug/kg	210	41.	1
2,6-Dinitrotoluene	ND		ug/kg	210	36.	1
Fluoranthene	52	J	ug/kg	120	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	35.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	21.	1
Hexachlorobutadiene	ND		ug/kg	210	30.	1
Hexachlorocyclopentadiene	ND		ug/kg	590	190	1
Hexachloroethane	ND		ug/kg	160	33.	1
Isophorone	ND		ug/kg	190	27.	1
Naphthalene	ND		ug/kg	210	25.	1
Nitrobenzene	ND		ug/kg	190	31.	1
NDPA/DPA	ND		ug/kg	160	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	72.	1
Butyl benzyl phthalate	ND		ug/kg	210	52.	1
Di-n-butylphthalate	ND		ug/kg	210	39.	1
Di-n-octylphthalate	ND		ug/kg	210	70.	1
Diethyl phthalate	ND		ug/kg	210	19.	1
Dimethyl phthalate	ND		ug/kg	210	43.	1
Benzo(a)anthracene	29	J	ug/kg	120	23.	1
Benzo(a)pyrene	ND		ug/kg	160	50.	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-01
Client ID: PD1-A-4 2
Sample Location: ITHACA, NY

Date Collected: 03/22/23 08:53
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	42	J	ug/kg	120	35.	1
Benzo(k)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	33	J	ug/kg	120	22.	1
Acenaphthylene	ND		ug/kg	160	32.	1
Anthracene	ND		ug/kg	120	40.	1
Benzo(ghi)perylene	ND		ug/kg	160	24.	1
Fluorene	ND		ug/kg	210	20.	1
Phenanthrene	32	J	ug/kg	120	25.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	29.	1
Pyrene	50	J	ug/kg	120	20.	1
Biphenyl	ND		ug/kg	470	27.	1
4-Chloroaniline	ND		ug/kg	210	38.	1
2-Nitroaniline	ND		ug/kg	210	40.	1
3-Nitroaniline	ND		ug/kg	210	39.	1
4-Nitroaniline	ND		ug/kg	210	86.	1
Dibenzofuran	ND		ug/kg	210	20.	1
2-Methylnaphthalene	ND		ug/kg	250	25.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	39.	1
p-Chloro-m-cresol	ND		ug/kg	210	31.	1
2-Chlorophenol	ND		ug/kg	210	24.	1
2,4-Dichlorophenol	ND		ug/kg	190	33.	1
2,4-Dimethylphenol	ND		ug/kg	210	68.	1
2-Nitrophenol	ND		ug/kg	450	78.	1
4-Nitrophenol	ND		ug/kg	290	84.	1
2,4-Dinitrophenol	ND		ug/kg	990	96.	1
4,6-Dinitro-o-cresol	ND		ug/kg	540	99.	1
Pentachlorophenol	ND		ug/kg	160	46.	1
Phenol	ND		ug/kg	210	31.	1
2-Methylphenol	ND		ug/kg	210	32.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	32.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	40.	1
Carbazole	ND		ug/kg	210	20.	1
Atrazine	ND		ug/kg	160	72.	1
Benzaldehyde	ND		ug/kg	270	56.	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-01
Client ID: PD1-A-4 2
Sample Location: ITHACA, NY

Date Collected: 03/22/23 08:53
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	210	63.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	210	42.	1
1,4-Dioxane	ND		ug/kg	31	9.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		25-120
Phenol-d6	74		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	82		30-120
2,4,6-Tribromophenol	80		10-136
4-Terphenyl-d14	76		18-120

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-01
Client ID: PD1-A-4 2
Sample Location: ITHACA, NY

Date Collected: 03/22/23 08:53
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/31/23 15:33
Analyst: RS
Percent Solids: 79%

Extraction Method: ALPHA 23528
Extraction Date: 03/29/23 17:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.143	J	ng/g	0.608	0.028	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.608	0.056	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.304	0.048	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.608	0.064	1
Perfluoroheptanoic Acid (PFHpA)	0.083	J	ng/g	0.304	0.055	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.304	0.074	1
Perfluorooctanoic Acid (PFOA)	0.110	J	ng/g	0.304	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.608	0.218	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.608	0.166	1
Perfluorononanoic Acid (PFNA)	0.105	J	ng/g	0.304	0.091	1
Perfluorooctanesulfonic Acid (PFOS)	0.209	J	ng/g	0.304	0.158	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.304	0.082	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.608	0.349	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.608	0.245	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.608	0.057	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.608	0.186	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.608	0.119	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.608	0.103	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.608	0.085	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.608	0.249	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.608	0.066	1
PFOA/PFOS, Total	0.319	J	ng/g	0.304	0.051	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-01
Client ID: PD1-A-4 2
Sample Location: ITHACA, NY

Date Collected: 03/22/23 08:53
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	82		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	82		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	87		74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	73		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	87		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	83		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	67		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	71	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	77	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	76		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	73		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	47		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	11		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	45		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	73		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	62		24-159

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02
Client ID: PD1-A-4 12
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 04/04/23 15:47
Analyst: MG
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 04/03/23 11:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	19.	1
Hexachlorobenzene	ND		ug/kg	110	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	25.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	49.	1
2,4-Dinitrotoluene	ND		ug/kg	180	37.	1
2,6-Dinitrotoluene	ND		ug/kg	180	31.	1
Fluoranthene	ND		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	31.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	18.	1
Hexachlorobutadiene	ND		ug/kg	180	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	520	160	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	160	24.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	27.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	63.	1
Butyl benzyl phthalate	ND		ug/kg	180	46.	1
Di-n-butylphthalate	ND		ug/kg	180	35.	1
Di-n-octylphthalate	ND		ug/kg	180	62.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	38.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	45.	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02
Client ID: PD1-A-4 12
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	29.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	28.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	ND		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	26.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	24.	1
4-Chloroaniline	ND		ug/kg	180	33.	1
2-Nitroaniline	ND		ug/kg	180	35.	1
3-Nitroaniline	ND		ug/kg	180	34.	1
4-Nitroaniline	ND		ug/kg	180	76.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	19.	1
Acetophenone	ND		ug/kg	180	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	1
p-Chloro-m-cresol	ND		ug/kg	180	27.	1
2-Chlorophenol	ND		ug/kg	180	22.	1
2,4-Dichlorophenol	ND		ug/kg	160	29.	1
2,4-Dimethylphenol	ND		ug/kg	180	60.	1
2-Nitrophenol	ND		ug/kg	400	69.	1
4-Nitrophenol	ND		ug/kg	260	75.	1
2,4-Dinitrophenol	ND		ug/kg	880	85.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	88.	1
Pentachlorophenol	140	J	ug/kg	150	40.	1
Phenol	ND		ug/kg	180	28.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	35.	1
Carbazole	ND		ug/kg	180	18.	1
Atrazine	ND		ug/kg	150	64.	1
Benzaldehyde	ND		ug/kg	240	49.	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02
Client ID: PD1-A-4 12
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	180	56.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	37.	1
1,4-Dioxane	ND		ug/kg	27	8.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		25-120
Phenol-d6	75		10-120
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	85		30-120
2,4,6-Tribromophenol	72		10-136
4-Terphenyl-d14	89		18-120

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02
Client ID: PD1-A-4 12
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/31/23 16:23
Analyst: RS
Percent Solids: 90%

Extraction Method: ALPHA 23528
Extraction Date: 03/29/23 17:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.069	J	ng/g	0.532	0.024	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.532	0.049	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.266	0.042	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.532	0.056	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.266	0.048	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.266	0.064	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.266	0.045	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.532	0.191	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.532	0.145	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.266	0.080	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.266	0.138	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.266	0.071	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.532	0.306	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.532	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.532	0.163	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.532	0.104	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.532	0.075	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.532	0.218	1
Perfluorotetradecanoic Acid (PFTA)	0.763	F	ng/g	0.532	0.058	1
PFOA/PFOS, Total	ND		ng/g	0.266	0.045	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02
Client ID: PD1-A-4 12
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C4]Butanoic Acid (MPFBA)	37		Q	61-135		
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	36		Q	58-150		
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	38		Q	74-139		
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	32		Q	66-128		
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	33		Q	71-129		
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	37		Q	78-139		
Perfluoro[13C8]Octanoic Acid (M8PFOA)	34		Q	75-130		
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	21			20-154		
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	28		Q	72-140		
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	27		Q	79-136		
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	27		Q	75-130		
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	16		Q	19-175		
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	4		Q	31-134		
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	24		Q	61-155		
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	12			10-117		
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	2		Q	34-137		
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	15		Q	54-150		
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	2		Q	24-159		

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02 RE
 Client ID: PD1-A-4 12
 Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
 Date Received: 03/22/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/11/23 18:53
 Analyst: RS
 Percent Solids: 90%

Extraction Method: ALPHA 23528
 Extraction Date: 04/10/23 14:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	1.45	0.585	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	1.45	0.245	1
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	9		Q	31-134		
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	4		Q	34-137		

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03
Client ID: PD1-A-4 24
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 04/04/23 16:04
Analyst: MG
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 04/03/23 11:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	19.	1
Hexachlorobenzene	ND		ug/kg	110	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	25.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	49.	1
2,4-Dinitrotoluene	ND		ug/kg	180	36.	1
2,6-Dinitrotoluene	ND		ug/kg	180	31.	1
Fluoranthene	ND		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	31.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	18.	1
Hexachlorobutadiene	ND		ug/kg	180	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	520	160	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	160	24.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	27.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	63.	1
Butyl benzyl phthalate	ND		ug/kg	180	46.	1
Di-n-butylphthalate	ND		ug/kg	180	35.	1
Di-n-octylphthalate	ND		ug/kg	180	62.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	38.	1
Benzo(a)anthracene	ND		ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	150	45.	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03
Client ID: PD1-A-4 24
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	29.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	28.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	ND		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	25.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	24.	1
4-Chloroaniline	ND		ug/kg	180	33.	1
2-Nitroaniline	ND		ug/kg	180	35.	1
3-Nitroaniline	ND		ug/kg	180	34.	1
4-Nitroaniline	ND		ug/kg	180	76.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	19.	1
Acetophenone	ND		ug/kg	180	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	1
p-Chloro-m-cresol	ND		ug/kg	180	27.	1
2-Chlorophenol	ND		ug/kg	180	22.	1
2,4-Dichlorophenol	ND		ug/kg	160	29.	1
2,4-Dimethylphenol	ND		ug/kg	180	60.	1
2-Nitrophenol	ND		ug/kg	390	69.	1
4-Nitrophenol	ND		ug/kg	260	75.	1
2,4-Dinitrophenol	ND		ug/kg	880	85.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	88.	1
Pentachlorophenol	ND		ug/kg	150	40.	1
Phenol	ND		ug/kg	180	28.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	35.	1
Carbazole	ND		ug/kg	180	18.	1
Atrazine	ND		ug/kg	150	64.	1
Benzaldehyde	ND		ug/kg	240	49.	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03
Client ID: PD1-A-4 24
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	180	56.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	37.	1
1,4-Dioxane	ND		ug/kg	27	8.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	69		25-120
Phenol-d6	73		10-120
Nitrobenzene-d5	66		23-120
2-Fluorobiphenyl	83		30-120
2,4,6-Tribromophenol	65		10-136
4-Terphenyl-d14	89		18-120

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03
Client ID: PD1-A-4 24
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/31/23 16:39
Analyst: RS
Percent Solids: 91%

Extraction Method: ALPHA 23528
Extraction Date: 03/29/23 17:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.040	J	ng/g	0.531	0.024	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.531	0.049	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.265	0.041	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.531	0.056	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.265	0.048	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.265	0.064	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.265	0.045	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.531	0.190	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.531	0.145	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.265	0.080	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.265	0.138	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.265	0.071	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.531	0.305	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.531	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.531	0.162	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.531	0.104	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.531	0.074	1
PFOA/PFOS, Total	ND		ng/g	0.265	0.045	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03
Client ID: PD1-A-4 24
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	42	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	42	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	44	Q	74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	36	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	36	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	43	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	40	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	28		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	33	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	33	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	32	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	22		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	4	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	29	Q	61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	14		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	5	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	19	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	3	Q	24-159

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03 **RE**
Client ID: PD1-A-4 24
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/11/23 19:10
Analyst: RS
Percent Solids: 91%

Extraction Method: ALPHA 23528
Extraction Date: 04/10/23 14:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	1.98	0.798	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	1.98	0.335	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	1.98	0.810	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	1.98	0.214	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	10	Q	31-134
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	8	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	25	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	4	Q	24-159

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04
Client ID: DUP
Sample Location: ITHACA, NY

Date Collected: 03/22/23 00:00
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 04/04/23 16:20
Analyst: MG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 04/03/23 11:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	21.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	53.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	40	J	ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	31.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	580	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	ND		ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	30.	1
NDPA/DPA	ND		ug/kg	160	23.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	31.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	70.	1
Butyl benzyl phthalate	ND		ug/kg	200	51.	1
Di-n-butylphthalate	ND		ug/kg	200	38.	1
Di-n-octylphthalate	ND		ug/kg	200	68.	1
Diethyl phthalate	ND		ug/kg	200	19.	1
Dimethyl phthalate	ND		ug/kg	200	42.	1
Benzo(a)anthracene	24	J	ug/kg	120	23.	1
Benzo(a)pyrene	ND		ug/kg	160	49.	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04
Client ID: DUP
Sample Location: ITHACA, NY

Date Collected: 03/22/23 00:00
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	24.	1
Fluorene	ND		ug/kg	200	20.	1
Phenanthrene	ND		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	23.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	28.	1
Pyrene	38	J	ug/kg	120	20.	1
Biphenyl	ND		ug/kg	460	26.	1
4-Chloroaniline	ND		ug/kg	200	37.	1
2-Nitroaniline	ND		ug/kg	200	39.	1
3-Nitroaniline	ND		ug/kg	200	38.	1
4-Nitroaniline	ND		ug/kg	200	83.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	ND		ug/kg	240	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	200	21.	1
Acetophenone	ND		ug/kg	200	25.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	38.	1
p-Chloro-m-cresol	ND		ug/kg	200	30.	1
2-Chlorophenol	ND		ug/kg	200	24.	1
2,4-Dichlorophenol	ND		ug/kg	180	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	66.	1
2-Nitrophenol	ND		ug/kg	430	76.	1
4-Nitrophenol	ND		ug/kg	280	82.	1
2,4-Dinitrophenol	ND		ug/kg	960	94.	1
4,6-Dinitro-o-cresol	ND		ug/kg	520	96.	1
Pentachlorophenol	ND		ug/kg	160	44.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Carbazole	ND		ug/kg	200	20.	1
Atrazine	ND		ug/kg	160	70.	1
Benzaldehyde	ND		ug/kg	260	54.	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04
Client ID: DUP
Sample Location: ITHACA, NY

Date Collected: 03/22/23 00:00
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	61.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	41.	1
1,4-Dioxane	ND		ug/kg	30	9.2	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		25-120
Phenol-d6	73		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	78		30-120
2,4,6-Tribromophenol	81		10-136
4-Terphenyl-d14	80		18-120

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04
Client ID: DUP
Sample Location: ITHACA, NY

Date Collected: 03/22/23 00:00
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/31/23 17:38
Analyst: RS
Percent Solids: 82%

Extraction Method: ALPHA 23528
Extraction Date: 03/29/23 17:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.184	J	ng/g	0.590	0.027	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.590	0.054	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.295	0.046	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.590	0.062	1
Perfluoroheptanoic Acid (PFHpA)	0.082	J	ng/g	0.295	0.053	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.295	0.071	1
Perfluorooctanoic Acid (PFOA)	0.125	J	ng/g	0.295	0.050	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.590	0.212	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.590	0.161	1
Perfluorononanoic Acid (PFNA)	0.098	J	ng/g	0.295	0.089	1
Perfluorooctanesulfonic Acid (PFOS)	0.175	J	ng/g	0.295	0.154	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.295	0.079	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.590	0.339	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.590	0.238	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.590	0.055	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.590	0.181	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.590	0.116	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.235	J	ng/g	0.590	0.100	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.590	0.083	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.590	0.242	1
Perfluorotetradecanoic Acid (PFTA)	0.211	JF	ng/g	0.590	0.064	1
PFOA/PFOS, Total	0.300	J	ng/g	0.295	0.050	1

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04
Client ID: DUP
Sample Location: ITHACA, NY

Date Collected: 03/22/23 00:00
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	69		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	68		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	70	Q	74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	59	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	60	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	69	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	66	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	55		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	57	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	62	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	54	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	49		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	19	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	58	Q	61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	10		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	15	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	44	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	10	Q	24-159

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/31/23 15:00
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 03/29/23 17:15

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-04 Batch: WG1760033-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.500	0.023
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.500	0.046
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	0.039
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	0.053
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	0.045
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	0.061
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	0.042
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.500	0.180
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.500	0.136
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	0.075
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	0.130
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	0.067
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.500	0.287
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	0.202
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	0.047
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.500	0.153
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	0.098
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	0.085
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	0.070
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	0.204
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	0.054
PFOA/PFOS, Total	ND		ng/g	0.250	0.042

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/31/23 15:00
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 03/29/23 17:15

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-04 Batch: WG1760033-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	91		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	88		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	94		74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	81		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	82		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	94		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	92		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	70		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	82		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	84		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	80		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	65		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	57		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	67		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	81		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	100		24-159

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/03/23 17:41
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 03/29/23 17:15

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-04 Batch: WG1760033-1					
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	0.098

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	68		10-117

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 04/03/23 15:14
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 04/02/23 17:02

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1761820-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	100	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
3,3'-Dichlorobenzidine	ND		ug/kg	160	44.
2,4-Dinitrotoluene	ND		ug/kg	160	33.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	100	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	17.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	22.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	26.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	42.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	35.
Benzo(a)anthracene	ND		ug/kg	100	19.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	100	28.

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 04/03/23 15:14
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 04/02/23 17:02

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1761820-1					
Benzo(k)fluoranthene	ND		ug/kg	100	26.
Chrysene	ND		ug/kg	100	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	100	32.
Benzo(ghi)perylene	ND		ug/kg	130	20.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	100	20.
Dibenzo(a,h)anthracene	ND		ug/kg	100	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	100	16.
Biphenyl	ND		ug/kg	380	22.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	69.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	100	31.
p-Chloro-m-cresol	ND		ug/kg	160	25.
2-Chlorophenol	ND		ug/kg	160	20.
2,4-Dichlorophenol	ND		ug/kg	150	27.
2,4-Dimethylphenol	ND		ug/kg	160	55.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	68.
2,4-Dinitrophenol	ND		ug/kg	800	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	80.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 04/03/23 15:14
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 04/02/23 17:02

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1761820-1					
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	26.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	32.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	58.
Benzaldehyde	ND		ug/kg	220	45.
Caprolactam	ND		ug/kg	160	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	34.
1,4-Dioxane	ND		ug/kg	25	7.6

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		25-120
Phenol-d6	72		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	73		30-120
2,4,6-Tribromophenol	76		10-136
4-Terphenyl-d14	73		18-120

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/11/23 17:55
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 04/10/23 14:15

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 02-03 Batch: WG1764813-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.500	0.023
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.500	0.046
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	0.039
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	0.053
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	0.045
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	0.061
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	0.042
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.500	0.180
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.500	0.136
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	0.075
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	0.130
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	0.067
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.500	0.287
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	0.202
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	0.047
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.500	0.153
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	0.098
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	0.085
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	0.070
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	0.204
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	0.054
PFOA/PFOS, Total	ND		ng/g	0.250	0.042

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/11/23 17:55
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 04/10/23 14:15

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 02-03 Batch: WG1764813-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	85		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	88		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	82		74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	78		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	79		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	79		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	81		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	122		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	85		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	84		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	133		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	75		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	92		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	16		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	90		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	76		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	45		24-159

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-04 Batch: WG1760033-2								
Perfluorobutanoic Acid (PFBA)	103		-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	102		-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	98		-		72-128	-		30
Perfluorohexanoic Acid (PFHxA)	102		-		70-132	-		30
Perfluoroheptanoic Acid (PFHpA)	102		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	124		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	96		-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	115		-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	110		-		70-132	-		30
Perfluorononanoic Acid (PFNA)	110		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	114		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	103		-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	126		-		65-137	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	112		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	101		-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	109		-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	96		-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	109		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	100		-		69-135	-		30
Perfluorotridecanoic Acid (PFTrDA)	92		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	103		-		69-133	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Lab Number: L2315171

Project Number: X55.002.001

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-04 Batch: WG1760033-2								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	97				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	95				58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	100				74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	85				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	100				78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	97				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	87				20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86				72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94				79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	92				19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	73				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	97				61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	27				10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	75				34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	91				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	108				24-159

Lab Control Sample Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-04 Batch: WG1760033-2								
Perfluorooctanesulfonamide (FOSA)	105		-		67-137	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	70				10-117

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1761820-2 WG1761820-3								
Acenaphthene	56		75		31-137	29		50
Hexachlorobenzene	58		77		40-140	28		50
Bis(2-chloroethyl)ether	51		65		40-140	24		50
2-Chloronaphthalene	58		74		40-140	24		50
3,3'-Dichlorobenzidine	38	Q	52		40-140	31		50
2,4-Dinitrotoluene	84		112		40-132	29		50
2,6-Dinitrotoluene	75		98		40-140	27		50
Fluoranthene	61		78		40-140	24		50
4-Chlorophenyl phenyl ether	56		76		40-140	30		50
4-Bromophenyl phenyl ether	59		78		40-140	28		50
Bis(2-chloroisopropyl)ether	47		60		40-140	24		50
Bis(2-chloroethoxy)methane	55		68		40-117	21		50
Hexachlorobutadiene	54		70		40-140	26		50
Hexachlorocyclopentadiene	54		69		40-140	24		50
Hexachloroethane	54		71		40-140	27		50
Isophorone	53		67		40-140	23		50
Naphthalene	54		71		40-140	27		50
Nitrobenzene	56		72		40-140	25		50
NDPA/DPA	58		81		36-157	33		50
n-Nitrosodi-n-propylamine	54		68		32-121	23		50
Bis(2-ethylhexyl)phthalate	69		88		40-140	24		50
Butyl benzyl phthalate	70		86		40-140	21		50
Di-n-butylphthalate	65		85		40-140	27		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Lab Number: L2315171

Project Number: X55.002.001

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1761820-2 WG1761820-3								
Di-n-octylphthalate	76		101		40-140	28		50
Diethyl phthalate	59		82		40-140	33		50
Dimethyl phthalate	61		78		40-140	24		50
Benzo(a)anthracene	63		82		40-140	26		50
Benzo(a)pyrene	73		105		40-140	36		50
Benzo(b)fluoranthene	61		91		40-140	39		50
Benzo(k)fluoranthene	68		95		40-140	33		50
Chrysene	62		82		40-140	28		50
Acenaphthylene	63		82		40-140	26		50
Anthracene	59		80		40-140	30		50
Benzo(ghi)perylene	60		88		40-140	38		50
Fluorene	55		77		40-140	33		50
Phenanthrene	58		77		40-140	28		50
Dibenzo(a,h)anthracene	58		84		40-140	37		50
Indeno(1,2,3-cd)pyrene	61		88		40-140	36		50
Pyrene	61		78		35-142	24		50
Biphenyl	58		74		37-127	24		50
4-Chloroaniline	17	Q	20	Q	40-140	16		50
2-Nitroaniline	79		100		47-134	23		50
3-Nitroaniline	37		48		26-129	26		50
4-Nitroaniline	65		84		41-125	26		50
Dibenzofuran	57		78		40-140	31		50
2-Methylnaphthalene	58		75		40-140	26		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1761820-2 WG1761820-3								
1,2,4,5-Tetrachlorobenzene	58		75		40-117	26		50
Acetophenone	61		76		14-144	22		50
2,4,6-Trichlorophenol	66		86		30-130	26		50
p-Chloro-m-cresol	65		86		26-103	28		50
2-Chlorophenol	61		79		25-102	26		50
2,4-Dichlorophenol	65		79		30-130	19		50
2,4-Dimethylphenol	60		74		30-130	21		50
2-Nitrophenol	77		99		30-130	25		50
4-Nitrophenol	61		81		11-114	28		50
2,4-Dinitrophenol	59		80		4-130	30		50
4,6-Dinitro-o-cresol	89		114		10-130	25		50
Pentachlorophenol	54		71		17-109	27		50
Phenol	62		79		26-90	24		50
2-Methylphenol	59		73		30-130	21		50
3-Methylphenol/4-Methylphenol	59		73		30-130	21		50
2,4,5-Trichlorophenol	69		87		30-130	23		50
Carbazole	62		80		54-128	25		50
Atrazine	60		78		40-140	26		50
Benzaldehyde	56		69		40-140	21		50
Caprolactam	71		85		15-130	18		50
2,3,4,6-Tetrachlorophenol	64		84		40-140	27		50
1,4-Dioxane	43		56		40-140	26		50

Lab Control Sample Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1761820-2 WG1761820-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	61		77		25-120
Phenol-d6	59		72		10-120
Nitrobenzene-d5	57		71		23-120
2-Fluorobiphenyl	55		69		30-120
2,4,6-Tribromophenol	62		81		10-136
4-Terphenyl-d14	54		66		18-120

Lab Control Sample Analysis Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02-03 Batch: WG1764813-2								
Perfluorobutanoic Acid (PFBA)	109		-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	108		-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	106		-		72-128	-		30
Perfluorohexanoic Acid (PFHxA)	108		-		70-132	-		30
Perfluoroheptanoic Acid (PFHpA)	105		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	106		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	105		-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	110		-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	111		-		70-132	-		30
Perfluorononanoic Acid (PFNA)	88		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	102		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	115		-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	109		-		65-137	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	118		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	90		-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	107		-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	115		-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	104		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	114		-		69-135	-		30
Perfluorotridecanoic Acid (PFTrDA)	128		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	133		-		69-133	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Lab Number: L2315171

Project Number: X55.002.001

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02-03 Batch: WG1764813-2								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	83				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	85				58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	81				74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	86				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	84				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	83				78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	87				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	114				20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90				72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	82				79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	113				19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	77				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	82				61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	22				10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	88				34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	81				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	55				24-159

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1760033-3 WG1760033-4 QC Sample: L2315171-01 Client ID: PD1-A-4 2												
Perfluorobutanoic Acid (PFBA)	0.143J	6.13	6.41	102		6.24	102		71-135	3		30
Perfluoropentanoic Acid (PFPeA)	ND	6.13	6.23	102		6.10	102		69-132	2		30
Perfluorobutanesulfonic Acid (PFBS)	ND	5.44	5.45	100		5.29	100		72-128	3		30
Perfluorohexanoic Acid (PFHxA)	ND	6.13	6.18	101		6.06	102		70-132	2		30
Perfluoroheptanoic Acid (PFHpA)	0.083J	6.13	6.41	103		6.28	104		71-131	2		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	5.6	7.03	125		6.86	126		67-130	2		30
Perfluorooctanoic Acid (PFOA)	0.110J	6.13	6.01	96		5.68	93		69-133	6		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	5.84	6.57	113		6.98	123		64-140	6		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	5.85	6.44	110		6.14	108		70-132	5		30
Perfluorononanoic Acid (PFNA)	0.105J	6.13	6.98	112		6.36	105		72-129	9		30
Perfluorooctanesulfonic Acid (PFOS)	0.209J	5.69	6.58	112		6.55	114		68-136	0		30
Perfluorodecanoic Acid (PFDA)	ND	6.13	6.58	107		6.04	101		69-133	9		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	5.88	7.29	124		6.63	116		65-137	9		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	6.13	6.78	111		7.92	133		63-144	16		30
Perfluoroundecanoic Acid (PFUnA)	ND	6.13	6.38	104		5.88	99		64-136	8		30
Perfluorodecanesulfonic Acid (PFDS)	ND	5.92	6.15	104		6.35	110		59-134	3		30
Perfluorooctanesulfonamide (FOSA)	ND	6.13	6.52F	106		5.59F	94		67-137	15		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	6.13	6.71	109		6.54F	110		61-139	3		30
Perfluorododecanoic Acid (PFDoA)	ND	6.13	6.25	102		6.32	106		69-135	1		30
Perfluorotridecanoic Acid (PFTrDA)	ND	6.13	6.76	110		6.83	114		66-139	1		30
Perfluorotetradecanoic Acid (PFTA)	ND	6.13	6.38	104		6.21	104		69-133	3		30

Matrix Spike Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2315171**Report Date:** 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1760033-3 WG1760033-4 QC Sample: L2315171-01 Client ID: PD1-A-4 2												

Surrogate (Extracted Internal Standard)	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	78		83		19-175
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	72		69		20-154
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	46		50		34-137
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	54		46		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	84		90		61-155
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	79		82		75-130
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	75		79		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77		78		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	92		94		78-139
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	75		74		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	68		71		24-159
Perfluoro[13C4]Butanoic Acid (MPFBA)	84		87		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	84		85		58-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	3	Q	7	Q	10-117
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	83		83		79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	83		90		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	75		78		72-140
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88		89		74-139

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1761820-4 WG1761820-5 QC Sample: L2315171-01 Client ID: PD1-A-4 2												
Acenaphthene	ND	1670	1200	72		1100	66		31-137	9		50
Hexachlorobenzene	ND	1670	1200	72		1100	66		40-140	9		50
Bis(2-chloroethyl)ether	ND	1670	1400	84		1000	60		40-140	33		50
2-Chloronaphthalene	ND	1670	1200	72		1000	60		40-140	18		50
3,3'-Dichlorobenzidine	ND	1670	960	58		1000	60		40-140	4		50
2,4-Dinitrotoluene	ND	1670	1100	66		940	57		40-132	16		50
2,6-Dinitrotoluene	ND	1670	1100	66		910	55		40-140	19		50
Fluoranthene	52J	1670	1200	72		1100	66		40-140	9		50
4-Chlorophenyl phenyl ether	ND	1670	1200	72		1000	60		40-140	18		50
4-Bromophenyl phenyl ether	ND	1670	1200	72		1100	66		40-140	9		50
Bis(2-chloroisopropyl)ether	ND	1670	1100	66		970	58		40-140	13		50
Bis(2-chloroethoxy)methane	ND	1670	1100	66		990	60		40-117	11		50
Hexachlorobutadiene	ND	1670	1200	72		1000	60		40-140	18		50
Hexachlorocyclopentadiene	ND	1670	1400	84		1000	60		40-140	33		50
Hexachloroethane	ND	1670	940	56		790	48		40-140	17		50
Isophorone	ND	1670	1100	66		940	57		40-140	16		50
Naphthalene	ND	1670	1100	66		1000	60		40-140	10		50
Nitrobenzene	ND	1670	1100	66		930	56		40-140	17		50
NDPA/DPA	ND	1670	1200	72		1100	66		36-157	9		50
n-Nitrosodi-n-propylamine	ND	1670	1200	72		1000	60		32-121	18		50
Bis(2-ethylhexyl)phthalate	ND	1670	1100	66		970	58		40-140	13		50
Butyl benzyl phthalate	ND	1670	1200	72		990	60		40-140	19		50
Di-n-butylphthalate	ND	1670	1200	72		1000	60		40-140	18		50

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1761820-4 WG1761820-5 QC Sample: L2315171-01 Client ID: PD1-A-4 2												
Di-n-octylphthalate	ND	1670	1200	72		1000	60		40-140	18		50
Diethyl phthalate	ND	1670	1200	72		1100	66		40-140	9		50
Dimethyl phthalate	ND	1670	1100	66		1000	60		40-140	10		50
Benzo(a)anthracene	29J	1670	1200	72		1100	66		40-140	9		50
Benzo(a)pyrene	ND	1670	1400	84		1200	72		40-140	15		50
Benzo(b)fluoranthene	42J	1670	1300	78		1100	66		40-140	17		50
Benzo(k)fluoranthene	ND	1670	1300	78		1200	72		40-140	8		50
Chrysene	33J	1670	1200	72		1100	66		40-140	9		50
Acenaphthylene	ND	1670	1200	72		1100	66		40-140	9		50
Anthracene	ND	1670	1200	72		1000	60		40-140	18		50
Benzo(ghi)perylene	ND	1670	1200	72		1000	60		40-140	18		50
Fluorene	ND	1670	1200	72		1100	66		40-140	9		50
Phenanthrene	32J	1670	1200	72		1000	60		40-140	18		50
Dibenzo(a,h)anthracene	ND	1670	1200	72		1000	60		40-140	18		50
Indeno(1,2,3-cd)pyrene	ND	1670	1200	72		1100	66		40-140	9		50
Pyrene	50J	1670	1300	78		1100	66		35-142	17		50
Biphenyl	ND	1670	1200	72		1100	66		37-127	9		50
4-Chloroaniline	ND	1670	570	34	Q	720	43		40-140	23		50
2-Nitroaniline	ND	1670	1200	72		1100	66		47-134	9		50
3-Nitroaniline	ND	1670	1100	66		1100	66		26-129	0		50
4-Nitroaniline	ND	1670	1400	84		1300	78		41-125	7		50
Dibenzofuran	ND	1670	1200	72		1100	66		40-140	9		50
2-Methylnaphthalene	ND	1670	1200	72		1100	66		40-140	9		50

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1761820-4 WG1761820-5 QC Sample: L2315171-01 Client ID: PD1-A-4 2												
1,2,4,5-Tetrachlorobenzene	ND	1670	1200	72		1100	66		40-117	9		50
Acetophenone	ND	1670	1200	72		1100	66		14-144	9		50
2,4,6-Trichlorophenol	ND	1670	1400	84		1200	72		30-130	15		50
p-Chloro-m-cresol	ND	1670	1200	72		1000	60		26-103	18		50
2-Chlorophenol	ND	1670	1200	72		990	60		25-102	19		50
2,4-Dichlorophenol	ND	1670	1200	72		1000	60		30-130	18		50
2,4-Dimethylphenol	ND	1670	1100	66		960	58		30-130	14		50
2-Nitrophenol	ND	1670	750	45		570	34		30-130	27		50
4-Nitrophenol	ND	1670	1100	66		830	50		11-114	28		50
2,4-Dinitrophenol	ND	1670	ND	0	Q	ND	0	Q	4-130	NC		50
4,6-Dinitro-o-cresol	ND	1670	180J	11		160J	10		10-130	12		50
Pentachlorophenol	ND	1670	940	56		780	47		17-109	19		50
Phenol	ND	1670	1100	66		950	57		26-90	15		50
2-Methylphenol	ND	1670	1100	66		960	58		30-130.	14		50
3-Methylphenol/4-Methylphenol	ND	1670	1100	66		970	58		30-130	13		50
2,4,5-Trichlorophenol	ND	1670	1400	84		1200	72		30-130	15		50
Carbazole	ND	1670	1200	72		1100	66		54-128	9		50
Atrazine	ND	1670	1200	72		1000	60		40-140	18		50
Benzaldehyde	ND	1670	1100	66		1000	60		40-140	10		50
Caprolactam	ND	1670	1200	72		980	59		15-130	20		50
2,3,4,6-Tetrachlorophenol	ND	1670	1200	72		1100	66		40-140	9		50
1,4-Dioxane	ND	1670	790	47		750	45		40-140	5		50

Matrix Spike Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1761820-4 WG1761820-5 QC Sample: L2315171-01 Client ID: PD1-A-4 2

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
2,4,6-Tribromophenol	94		76		10-136
2-Fluorobiphenyl	66		61		30-120
2-Fluorophenol	72		61		25-120
4-Terphenyl-d14	66		60		18-120
Nitrobenzene-d5	65		59		23-120
Phenol-d6	69		61		10-120

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02-03 QC Batch ID: WG1764813-3 WG1764813-4 QC Sample: L2316418-02 Client ID: MS Sample												
Perfluorobutanoic Acid (PFBA)	ND	4.88	5.35	110		5.12	107		71-135	4		30
Perfluoropentanoic Acid (PFPeA)	ND	4.88	5.38	110		5.16	108		69-132	4		30
Perfluorobutanesulfonic Acid (PFBS)	ND	4.33	4.74	109		4.55	107		72-128	4		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	4.58	5.21	114		4.94	110		62-145	5		30
Perfluorohexanoic Acid (PFHxA)	ND	4.88	5.18	106		4.92	103		70-132	5		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	4.6	4.78	104		4.68	104		73-123	2		30
Perfluoroheptanoic Acid (PFHpA)	ND	4.88	5.31	109		5.18	108		71-131	2		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	4.46	4.84	109		4.76	109		67-130	2		30
Perfluorooctanoic Acid (PFOA)	ND	4.88	5.27	108		5.15	107		69-133	2		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	4.64	5.22	112		5.01	110		64-140	4		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	4.66	5.15	111		5.01	109		70-132	3		30
Perfluorononanoic Acid (PFNA)	ND	4.88	4.78	98		4.75	99		72-129	1		30
Perfluorooctanesulfonic Acid (PFOS)	ND	4.53	4.50	99		4.65	104		68-136	3		30
Perfluorodecanoic Acid (PFDA)	ND	4.88	5.43	111		4.94	103		69-133	9		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	4.68	5.17	110		5.24	114		65-137	1		30
Perfluorononanesulfonic Acid (PFNS)	ND	4.69	4.93	105		5.00	108		69-125	1		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	4.88	5.48	112		5.51	115		63-144	1		30
Perfluoroundecanoic Acid (PFUnA)	ND	4.88	4.88	100		4.68	98		64-136	4		30
Perfluorodecanesulfonic Acid (PFDS)	ND	4.71	4.89	104		5.12	110		59-134	5		30
Perfluorooctanesulfonamide (FOSA)	ND	4.88	5.80	119		5.47F	114		67-137	6		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	4.88	5.96	122		5.35	111		61-139	11		30
Perfluorododecanoic Acid (PFDoA)	ND	4.88	5.21	107		4.54	95		69-135	14		30

Matrix Spike Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02-03 QC Batch ID: WG1764813-3 WG1764813-4 QC Sample: L2316418-02 Client ID: MS Sample												
Perfluorotridecanoic Acid (PFTrDA)	ND	4.88	6.08	125		5.38	112		66-139	12		30
Perfluorotetradecanoic Acid (PFTA)	ND	4.88	6.49	133		5.23F	109		69-133	22		30

Surrogate (Extracted Internal Standard)	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	81		85		19-175
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	78		86		14-167
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	78		84		20-154
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	39		43		34-137
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	30	Q	32		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	72		79		61-155
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	80		81		75-130
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	86		80		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	83		77		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	72	Q	76	Q	78-139
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	82		87		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	58		61		24-159
Perfluoro[13C4]Butanoic Acid (MPFBA)	77		79		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	78		80		58-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	10		16		10-117
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	73	Q	76	Q	79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		78		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	92		81		72-140
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	71	Q	77		74-139

PCBS

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-01
Client ID: PD1-A-4 2
Sample Location: ITHACA, NY

Date Collected: 03/22/23 08:53
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 04/10/23 09:31
Analyst: AD
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 04/08/23 14:33
Cleanup Method: EPA 3665A
Cleanup Date: 04/09/23
Cleanup Method: EPA 3660B
Cleanup Date: 04/10/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	41.0	3.64	1	A
Aroclor 1221	ND		ug/kg	41.0	4.11	1	A
Aroclor 1232	ND		ug/kg	41.0	8.70	1	A
Aroclor 1242	ND		ug/kg	41.0	5.53	1	A
Aroclor 1248	ND		ug/kg	41.0	6.16	1	A
Aroclor 1254	ND		ug/kg	41.0	4.49	1	A
Aroclor 1260	ND		ug/kg	41.0	7.58	1	A
Aroclor 1262	ND		ug/kg	41.0	5.21	1	A
Aroclor 1268	ND		ug/kg	41.0	4.25	1	A
PCBs, Total	ND		ug/kg	41.0	3.64	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	58		30-150	A
Decachlorobiphenyl	61		30-150	A
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	66		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02
Client ID: PD1-A-4 12
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 04/10/23 09:54
Analyst: AD
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 04/08/23 14:33
Cleanup Method: EPA 3665A
Cleanup Date: 04/09/23
Cleanup Method: EPA 3660B
Cleanup Date: 04/10/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.5	3.15	1	A
Aroclor 1221	ND		ug/kg	35.5	3.56	1	A
Aroclor 1232	ND		ug/kg	35.5	7.52	1	A
Aroclor 1242	ND		ug/kg	35.5	4.78	1	A
Aroclor 1248	ND		ug/kg	35.5	5.32	1	A
Aroclor 1254	ND		ug/kg	35.5	3.88	1	A
Aroclor 1260	ND		ug/kg	35.5	6.56	1	A
Aroclor 1262	ND		ug/kg	35.5	4.51	1	A
Aroclor 1268	ND		ug/kg	35.5	3.68	1	A
PCBs, Total	ND		ug/kg	35.5	3.15	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	A
Decachlorobiphenyl	61		30-150	A
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03
Client ID: PD1-A-4 24
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 04/10/23 10:02
Analyst: AD
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 04/08/23 14:33
Cleanup Method: EPA 3665A
Cleanup Date: 04/09/23
Cleanup Method: EPA 3660B
Cleanup Date: 04/10/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.6	3.16	1	A
Aroclor 1221	ND		ug/kg	35.6	3.57	1	A
Aroclor 1232	ND		ug/kg	35.6	7.55	1	A
Aroclor 1242	ND		ug/kg	35.6	4.80	1	A
Aroclor 1248	25.1	J	ug/kg	35.6	5.34	1	A
Aroclor 1254	ND		ug/kg	35.6	3.90	1	A
Aroclor 1260	ND		ug/kg	35.6	6.58	1	A
Aroclor 1262	ND		ug/kg	35.6	4.52	1	A
Aroclor 1268	ND		ug/kg	35.6	3.69	1	A
PCBs, Total	25.1	J	ug/kg	35.6	3.16	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	69		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04
Client ID: DUP
Sample Location: ITHACA, NY

Date Collected: 03/22/23 00:00
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 04/10/23 10:10
Analyst: AD
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 04/08/23 14:33
Cleanup Method: EPA 3665A
Cleanup Date: 04/09/23
Cleanup Method: EPA 3660B
Cleanup Date: 04/10/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.6	3.52	1	A
Aroclor 1221	ND		ug/kg	39.6	3.97	1	A
Aroclor 1232	ND		ug/kg	39.6	8.40	1	A
Aroclor 1242	ND		ug/kg	39.6	5.34	1	A
Aroclor 1248	ND		ug/kg	39.6	5.94	1	A
Aroclor 1254	ND		ug/kg	39.6	4.34	1	A
Aroclor 1260	ND		ug/kg	39.6	7.32	1	A
Aroclor 1262	ND		ug/kg	39.6	5.03	1	A
Aroclor 1268	ND		ug/kg	39.6	4.11	1	A
PCBs, Total	ND		ug/kg	39.6	3.52	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	A
Decachlorobiphenyl	62		30-150	A
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	69		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8082A
 Analytical Date: 04/10/23 09:07
 Analyst: AD

Extraction Method: EPA 3546
 Extraction Date: 04/08/23 14:33
 Cleanup Method: EPA 3665A
 Cleanup Date: 04/09/23
 Cleanup Method: EPA 3660B
 Cleanup Date: 04/10/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-04 Batch: WG1764359-1						
Aroclor 1016	ND		ug/kg	31.8	2.83	A
Aroclor 1221	ND		ug/kg	31.8	3.19	A
Aroclor 1232	ND		ug/kg	31.8	6.75	A
Aroclor 1242	ND		ug/kg	31.8	4.29	A
Aroclor 1248	ND		ug/kg	31.8	4.77	A
Aroclor 1254	ND		ug/kg	31.8	3.48	A
Aroclor 1260	ND		ug/kg	31.8	5.88	A
Aroclor 1262	ND		ug/kg	31.8	4.04	A
Aroclor 1268	ND		ug/kg	31.8	3.30	A
PCBs, Total	ND		ug/kg	31.8	2.83	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	68		30-150	B

Lab Control Sample Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-04 Batch: WG1764359-2 WG1764359-3									
Aroclor 1016	64		57		40-140	12		50	A
Aroclor 1260	63		56		40-140	12		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		56		30-150	A
Decachlorobiphenyl	67		58		30-150	A
2,4,5,6-Tetrachloro-m-xylene	67		57		30-150	B
Decachlorobiphenyl	69		58		30-150	B

Matrix Spike Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1764359-4 WG1764359-5 QC Sample: L2315171-01 Client ID: PD1-A-4 2													
Aroclor 1016	ND	252	150	60		146	58		40-140	3		50	A
Aroclor 1260	ND	252	150	60		144	57		40-140	4		50	A

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		60		30-150	A
Decachlorobiphenyl	63		61		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		62		30-150	B
Decachlorobiphenyl	69		66		30-150	B

PESTICIDES

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-01
Client ID: PD1-A-4 2
Sample Location: ITHACA, NY

Date Collected: 03/22/23 08:53
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 04/04/23 16:40
Analyst: AAR
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 04/03/23 12:35
Cleanup Method: EPA 3620B
Cleanup Date: 04/04/23
Cleanup Method: EPA 3660B
Cleanup Date: 04/04/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.92	0.376	1	A
Lindane	ND		ug/kg	0.801	0.358	1	A
Alpha-BHC	ND		ug/kg	0.801	0.228	1	A
Beta-BHC	ND		ug/kg	1.92	0.729	1	A
Heptachlor	ND		ug/kg	0.961	0.431	1	A
Aldrin	ND		ug/kg	1.92	0.677	1	A
Heptachlor epoxide	ND		ug/kg	3.60	1.08	1	A
Endrin	ND		ug/kg	0.801	0.328	1	A
Endrin aldehyde	ND		ug/kg	2.40	0.841	1	A
Endrin ketone	ND		ug/kg	1.92	0.495	1	A
Dieldrin	ND		ug/kg	1.20	0.601	1	A
4,4'-DDE	0.924	J	ug/kg	1.92	0.445	1	A
4,4'-DDD	ND		ug/kg	1.92	0.686	1	A
4,4'-DDT	ND		ug/kg	1.92	1.55	1	A
Endosulfan I	ND		ug/kg	1.92	0.454	1	A
Endosulfan II	ND		ug/kg	1.92	0.642	1	A
Endosulfan sulfate	ND		ug/kg	0.801	0.381	1	A
Methoxychlor	ND		ug/kg	3.60	1.12	1	A
Toxaphene	ND		ug/kg	36.0	10.1	1	A
cis-Chlordane	ND		ug/kg	2.40	0.670	1	A
trans-Chlordane	ND		ug/kg	2.40	0.634	1	A
Chlordane	ND		ug/kg	16.0	6.37	1	A

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-01
Client ID: PD1-A-4 2
Sample Location: ITHACA, NY

Date Collected: 03/22/23 08:53
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	91		30-150	A
2,4,5,6-Tetrachloro-m-xylene	92		30-150	B
Decachlorobiphenyl	100		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-01
Client ID: PD1-A-4 2
Sample Location: ITHACA, NY

Date Collected: 03/22/23 08:53
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 04/02/23 00:02
Analyst: EJJ
Percent Solids: 79%
Methylation Date: 04/01/23 13:47

Extraction Method: EPA 8151A
Extraction Date: 03/31/23 06:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Chlorinated Herbicides by GC - Westborough Lab

2,4-D	ND		ug/kg	207	13.0	1	A
2,4,5-T	ND		ug/kg	207	6.42	1	A
2,4,5-TP (Silvex)	ND		ug/kg	207	5.51	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	87		30-150	A
DCAA	88		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02
Client ID: PD1-A-4 12
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 04/04/23 17:16
Analyst: AAR
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 04/03/23 12:35
Cleanup Method: EPA 3620B
Cleanup Date: 04/04/23
Cleanup Method: EPA 3660B
Cleanup Date: 04/04/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.70	0.334	1	A
Lindane	ND		ug/kg	0.710	0.317	1	A
Alpha-BHC	ND		ug/kg	0.710	0.202	1	A
Beta-BHC	ND		ug/kg	1.70	0.646	1	A
Heptachlor	ND		ug/kg	0.852	0.382	1	A
Aldrin	ND		ug/kg	1.70	0.600	1	A
Heptachlor epoxide	ND		ug/kg	3.19	0.958	1	A
Endrin	ND		ug/kg	0.710	0.291	1	A
Endrin aldehyde	ND		ug/kg	2.13	0.745	1	A
Endrin ketone	ND		ug/kg	1.70	0.438	1	A
Dieldrin	ND		ug/kg	1.06	0.532	1	A
4,4'-DDE	ND		ug/kg	1.70	0.394	1	A
4,4'-DDD	ND		ug/kg	1.70	0.607	1	A
4,4'-DDT	ND		ug/kg	1.70	1.37	1	A
Endosulfan I	ND		ug/kg	1.70	0.402	1	A
Endosulfan II	ND		ug/kg	1.70	0.569	1	A
Endosulfan sulfate	ND		ug/kg	0.710	0.338	1	A
Methoxychlor	ND		ug/kg	3.19	0.993	1	A
Toxaphene	ND		ug/kg	31.9	8.94	1	A
cis-Chlordane	ND		ug/kg	2.13	0.593	1	A
trans-Chlordane	ND		ug/kg	2.13	0.562	1	A
Chlordane	ND		ug/kg	14.2	5.64	1	A

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02
Client ID: PD1-A-4 12
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	88		30-150	A
Decachlorobiphenyl	102		30-150	A
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	100		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-02
Client ID: PD1-A-4 12
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:20
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 04/02/23 00:58
Analyst: EJJ
Percent Solids: 90%
Methylation Date: 04/01/23 13:47

Extraction Method: EPA 8151A
Extraction Date: 03/31/23 06:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Chlorinated Herbicides by GC - Westborough Lab

2,4-D	ND		ug/kg	182	11.5	1	A
2,4,5-T	ND		ug/kg	182	5.64	1	A
2,4,5-TP (Silvex)	ND		ug/kg	182	4.84	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	80		30-150	A
DCAA	81		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03
Client ID: PD1-A-4 24
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 04/04/23 17:28
Analyst: AAR
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 04/03/23 12:35
Cleanup Method: EPA 3620B
Cleanup Date: 04/04/23
Cleanup Method: EPA 3660B
Cleanup Date: 04/04/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.71	0.335	1	A
Lindane	ND		ug/kg	0.714	0.319	1	A
Alpha-BHC	ND		ug/kg	0.714	0.203	1	A
Beta-BHC	ND		ug/kg	1.71	0.649	1	A
Heptachlor	ND		ug/kg	0.856	0.384	1	A
Aldrin	ND		ug/kg	1.71	0.603	1	A
Heptachlor epoxide	ND		ug/kg	3.21	0.963	1	A
Endrin	ND		ug/kg	0.714	0.292	1	A
Endrin aldehyde	ND		ug/kg	2.14	0.749	1	A
Endrin ketone	ND		ug/kg	1.71	0.441	1	A
Dieldrin	ND		ug/kg	1.07	0.535	1	A
4,4'-DDE	ND		ug/kg	1.71	0.396	1	A
4,4'-DDD	ND		ug/kg	1.71	0.611	1	A
4,4'-DDT	ND		ug/kg	1.71	1.38	1	A
Endosulfan I	ND		ug/kg	1.71	0.404	1	A
Endosulfan II	ND		ug/kg	1.71	0.572	1	A
Endosulfan sulfate	ND		ug/kg	0.714	0.340	1	A
Methoxychlor	ND		ug/kg	3.21	0.999	1	A
Toxaphene	ND		ug/kg	32.1	8.99	1	A
cis-Chlordane	ND		ug/kg	2.14	0.596	1	A
trans-Chlordane	ND		ug/kg	2.14	0.565	1	A
Chlordane	ND		ug/kg	14.3	5.67	1	A

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03
Client ID: PD1-A-4 24
Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	99		30-150	A
2,4,5,6-Tetrachloro-m-xylene	92		30-150	B
Decachlorobiphenyl	106		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-03
 Client ID: PD1-A-4 24
 Sample Location: ITHACA, NY

Date Collected: 03/22/23 09:33
 Date Received: 03/22/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Analytical Method: 1,8151A
 Analytical Date: 04/02/23 01:16
 Analyst: EJJ
 Percent Solids: 91%
 Methylation Date: 04/01/23 13:47

Extraction Method: EPA 8151A
 Extraction Date: 03/31/23 06:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	179	11.3	1	A
2,4,5-T	ND		ug/kg	179	5.56	1	A
2,4,5-TP (Silvex)	ND		ug/kg	179	4.77	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	79		30-150	A
DCAA	77		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04
Client ID: DUP
Sample Location: ITHACA, NY

Date Collected: 03/22/23 00:00
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 04/04/23 17:40
Analyst: AAR
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 04/03/23 12:35
Cleanup Method: EPA 3620B
Cleanup Date: 04/04/23
Cleanup Method: EPA 3660B
Cleanup Date: 04/04/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.83	0.358	1	A
Lindane	ND		ug/kg	0.762	0.340	1	A
Alpha-BHC	ND		ug/kg	0.762	0.216	1	A
Beta-BHC	ND		ug/kg	1.83	0.693	1	A
Heptachlor	ND		ug/kg	0.914	0.410	1	A
Aldrin	ND		ug/kg	1.83	0.644	1	A
Heptachlor epoxide	ND		ug/kg	3.43	1.03	1	A
Endrin	ND		ug/kg	0.762	0.312	1	A
Endrin aldehyde	ND		ug/kg	2.28	0.800	1	A
Endrin ketone	ND		ug/kg	1.83	0.471	1	A
Dieldrin	ND		ug/kg	1.14	0.571	1	A
4,4'-DDE	0.895	J	ug/kg	1.83	0.423	1	A
4,4'-DDD	ND		ug/kg	1.83	0.652	1	A
4,4'-DDT	ND		ug/kg	1.83	1.47	1	A
Endosulfan I	ND		ug/kg	1.83	0.432	1	A
Endosulfan II	ND		ug/kg	1.83	0.611	1	A
Endosulfan sulfate	ND		ug/kg	0.762	0.363	1	A
Methoxychlor	ND		ug/kg	3.43	1.07	1	A
Toxaphene	ND		ug/kg	34.3	9.60	1	A
cis-Chlordane	ND	IP	ug/kg	2.28	0.637	1	B
trans-Chlordane	ND	IP	ug/kg	2.28	0.603	1	B
Chlordane	ND		ug/kg	15.2	6.06	1	A

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04
Client ID: DUP
Sample Location: ITHACA, NY

Date Collected: 03/22/23 00:00
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	84		30-150	A
Decachlorobiphenyl	99		30-150	A
2,4,5,6-Tetrachloro-m-xylene	84		30-150	B
Decachlorobiphenyl	101		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04
Client ID: DUP
Sample Location: ITHACA, NY

Date Collected: 03/22/23 00:00
Date Received: 03/22/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 04/02/23 01:35
Analyst: EJJ
Percent Solids: 82%
Methylation Date: 04/01/23 13:47

Extraction Method: EPA 8151A
Extraction Date: 03/31/23 06:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Chlorinated Herbicides by GC - Westborough Lab

2,4-D	ND		ug/kg	196	12.3	1	A
2,4,5-T	ND		ug/kg	196	6.07	1	A
2,4,5-TP (Silvex)	ND		ug/kg	196	5.21	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	82		30-150	A
DCAA	81		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8151A
Analytical Date: 04/01/23 22:11
Analyst: EJL

Extraction Method: EPA 8151A
Extraction Date: 03/31/23 05:29

Methylation Date: 04/01/23 13:47

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 01-04 Batch: WG1761109-1						
2,4-D	ND		ug/kg	163	10.3	A
2,4,5-T	ND		ug/kg	163	5.05	A
2,4,5-TP (Silvex)	ND		ug/kg	163	4.33	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	75		30-150	A
DCAA	76		30-150	B

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8081B
 Analytical Date: 04/03/23 08:53
 Analyst: AKM

Extraction Method: EPA 3546
 Extraction Date: 04/02/23 14:02
 Cleanup Method: EPA 3620B
 Cleanup Date: 04/02/23
 Cleanup Method: EPA 3660B
 Cleanup Date: 04/02/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-04 Batch: WG1761799-1						
Delta-BHC	ND		ug/kg	1.51	0.296	A
Lindane	ND		ug/kg	0.629	0.281	A
Alpha-BHC	ND		ug/kg	0.629	0.179	A
Beta-BHC	ND		ug/kg	1.51	0.573	A
Heptachlor	ND		ug/kg	0.755	0.338	A
Aldrin	ND		ug/kg	1.51	0.532	A
Heptachlor epoxide	ND		ug/kg	2.83	0.850	A
Endrin	ND		ug/kg	0.629	0.258	A
Endrin aldehyde	ND		ug/kg	1.89	0.661	A
Endrin ketone	ND		ug/kg	1.51	0.389	A
Dieldrin	ND		ug/kg	0.944	0.472	A
4,4'-DDE	ND		ug/kg	1.51	0.349	A
4,4'-DDD	ND		ug/kg	1.51	0.539	A
4,4'-DDT	ND		ug/kg	1.51	1.21	A
Endosulfan I	ND		ug/kg	1.51	0.357	A
Endosulfan II	ND		ug/kg	1.51	0.505	A
Endosulfan sulfate	ND		ug/kg	0.629	0.300	A
Methoxychlor	ND		ug/kg	2.83	0.881	A
Toxaphene	ND		ug/kg	28.3	7.93	A
cis-Chlordane	ND		ug/kg	1.89	0.526	A
trans-Chlordane	ND		ug/kg	1.89	0.498	A
Chlordane	ND		ug/kg	12.6	5.00	A

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
 Analytical Date: 04/03/23 08:53
 Analyst: AKM

Extraction Method: EPA 3546
 Extraction Date: 04/02/23 14:02
 Cleanup Method: EPA 3620B
 Cleanup Date: 04/02/23
 Cleanup Method: EPA 3660B
 Cleanup Date: 04/02/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-04 Batch: WG1761799-1						

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	100		30-150	A
2,4,5,6-Tetrachloro-m-xylene	73		30-150	B
Decachlorobiphenyl	100		30-150	B

Lab Control Sample Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 01-04 Batch: WG1761109-2 WG1761109-3									
2,4-D	81		82		30-150	1		30	A
2,4,5-T	87		87		30-150	0		30	A
2,4,5-TP (Silvex)	86		88		30-150	2		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	81		81		30-150	A
DCAA	86		87		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-04 Batch: WG1761799-2 WG1761799-3									
Delta-BHC	92		90		30-150	2		30	A
Lindane	93		92		30-150	1		30	A
Alpha-BHC	99		96		30-150	3		30	A
Beta-BHC	107		98		30-150	9		30	A
Heptachlor	100		92		30-150	8		30	A
Aldrin	89		89		30-150	0		30	A
Heptachlor epoxide	80		79		30-150	1		30	A
Endrin	92		92		30-150	0		30	A
Endrin aldehyde	70		71		30-150	1		30	A
Endrin ketone	92		91		30-150	1		30	A
Dieldrin	99		98		30-150	1		30	A
4,4'-DDE	90		89		30-150	1		30	A
4,4'-DDD	100		100		30-150	0		30	A
4,4'-DDT	94		93		30-150	1		30	A
Endosulfan I	87		87		30-150	0		30	A
Endosulfan II	95		94		30-150	1		30	A
Endosulfan sulfate	66		68		30-150	3		30	A
Methoxychlor	93		93		30-150	0		30	A
cis-Chlordane	90		85		30-150	6		30	A
trans-Chlordane	99		97		30-150	2		30	A

Lab Control Sample Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-04 Batch: WG1761799-2 WG1761799-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		88		30-150	A
Decachlorobiphenyl	117		113		30-150	A
2,4,5,6-Tetrachloro-m-xylene	90		86		30-150	B
Decachlorobiphenyl	117		114		30-150	B

Matrix Spike Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1761109-6 WG1761109-7 QC Sample: L2315171-01 Client ID: PD1-A-4 2													
2,4-D	ND	210	173J	82		183J	87		30-150	6		30	A
2,4,5-T	ND	210	176J	84		184J	88		30-150	4		30	A
2,4,5-TP (Silvex)	ND	210	166J	79		167J	80		30-150	1		30	A

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria	Column
DCAA	85		90		30-150	A
DCAA	90		96		30-150	B

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2315171

Report Date: 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab ID: PD1-A-4 2 Associated sample(s): 01-04 QC Batch ID: WG1761799-4 WG1761799-5 QC Sample: L2315171-01 Client													
Delta-BHC	ND	40	31.4	79		31.3	78		30-150	0		50	A
Lindane	ND	40	30.7	77		30.7	76		30-150	0		50	A
Alpha-BHC	ND	40	32.2	81		32.3	80		30-150	0		50	A
Beta-BHC	ND	40	34.3	86		33.3	83		30-150	3		50	A
Heptachlor	ND	40	33.5	84		32.8	82		30-150	2		50	A
Aldrin	ND	40	31.4	79		31.2	78		30-150	1		50	A
Heptachlor epoxide	ND	40	25.8	65		25.7	64		30-150	0		50	A
Endrin	ND	40	30.5	76		30.2	75		30-150	1		50	A
Endrin aldehyde	ND	40	21.2	53		20.2	50		30-150	5		50	A
Endrin ketone	ND	40	27.5	69		25.8	64		30-150	6		50	A
Dieldrin	ND	40	32.2	81		32.0	80		30-150	1		50	A
4,4'-DDE	0.924J	40	30.5	76		30.2	75		30-150	1		50	A
4,4'-DDD	ND	40	32.8	82		32.9	82		30-150	0		50	A
4,4'-DDT	ND	40	35.6	89		35.0	87		30-150	2		50	A
Endosulfan I	ND	40	29.8	75		29.7	74		30-150	0		50	A
Endosulfan II	ND	40	31.4	79		30.9	77		30-150	2		50	A
Endosulfan sulfate	ND	40	20.1	50		17.2	43		30-150	16		50	A
Methoxychlor	ND	40	37.4	94		36.1	90		30-150	4		50	A
cis-Chlordane	ND	40	34.2	86		33.8	84		30-150	1		50	A
trans-Chlordane	ND	40	38.3	96		38.1	95		30-150	1		50	A

Matrix Spike Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1761799-4 WG1761799-5 QC Sample: L2315171-01 Client ID: PD1-A-4 2												

Surrogate	MS		MSD		Acceptance Criteria	Column
	% Recovery	Qualifier	% Recovery	Qualifier		
2,4,5,6-Tetrachloro-m-xylene	82		82		30-150	A
Decachlorobiphenyl	96		93		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		92		30-150	B
Decachlorobiphenyl	92		102		30-150	B

INORGANICS & MISCELLANEOUS

Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23**SAMPLE RESULTS****Lab ID:** L2315171-01**Date Collected:** 03/22/23 08:53**Client ID:** PD1-A-4 2**Date Received:** 03/22/23**Sample Location:** ITHACA, NY**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	79.2		%	0.100	NA	1	-	03/28/23 13:18	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2315171**Report Date:** 04/12/23**SAMPLE RESULTS****Lab ID:** L2315171-02**Client ID:** PD1-A-4 12**Sample Location:** ITHACA, NY**Date Collected:** 03/22/23 09:20**Date Received:** 03/22/23**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	90.1		%	0.100	NA	1	-	03/28/23 13:18	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2315171**Report Date:** 04/12/23**SAMPLE RESULTS****Lab ID:** L2315171-03**Client ID:** PD1-A-4 24**Sample Location:** ITHACA, NY**Date Collected:** 03/22/23 09:33**Date Received:** 03/22/23**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	91.0		%	0.100	NA	1	-	03/28/23 13:18	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE

Lab Number: L2315171

Project Number: X55.002.001

Report Date: 04/12/23

SAMPLE RESULTS

Lab ID: L2315171-04

Date Collected: 03/22/23 00:00

Client ID: DUP

Date Received: 03/22/23

Sample Location: ITHACA, NY

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	82.4		%	0.100	NA	1	-	03/28/23 13:18	121,2540G	ROI



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2315171**Report Date:** 04/12/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1759700-1 QC Sample: L2315171-01 Client ID: PD1-A-4 2						
Solids, Total	79.2	77.5	%	2		20

Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2315171-01A	Vial MeOH preserved	B	NA		3.6	Y	Absent		NYTCL-8260HLW(14)
L2315171-01A1	Vial MeOH preserved	B	NA		3.6	Y	Absent		NYTCL-8260HLW(14)
L2315171-01A2	Vial MeOH preserved	B	NA		3.6	Y	Absent		NYTCL-8260HLW(14)
L2315171-01B	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)
L2315171-01B1	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)
L2315171-01B2	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)
L2315171-01C	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)
L2315171-01C1	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)
L2315171-01C2	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)
L2315171-01D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L2315171-01D1	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L2315171-01D2	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L2315171-01E	Plastic 8oz unpreserved	B	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(90)
L2315171-01E1	Plastic 8oz unpreserved	B	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(90)
L2315171-01E2	Plastic 8oz unpreserved	B	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(90)
L2315171-01F	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		NYTCL-8270(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(365)
L2315171-01F1	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		NYTCL-8270(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(365)
L2315171-01F2	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		NYTCL-8270(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(365)
L2315171-02A	Vial MeOH preserved	B	NA		3.6	Y	Absent		NYTCL-8260HLW(14)
L2315171-02B	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)
L2315171-02C	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)

Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2315171**Project Number:** X55.002.001**Report Date:** 04/12/23**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2315171-02D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L2315171-02E	Plastic 8oz unpreserved	B	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(90)
L2315171-02F	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		NYTCL-8270(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(365)
L2315171-03A	Vial MeOH preserved	B	NA		3.6	Y	Absent		NYTCL-8260HLW(14)
L2315171-03B	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)
L2315171-03C	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)
L2315171-03D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L2315171-03E	Plastic 8oz unpreserved	B	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(90)
L2315171-03F	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		NYTCL-8270(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(365)
L2315171-04A	Vial MeOH preserved	B	NA		3.6	Y	Absent		NYTCL-8260HLW(14)
L2315171-04B	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)
L2315171-04C	Vial water preserved	B	NA		3.6	Y	Absent	23-MAR-23 11:07	NYTCL-8260HLW(14)
L2315171-04D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L2315171-04E	Plastic 8oz unpreserved	B	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(90)
L2315171-04F	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		NYTCL-8270(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(365)

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Serial_No:04122316:30
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PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Serial_No:04122316:30
Lab Number: L2315171
Report Date: 04/12/23

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name: FORMER ITHACA GUN BCP SITE
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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.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
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.

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Footnotes

- 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.

Chlordane: 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.)

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'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- 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

Report Format: DU Report with 'J' Qualifiers



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Data Qualifiers

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 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.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: FORMER ITHACA GUN BCP SITE
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REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.
- 134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

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**

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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 625/625.1:** alpha-Terpineol**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; 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.

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, SM9222D.****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, EPA 537.1.****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.

3/23/23

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ANALYTICAL REPORT

Lab Number:	L2317327
Client:	C&S Companies 499 Col. Eileen Collins Blvd. Syracuse, NY 13212
ATTN:	Nevin Bradford
Phone:	(315) 703-4284
Project Name:	FORMER ITHACA GUN BCP SITE
Project Number:	X55.002.001
Report Date:	04/05/23

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: FORMER ITHACA GUN BCP SITE

Project Number: X55.002.001

Lab Number: L2317327

Report Date: 04/05/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2317327-01	PDI-A-6S 0-2	SOIL	ITHACA, NY	04/03/23 12:00	04/03/23
L2317327-02	PDI-A-6E 0-2	SOIL	ITHACA, NY	04/03/23 12:02	04/03/23
L2317327-03	PDI-A-6W 0-2	SOIL	ITHACA, NY	04/03/23 12:05	04/03/23
L2317327-04	PDI-A-6N 0-2	SOIL	ITHACA, NY	04/03/23 12:08	04/03/23
L2317327-05	PDI-A-6S 12	SOIL	ITHACA, NY	04/03/23 12:18	04/03/23
L2317327-06	PDI-A-6S 24	SOIL	ITHACA, NY	04/03/23 12:24	04/03/23
L2317327-07	PDI-A-6E 12	SOIL	ITHACA, NY	04/03/23 12:40	04/03/23
L2317327-08	PDI-A-6E 24	SOIL	ITHACA, NY	04/03/23 12:50	04/03/23
L2317327-09	PDI-A-6W 12	SOIL	ITHACA, NY	04/03/23 13:00	04/03/23
L2317327-10	PDI-A-6W 24	SOIL	ITHACA, NY	04/03/23 13:10	04/03/23
L2317327-11	PDI-A-6N 12	SOIL	ITHACA, NY	04/03/23 13:18	04/03/23
L2317327-12	PDI-A-6N R4	SOIL	ITHACA, NY	04/03/23 13:20	04/03/23
L2317327-13	DUP-1	SOIL	ITHACA, NY	04/03/23 00:00	04/03/23

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

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: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

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.

Total Metals

The WG1762475-4 MS recovery, performed on L2317327-09, is outside the acceptance criteria for lead (63%). A post digestion spike was performed and was within acceptance criteria.

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:



Ashaley Moynihan

Title: Technical Director/Representative

Date: 04/05/23

METALS

Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-01

Date Collected: 04/03/23 12:00

Client ID: PDI-A-6S 0-2

Date Received: 04/03/23

Sample Location: ITHACA, NY

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	24.2		mg/kg	2.80	0.150	1	04/04/23 23:20	04/05/23 10:43	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-02

Date Collected: 04/03/23 12:02

Client ID: PDI-A-6E 0-2

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	19.8		mg/kg	2.58	0.138	1	04/04/23 23:20	04/05/23 10:46	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-03

Date Collected: 04/03/23 12:05

Client ID: PDI-A-6W 0-2

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 71%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	42.5		mg/kg	2.79	0.149	1	04/04/23 23:20	04/05/23 10:48	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-04

Date Collected: 04/03/23 12:08

Client ID: PDI-A-6N 0-2

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	25.9		mg/kg	2.34	0.125	1	04/04/23 23:20	04/05/23 10:51	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-05

Date Collected: 04/03/23 12:18

Client ID: PDI-A-6S 12

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	15.6		mg/kg	2.37	0.127	1	04/04/23 23:20	04/05/23 10:54	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-06

Date Collected: 04/03/23 12:24

Client ID: PDI-A-6S 24

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	17.3		mg/kg	2.38	0.127	1	04/04/23 23:20	04/05/23 10:56	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-07

Date Collected: 04/03/23 12:40

Client ID: PDI-A-6E 12

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	16.6		mg/kg	2.37	0.127	1	04/04/23 23:20	04/05/23 11:05	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-08

Date Collected: 04/03/23 12:50

Client ID: PDI-A-6E 24

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	15.1		mg/kg	2.34	0.126	1	04/04/23 23:20	04/05/23 11:08	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-09

Date Collected: 04/03/23 13:00

Client ID: PDI-A-6W 12

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	53.6		mg/kg	2.29	0.123	1	04/04/23 23:20	04/05/23 10:10	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-10

Date Collected: 04/03/23 13:10

Client ID: PDI-A-6W 24

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	32.7		mg/kg	2.09	0.112	1	04/04/23 23:20	04/05/23 11:11	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-11

Date Collected: 04/03/23 13:18

Client ID: PDI-A-6N 12

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	14.8		mg/kg	2.34	0.126	1	04/04/23 23:20	04/05/23 11:14	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-12

Date Collected: 04/03/23 13:20

Client ID: PDI-A-6N R4

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	56.7		mg/kg	2.26	0.121	1	04/04/23 23:20	04/05/23 11:16	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-13

Date Collected: 04/03/23 00:00

Client ID: DUP-1

Date Received: 04/03/23

Sample Location: ITHACA, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 70%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	44.0		mg/kg	2.84	0.152	1	04/04/23 23:20	04/05/23 11:19	EPA 3050B	1,6010D	DMB



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23

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): 01-13 Batch: WG1762475-1										
Lead, Total	0.111	J	mg/kg	2.00	0.107	1	04/04/23 23:20	04/05/23 09:56	1,6010D	DMB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis**Batch Quality Control****Project Name:** FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-13 Batch: WG1762475-2 SRM Lot Number: D116-540								
Lead, Total	99		-		83-117	-		

Matrix Spike Analysis Batch Quality Control

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

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): 01-13 QC Batch ID: WG1762475-3 WG1762475-4 QC Sample: L2317327-09 Client ID: PDI-A-6W 12												
Lead, Total	53.6	49.1	91.6	77		84.4	63	Q	75-125	8		20

INORGANICS & MISCELLANEOUS

Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS****Lab ID:** L2317327-01**Date Collected:** 04/03/23 12:00**Client ID:** PDI-A-6S 0-2**Date Received:** 04/03/23**Sample Location:** ITHACA, NY**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	68.4		%	0.100	NA	1	-	04/04/23 09:46	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

SAMPLE RESULTS

Lab ID: L2317327-02
Client ID: PDI-A-6E 0-2
Sample Location: ITHACA, NY

Date Collected: 04/03/23 12:02
Date Received: 04/03/23
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	76.5		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

SAMPLE RESULTS

Lab ID: L2317327-03
Client ID: PDI-A-6W 0-2
Sample Location: ITHACA, NY

Date Collected: 04/03/23 12:05
Date Received: 04/03/23
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	70.5		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2317327**Report Date:** 04/05/23**SAMPLE RESULTS****Lab ID:** L2317327-04**Client ID:** PDI-A-6N 0-2**Sample Location:** ITHACA, NY**Date Collected:** 04/03/23 12:08**Date Received:** 04/03/23**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	83.9		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

SAMPLE RESULTS

Lab ID: L2317327-05
Client ID: PDI-A-6S 12
Sample Location: ITHACA, NY

Date Collected: 04/03/23 12:18
Date Received: 04/03/23
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	82.5		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

SAMPLE RESULTS

Lab ID: L2317327-06
Client ID: PDI-A-6S 24
Sample Location: ITHACA, NY

Date Collected: 04/03/23 12:24
Date Received: 04/03/23
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	83.2		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

SAMPLE RESULTS

Lab ID: L2317327-07
Client ID: PDI-A-6E 12
Sample Location: ITHACA, NY

Date Collected: 04/03/23 12:40
Date Received: 04/03/23
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	83.1		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2317327**Report Date:** 04/05/23**SAMPLE RESULTS****Lab ID:** L2317327-08**Client ID:** PDI-A-6E 24**Sample Location:** ITHACA, NY**Date Collected:** 04/03/23 12:50**Date Received:** 04/03/23**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	83.1		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2317327**Report Date:** 04/05/23**SAMPLE RESULTS****Lab ID:** L2317327-09**Client ID:** PDI-A-6W 12**Sample Location:** ITHACA, NY**Date Collected:** 04/03/23 13:00**Date Received:** 04/03/23**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	83.2		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**SAMPLE RESULTS**

Lab ID: L2317327-10

Date Collected: 04/03/23 13:10

Client ID: PDI-A-6W 24

Date Received: 04/03/23

Sample Location: ITHACA, NY

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	91.1		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2317327**Report Date:** 04/05/23**SAMPLE RESULTS****Lab ID:** L2317327-11**Client ID:** PDI-A-6N 12**Sample Location:** ITHACA, NY**Date Collected:** 04/03/23 13:18**Date Received:** 04/03/23**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	82.2		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE**Project Number:** X55.002.001**Lab Number:** L2317327**Report Date:** 04/05/23**SAMPLE RESULTS****Lab ID:** L2317327-12**Client ID:** PDI-A-6N R4**Sample Location:** ITHACA, NY**Date Collected:** 04/03/23 13:20**Date Received:** 04/03/23**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	85.2		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

SAMPLE RESULTS

Lab ID: L2317327-13
Client ID: DUP-1
Sample Location: ITHACA, NY

Date Collected: 04/03/23 00:00
Date Received: 04/03/23
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	69.8		%	0.100	NA	1	-	04/04/23 09:57	121,2540G	ROI



Lab Duplicate Analysis *Batch Quality Control*

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1762422-1 QC Sample: L2317294-01 Client ID: DUP Sample						
Solids, Total	79.8	79.4	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 02-13 QC Batch ID: WG1762423-1 QC Sample: L2317327-09 Client ID: PDI-A-6W 12						
Solids, Total	83.2	83.1	%	0		20

Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**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(*)
L2317327-01A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-01B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-02A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-02B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-03A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-03B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-04A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-04B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-05A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-05B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-06A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-06B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-07A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-07B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-08A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-08B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-09A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-09B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-09B1	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-09B2	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-10A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-10B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-11A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)

Project Name: FORMER ITHACA GUN BCP SITE**Lab Number:** L2317327**Project Number:** X55.002.001**Report Date:** 04/05/23**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2317327-11B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-12A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-12B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2317327-13A	Glass 60ml unpreserved split	A	NA		4.0	Y	Absent		PB-TI(180)
L2317327-13B	Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		TS(7)

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

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.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
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.

Report Format: DU Report with 'J' Qualifiers



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

Footnotes

- 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.

Chlordane: 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.)

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'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- 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

Report Format: DU Report with 'J' Qualifiers



Project Name: FORMER ITHACA GUN BCP SITE
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Data Qualifiers

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 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.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 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.



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 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; 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.

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, SM9222D.**

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, EPA 537.1.

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.

 NEW YORK CHAIN OF CUSTODY Westborough, MA 01581 8 Walkup Dr. TEL: 508-896-9220 FAX: 508-898-9193 Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 1 of 2		Date Rec'd in Lab 4/4/23		ALPHA Job # 62317327	
		Project Information Project Name: Former Ithaca Gun BCP Site Project Location: Ithaca, NY Project # X55-002-001 (Use Project name as Project #) ☐ Project Manager: Hayden Haas ALPHAQuote #: Turn-Around Time Standard ☐ Due Date: Rush (only if pre approved) ☒ # of Days: 3-Days				Deliverables ☐ ASP-A ☒ ASP-B ☐ EQulS (1 File) ☒ EQulS (4 File) ☐ Other		Billing Information ☐ Same as Client Info PO #	
Client Information Client: C+S Engineers Address: 499 Col. Eileen Collins Blvd, Syb., NY 13012 Phone: Fax: Email: hhaas@cscas.com		Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☒ NY Unrestricted Use ☐ NYC Sewer Discharge		Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other:					
These samples have been previously analyzed by Alpha ☐ Other project specific requirements/comments:						ANALYSIS		Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)	
Please specify Metals or TAL. Total Lead						Total Lead		Total Bottles	
ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date Time		Sample Matrix	Sampler's Initials				
17327-01	PDI-A-6S 0-2	4/3/23	1200	SOIL	HH	X			
02	PDI-A-6E-0-2		1202		HH	X			
03	PDI-A-6W 0-2		1205		HH	X			
04	PDI-A-6N 0-2		1209		HH	X			
05	PDI-A-6S 12		1218		HH	X			
06	PDI-A-6S 24		1224		HH	X			
07	PDI-A-6E 12		1240		HH	X			
08	PDI-A-6E 24		1250		HH	X			
09	PDI-A-6W 12		1300		HH	X			
10	PDI-A-6W 24		1310		HH	X			
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other		Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type A Preservative A		Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)	
Relinquished By: Hayden Haas Received By: [Signature] Date/Time: 4/3/23 1623		Received By: [Signature] Date/Time: 4/3/23 1734		Received By: [Signature] Date/Time: 4/3/23 1734		Received By: [Signature] Date/Time: 4/4/23 0800		MS/MSD 3	

2 of 2

4/4/23

62317327



ANALYTICAL REPORT

Lab Number:	L2245366
Client:	C&S Companies 499 Col. Eileen Collins Blvd. Syracuse, NY 13212
ATTN:	Hayden Haas
Phone:	(315) 455-2000
Project Name:	FORMER ITHACA GUN FACTORY
Project Number:	X55.002.001
Report Date:	08/25/22

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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: FORMER ITHACA GUN FACTORY
Project Number: X55.002.001

Lab Number: L2245366
Report Date: 08/25/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2245366-01	TS-01, 12 INCHES	SOIL	121 LAKE STREET, ITHACA, NY 14850	08/22/22 11:50	08/22/22
L2245366-02	TS-02, 0-2 INCHES	SOIL	121 LAKE STREET, ITHACA, NY 14850	08/22/22 12:15	08/22/22

Project Name: FORMER ITHACA GUN FACTORY
Project Number: X55.002.001

Lab Number: L2245366
Report Date: 08/25/22

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: FORMER ITHACA GUN FACTORY
Project Number: X55.002.001

Lab Number: L2245366
Report Date: 08/25/22

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.

Sample Receipt

L2245366-02: The collection date and time on the chain of custody was 22-AUG-22 12:15; however, the collection date/time on the container label was 22-AUG-22 11:50. At the client's request, the collection date/time is reported as 22-AUG-22 12:15.

Total Metals

The WG1678603-3 MS recovery for lead (19000%), performed on L2245366-01, does not apply because the sample concentration is greater than four times the spike amount added.

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:

Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative

Date: 08/25/22

METALS

Project Name: FORMER ITHACA GUN FACTORY**Lab Number:** L2245366**Project Number:** X55.002.001**Report Date:** 08/25/22**SAMPLE RESULTS**

Lab ID: L2245366-01

Date Collected: 08/22/22 11:50

Client ID: TS-01, 12 INCHES

Date Received: 08/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 08/23/22 08:25

Matrix: Soil

Percent Solids: 84%

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	1400		mg/l	0.500	0.027	1	08/24/22 08:15	08/24/22 12:10	EPA 3015	1,6010D	EW



Project Name: FORMER ITHACA GUN FACTORY**Lab Number:** L2245366**Project Number:** X55.002.001**Report Date:** 08/25/22**SAMPLE RESULTS**

Lab ID: L2245366-01

Date Collected: 08/22/22 11:50

Client ID: TS-01, 12 INCHES

Date Received: 08/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	39700		mg/kg	11.3	0.606	5	08/23/22 11:14	08/24/22 15:49	EPA 3050B	1,6010D	EW



Project Name: FORMER ITHACA GUN FACTORY**Lab Number:** L2245366**Project Number:** X55.002.001**Report Date:** 08/25/22**SAMPLE RESULTS**

Lab ID: L2245366-02

Date Collected: 08/22/22 12:15

Client ID: TS-02, 0-2 INCHES

Date Received: 08/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 08/23/22 08:25

Matrix: Soil

Percent Solids: 85%

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	0.992		mg/l	0.500	0.027	1	08/24/22 08:15	08/24/22 12:15	EPA 3015	1,6010D	EW



Project Name: FORMER ITHACA GUN FACTORY**Lab Number:** L2245366**Project Number:** X55.002.001**Report Date:** 08/25/22**SAMPLE RESULTS**

Lab ID: L2245366-02

Date Collected: 08/22/22 12:15

Client ID: TS-02, 0-2 INCHES

Date Received: 08/22/22

Sample Location: 121 LAKE STREET, ITHACA, NY 14850

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1560		mg/kg	2.24	0.120	1	08/23/22 11:14	08/24/22 20:37	EPA 3050B	1,6010D	EW



Project Name: FORMER ITHACA GUN FACTORY

Lab Number: L2245366

Project Number: X55.002.001

Report Date: 08/25/22

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): 01-02 Batch: WG1678603-1									
Lead, Total	ND	mg/kg	2.00	0.107	1	08/23/22 11:14	08/24/22 11:56	1,6010D	EW

Prep Information

Digestion Method: EPA 3050B

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): 01-02 Batch: WG1678943-1									
Lead, TCLP	ND	mg/l	0.500	0.027	1	08/24/22 08:15	08/24/22 10:29	1,6010D	EW

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 08/23/22 08:25



Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN FACTORY

Project Number: X55.002.001

Lab Number: L2245366

Report Date: 08/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1678603-2 SRM Lot Number: D113-540								
Lead, Total	89		-		72-128	-		
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02 Batch: WG1678943-2								
Lead, TCLP	95		-		75-125	-		20

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER ITHACA GUN FACTORY
Project Number: X55.002.001

Lab Number: L2245366
Report Date: 08/25/22

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): 01-02 QC Batch ID: WG1678603-3 QC Sample: L2245366-01 Client ID: TS-01, 12 INCHES												
Lead, Total	39700	48.9	49000	19000	Q	-	-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1678943-3 QC Sample: L2244917-01 Client ID: MS Sample												
Lead, TCLP	0.323J	5.3	5.31	100		-	-		75-125	-		20

Project Name: FORMER ITHACA GUN FACTORY
Project Number: X55.002.001

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L2245366
Report Date: 08/25/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1678603-4 QC Sample: L2245366-01 Client ID: TS-01, 12 INCHES						
Lead, Total	39700	40500	mg/kg	2		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1678943-4 QC Sample: L2244917-01 Client ID: DUP Sample						
Lead, TCLP	0.323J	0.282J	mg/l	NC		20

Project Name: FORMER ITHACA GUN FACTORY
Project Number: X55.002.001

**Lab Serial Dilution
Analysis**
Batch Quality Control

Lab Number: L2245366
Report Date: 08/25/22

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1678603-6 QC Sample: L2245366-01 Client ID: TS-01, 12 INCHES						
Lead, Total	39700	45400	mg/kg	14		20

INORGANICS & MISCELLANEOUS

Project Name: FORMER ITHACA GUN FACTORY**Project Number:** X55.002.001**Lab Number:** L2245366**Report Date:** 08/25/22**SAMPLE RESULTS****Lab ID:** L2245366-01**Client ID:** TS-01, 12 INCHES**Sample Location:** 121 LAKE STREET, ITHACA, NY 14850**Date Collected:** 08/22/22 11:50**Date Received:** 08/22/22**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	83.5		%	0.100	NA	1	-	08/23/22 04:27	121,2540G	MA



Project Name: FORMER ITHACA GUN FACTORY**Project Number:** X55.002.001**Lab Number:** L2245366**Report Date:** 08/25/22**SAMPLE RESULTS****Lab ID:** L2245366-02**Client ID:** TS-02, 0-2 INCHES**Sample Location:** 121 LAKE STREET, ITHACA, NY 14850**Date Collected:** 08/22/22 12:15**Date Received:** 08/22/22**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	85.1		%	0.100	NA	1	-	08/23/22 04:27	121,2540G	MA



Project Name: FORMER ITHACA GUN FACTORY
Project Number: X55.002.001

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L2245366
Report Date: 08/25/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1678417-1 QC Sample: L2245285-01 Client ID: DUP Sample						
Solids, Total	83.4	83.3	%	0		20

Project Name: FORMER ITHACA GUN FACTORY**Lab Number:** L2245366**Project Number:** X55.002.001**Report Date:** 08/25/22**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(*)
L2245366-01A	Plastic 2oz unpreserved for TS	A	NA		2.5	Y	Absent		TS(7)
L2245366-01B	Plastic 2oz unpreserved for TS	A	NA		2.5	Y	Absent		TS(7)
L2245366-01C	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.5	Y	Absent		PB-TI(180)
L2245366-01D	Glass 250ml/8oz unpreserved	A	NA		2.5	Y	Absent		-
L2245366-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.5	Y	Absent		PB-CI(180)
L2245366-01X9	Tumble Vessel	A	NA		2.5	Y	Absent		-
L2245366-02A	Plastic 2oz unpreserved for TS	A	NA		2.5	Y	Absent		TS(7)
L2245366-02B	Plastic 2oz unpreserved for TS	A	NA		2.5	Y	Absent		TS(7)
L2245366-02C	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.5	Y	Absent		PB-TI(180)
L2245366-02D	Glass 250ml/8oz unpreserved	A	NA		2.5	Y	Absent		-
L2245366-02X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.5	Y	Absent		PB-CI(180)
L2245366-02X9	Tumble Vessel	A	NA		2.5	Y	Absent		-

Project Name: FORMER ITHACA GUN FACTORY**Lab Number:** L2245366**Project Number:** X55.002.001**Report Date:** 08/25/22

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.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
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.

Report Format: DU Report with 'J' Qualifiers

Project Name: FORMER ITHACA GUN FACTORY
Project Number: X55.002.001

Lab Number: L2245366
Report Date: 08/25/22

Footnotes

- 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.

Chlordane: 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.)

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'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- 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

Report Format: DU Report with 'J' Qualifiers



Project Name: FORMER ITHACA GUN FACTORY
Project Number: X55.002.001

Lab Number: L2245366
Report Date: 08/25/22

Data Qualifiers

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 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.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: FORMER ITHACA GUN FACTORY
Project Number: X55.002.001

Lab Number: L2245366
Report Date: 08/25/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 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 19

Published Date: 4/2/2021 1:14:23 PM

Page 1 of 1

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 625/625.1:** alpha-Terpineol**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; 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.

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, SM9222D.****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, EPA 537.1.****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.

Appendix B

Appendix B - Treatability Study Results

Nevin Bradford

From: Charis Gehret <cgehret@premiermagnesia.com>
Sent: Thursday, September 15, 2022 2:10 PM
To: Nevin Bradford
Cc: Hayden Haas
Subject: RE: EnviroBlend - Ithaca, NY Project

Hi Nevin,

Please see the below treatability study results from the samples you sent. As you can see, your samples leached in the TCLP test 2,290 mg/L and 23.0 mg/L, well above the hazardous limit of 5.0 mg/L. A 2 % dosage rate of EnviroBlend CS reduced the lead to non-hazardous level of 0.31 mg/L in both samples. Please review and let me know what questions you may have. Thanks!

Compositional Results (mg/kg)					
Sample Name	Ursus Lab ID	Arsenic	Cadmium	Chromium	Lead
TS-01 12"	22-09001	1,010	<6.08	6.29	30,200
TS-02 0-2"	22-09002	9.19	<7.43	16.6	1,220

Leaching Results										
Sample Name	EnviroBlend® Dosage		Screening Leaching Test Results							
	Ursus Lab ID	Chemical	Percentage	Pretest pH	Solution	Final pH	Arsenic mg/l	Cadmium mg/L	Chromium mg/L	Lead mg/L
<i>TCLP Limit</i>	-	-	-	-	-	-	5	1	5	5
TS-01 12"	22-09001	Untreated	-	1.90	TCLP 1	5.69	2.23	<0.024	<0.005	2,920
		EnviroBlend® CS	2%	-	TCLP 1	10.02	<0.030	<0.024	<0.005	0.31
			3%	-	TCLP 1	10.85	<0.030	<0.024	<0.005	0.40
			4%	-	TCLP 1	10.86	<0.030	<0.024	<0.005	0.59
TS-02 0-2"	22-09002	Untreated	-	1.83	TCLP 1	6.01	0.094	<0.024	<0.005	23.3
		EnviroBlend® CS	2%	-	TCLP 1	7.89	<0.030	<0.024	<0.005	0.31
			3%	-	TCLP 1	10.18	<0.030	<0.024	<0.005	<0.067
			4%	-	TCLP 1	10.75	<0.030	<0.024	<0.005	<0.067

Charis Y. Gehret
Vice President of Marketing and Business Development
Premier Magnesia, LLC
Cell: 610-551-9436

www.envioblend.com
www.amphomag.com
www.re3conference.com
www.premiermagnesia.com

From: Nevin Bradford <NBradford@cscos.com>
Sent: Wednesday, September 7, 2022 10:46 AM
To: Charis Gehret <cgehret@premiermagnesia.com>
Cc: Hayden Haas <HHaas@cscos.com>
Subject: RE: EnviroBlend - Ithaca, NY Project

CAUTION: This email originated from outside of your organization.

Charis:

I shipped the samples to the address provided last week. I think they should be arriving today or tomorrow. Here are the request forms. Please let me know if you need anything else.

Thank you!
Nevin



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H. Nevin Bradford, III, PE
Senior Principal

office: (315) 455-2000
direct: (315) 703-4284
cell: (315) 529-0482
nbradford@cscos.com
499 Col. Eileen Collins Blvd. | Syracuse, NY 13212

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From: Charis Gehret <cgehret@premiermagnesia.com>
Sent: Wednesday, August 31, 2022 3:06 PM
To: Nevin Bradford <NBradford@cscos.com>
Cc: Hayden Haas <HHaas@cscos.com>
Subject: RE: EnviroBlend - Ithaca, NY Project

Hi Nevin,

Please see attached treatability study form with all instructions for sending a sample.

Thanks,
Charis

Charis Y. Gehret
Vice President of Marketing and Business Development
Premier Magnesia, LLC
Cell: 610-551-9436

www.envioblend.com

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www.premiermagnesia.com

From: Nevin Bradford <NBradford@cscos.com>
Sent: Wednesday, August 31, 2022 10:30 AM
To: Charis Gehret <cgehret@premiermagnesia.com>
Cc: Hayden Haas <HHaas@cscos.com>; Anna Perry <aperry@premiermagnesia.com>
Subject: RE: EnviroBlend - Ithaca, NY Project

CAUTION: This email originated from outside of your organization.

Hi Charis. We have samples of the soil that we would like to perform a pilot-scale stabilization on. Where should I send the samples?

Thanks,
Nevin



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From: Charis Gehret <cgehret@premiermagnesia.com>
Sent: Thursday, August 11, 2022 11:45 AM
To: Nevin Bradford <NBradford@cscos.com>
Cc: Hayden Haas <HHaas@cscos.com>; Anna Perry <aperry@premiermagnesia.com>
Subject: RE: EnviroBlend - Ithaca, NY Project

Hi Nevin,

Please see attached.

Charis

Charis Y. Gehret

Vice President of Marketing and Business Development
Premier Magnesia, LLC
Cell: 610-551-9436

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www.amphomag.com
www.re3conference.com
www.premiermagnesia.com

From: Nevin Bradford <NBradford@cscos.com>
Sent: Wednesday, August 10, 2022 8:20 PM
To: Charis Gehret <cgehret@premiermagnesia.com>
Cc: Hayden Haas <HHaas@cscos.com>; Anna Perry <aperry@premiermagnesia.com>
Subject: RE: EnviroBlend - Ithaca, NY Project

CAUTION: This email originated from outside of your organization.

Thanks again Charis. Would you be able to send us a product sheet and maybe an SDS for the Enviroblend CS product that you quoted?

Nevin



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From: Charis Gehret <cgehret@premiermagnesia.com>
Sent: Wednesday, August 10, 2022 6:03 PM
To: Nevin Bradford <NBradford@cscos.com>
Cc: Hayden Haas <HHaas@cscos.com>; Anna Perry <aperry@premiermagnesia.com>
Subject: RE: EnviroBlend - Ithaca, NY Project

Hi Nevin,

Sorry, I forgot to attach the treatability study form which has all instructions for sending a sample.

Thanks,
Charis

From: Nevin Bradford <NBradford@cscos.com>
Sent: Wednesday, August 10, 2022 9:20 AM
To: Charis Gehret <cgehret@premiermagnesia.com>
Cc: Hayden Haas <HHaas@cscos.com>; Anna Perry <aperry@premiermagnesia.com>
Subject: RE: EnviroBlend - Ithaca, NY Project

CAUTION: This email originated from outside of your organization.

Thank you, Charis. Much appreciated. We will keep you posted on moving forward. We are awaiting final regulatory approval of our work plan, but expect to be sending you samples for treatability testing within the next several days or so. We will let you know when they are collected.

Should we send the samples directly to you, or elsewhere?

Nevin



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From: Charis Gehret <cgehret@premiermagnesia.com>
Sent: Wednesday, August 10, 2022 7:03 AM
To: Nevin Bradford <NBradford@cscos.com>
Cc: Hayden Haas <HHaas@cscos.com>; Anna Perry <aperry@premiermagnesia.com>
Subject: EnviroBlend - Ithaca, NY Project

Hi Neven,

(I hope I’m spelling your name correctly).

Please see the attached price quote as per your request. I also attached our treatability study form which we discussed. You can send 2 samples – one from the “hottest” area and one more average. As mentioned, this service is complimentary and the turnaround time is typically 2-4 business days.

Thanks and please let me know what else I can help with.

Thanks,

Charis

Charis Y. Gehret
Vice President of Marketing and Business Development
Premier Magnesia, LLC
Cell: 610-551-9436

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www.premiermagnesia.com

From: EnviroBlend <user@example.com>
Sent: Friday, August 5, 2022 11:41 AM
To: Charis Gehret <cgehret@premiermagnesia.com>
Subject: EnviroBlend Form Submission- Cost Evaluation

First Name:	Hayden
Last Name:	Haas
Job Title/Description:	Environmental Scientist
Company Name:	C&S Companies
Email:	hhaas@cscos.com
Phone:	3153172446
Site location:	NY
Type of waste (i.e. soil, groundwater, baghouse dust, etc.):	Soil
Total volume of waste to be treated:	+/- 7,000 cy
Contaminant of concern (select all that apply):	Lead
Regulatory goals (i.e. TCLP, SPLP, pH, etc.):	TCLP
If treated to regulatory requirements, can treated waste be left on site?:	No
Estimated project start date:	September
Budgetary goal for treated per ton cost:	NA
How did you hear about EnviroBlend?:	Google or search engine

Appendix C

Appendix C - Data Usability Summary Report (DUSR)

Data Validation Services

120 Cobble Creek Road P. O. Box 208

North Creek, NY 12853

Phone (518) 251-4429

harry@frontiernet.net

April 18, 2023

Hayden Haas
C&S Companies
499 Col. Eileen Collins Blvd.
Syracuse, NY 13212

RE: Validation of the Former Ithaca Gun Factory Pre-Design Investigation (PDI)
Brownfield Cleanup Program (BCP) Site Analytical Laboratory Data
Data Usability Summary Report (DUSR)
Alpha Analytical SDG Nos. L2239485, L2315170, L2315171, and L2317327

Dear Mr. Haas:

Review has been completed for the data packages generated by Alpha Analytical that pertain to soil samples collected between 07/22/22 and 04/03/23 at the Former Ithaca Gun Factory site. Three samples and a field duplicate were processed for TCL and NYS 6 NYCRR Part 360 CP-51 (CP-51) volatile (VOA) analytes, TCL and 1,4-dioxane semivolatile (SVOA) analytes, TCL pesticides, TCL Aroclor PCBs, TCL herbicides, and per- and polyfluoroalkyl substances (PFAS). Thirty-two samples were processed for all TAL metals except mercury. Six samples and a field duplicate were processed for TAL metals. Twelve samples and a field duplicate were processed for total lead. One sample was processed for TCL Aroclor PCBs. The analytical methodologies are those of the USEPA SW846.

The data packages submitted by the laboratory contain full deliverables for validation, and this usability report is generated from review of the QC summary form information, with full review of sample raw data and limited review of associated QC raw data. The reported QC summary forms and sample raw data have been reviewed for application of validation qualifiers, with guidance from the USEPA national and regional validation documents and the specific requirements of the analytical methodology. The following items were reviewed:

- * Data Completeness
- * Case Narrative
- * Custody Documentation
- * Holding Times
- * Surrogate/Internal/Isotopic Dilution Standard Recoveries
- * Method/Preparation Blanks
- * Matrix Spike Recoveries/Duplicate Correlations
- * Blind Field Duplicate Correlations
- * Laboratory Control Sample (LCS)
- * Instrumental Tunes
- * Initial and Continuing Calibration Standards
- * Serial Dilution Evaluation
- * Method Compliance
- * Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for the DUSR level review, as discussed in NYS DER-10 Appendix B Section 2.0 (c). Documentation of the outlying parameters cited in this report can be found in the laboratory data package.

In summary, the results for the samples are usable either as reported or with minor qualification or edit, with the exceptions of the following rejected data points, all apparently due to sample matrix:

- One semivolatile analyte in one sample
- Three PFAS in one sample and two in another

Data completeness, accuracy, precision, representativeness, reproducibility, and comparability are acceptable.

Validation data qualifier definitions and client sample identifications are attached to this text. Also included in this report are the client EDDs with recommended qualifiers/edits applied in red.

Chain-of-Custody/Sample Receipt

Scratch-outs on the custody forms should have been dated and initialed.

Due to interpretation of the character font, the sample ID prefix “PDI” was reported by the laboratory as “PD1” in the samples reported in SDG L2315171.

Blind Field Duplicates

The blind field duplicate evaluations were performed on locations PDI-A-5 24, PDI-A-4 2, and PDI-A-6W 0-2. Correlations are within validation guidelines.

Volatile Analyses by EPA 8260D

The matrix spikes of PD1-A-4 2 show outlying recoveries for the following analytes, results for which have been qualified as estimated in value in the parent sample:

<u>Parent Sample</u>	<u>Analyte</u>	<u>Outlying % Recoveries</u>
PD1-A-4 2	2-hexanone	52,56
	n-butylbenzene	51,65
	naphthalene	50,52
	1,2,4-trichlorobenzene	48,55

Holding times were met. Surrogate and internal standard recoveries are compliant. Blanks show no contamination of target analytes.

Calibration standards show responses within validation action levels, with the exceptions of those for carbon tetrachloride and bromoform (22%D and 24%D) in the continuing calibration standard associated with PD1-A-4 12, PD1-A-4 24 and DUP. The results for those two analytes in those three associated samples are qualified as estimated.

TCL Semivolatile and 1,4-Dioxane Analyses by EPA8270E

2,4-Dinitrophenol failed to recover in the matrix spikes performed on PDI-A-4 2, and the result for that analyte in that parent sample has been rejected and not usable. The other analytes show recoveries and correlations within validation guidelines.

The results for 4-chloroaniline in the samples reported in SDG L2315171 are qualified as estimated due to low recoveries (17% and 20%) in the associated LCSs.

Holding times were met. Surrogate and internal standard recoveries are compliant. Blanks show no contamination of target analytes. Calibration standards show responses within validation action levels.

TCL Pesticides, TCL Herbicides, and Aroclor PCB Analyses by USEPA 8081B, 8082A, and 8151A

The low level detection of 4,4'-DDE in DUP is qualified as estimated due to an elevated dual column quantitative correlation.

Matrix spikes performed for pesticides, herbicides, and Aroclors 1016/1260 on PDI-A-4 2 show recoveries and correlations within validation guidelines.

Holding times were met. Surrogate and internal standard recoveries are compliant. Blanks show no contamination of target analytes. Calibration standards show responses within validation action levels.

PFAS by Modified EPA Method 537

PDI-A-4 12, PDI-A-4 24, and DUP show outlying recoveries for most of the isotopic dilution standards (IDSs), indicating matrix effects. PDI-A-4 12 and PDI-A-4 24 produced some recoveries below 10%, and were therefore reextracted at lesser volume in order to reduce the matrix effects. That provided borderline usable data for one of the analytes, at an elevated reporting limit due to the effective dilution. The following analyte results are rejected in the indicated samples due to recoveries of associated IDSs below 10% in both extracts:

- NtFOSAA and PFTA in PDI-A-4 24
- NMeFOSAA, NtFOSAA, and PFTA in PDI-A-4 12

The result for NMeFOSAA in PDI-A-4 24 is derived from the reanalysis, and considered borderline usability due to recovery of the associated IDS of 10%.

The initial analysis of PDI-A-4 12 reports a low level detection of PFTA. However, that quantitative value was derived from an associated IDS response that is below 10% recovery. The area of the target analyte PFTA response in the sample is an order of magnitude lower than the lowest calibration standard. That, combined with the fact that the response has an outlying ion ratio that implies a maximum value, indicates a consideration of the result as non-detection, and as such is rejected due to the low associated IDS response.

The detection of PFTA in DUP is qualified as being an estimated maximum possible concentration due to an outlying ion ratio.

Due to outlying recoveries above 10% of the associated isotopic dilution or internal standards, the following results have been qualified as estimated:

- PFNA and PFOS in PDI-A-4 2
- All analytes except FOSA and those already rejected in PDI-A-4 12
- All analytes except FOSA, 6:2-FTS, 8:2-FTS and those already rejected in PDI-A-4 24
- All analytes except PFBA, PFPeA, FOSA, 6:2-FTS, and 8:2-FTS in DUP

The matrix spikes of PDI-A-4 2 show recoveries and correlations within validation guidelines.

Calibration standard responses are within validation action guidelines.

Total Metals Analyses by EPA 6020D and 7471B

Matrix spikes/duplicate evaluations were performed for TAL metals on PDI-A-5 24, for all TAL metals except mercury on PDI-B-3-0-2, and for lead on PDI-A-6W 12. They show recoveries and correlations within validation guidelines, with the exception of the following, results for which are qualified as estimated in that parent sample:

<u>Parent Sample</u>	<u>Element</u>	<u>Outlying % Recoveries</u>
PDI-B-3-0-2	antimony	48
	cobalt	72
	selenium	72
	thallium	71
	zinc	69

The ICP serial dilution evaluation of PDI-B-3-0-2, PDI-A-5 24, and PDI-A-6W 12 show outlying corrections for the following analytes, results for which are qualified as estimated in that parent sample:

<u>Parent Sample</u>	<u>Element</u>	<u>% Difference</u>
PDI-B-3-0-2	aluminum	21
	barium	22
	calcium	25
	iron	28
	magnesium	28
	manganese	27

Initial and continuing calibration standard responses fall within validation guidelines. Blanks show no contamination affecting sample reported results.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,



Judy Harry

Attachments: Validation Data Qualifier Definitions
 Sample Identifications
 Qualified Laboratory EQUIS EDDs

VALIDATION DATA QUALIFIER DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
J+	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
UJ	The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
NJ	The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

Sample Identification Summary

Project Name: FORMER ITHACA GUN FACTORY PDI
Project Number: Y55.002.001

Lab Number: L2239485
Report Date: 09/27/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2239485-01	PDI-A-1-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 10:50	07/22/22
L2239485-02	PDI-A-1-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:00	07/22/22
L2239485-03	PDI-A-2-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:28	07/22/22
L2239485-04	PDI-A-2-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:31	07/22/22
L2239485-05	PDI-A-3-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:14	07/22/22
L2239485-06	PDI-A-3-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:17	07/22/22
L2239485-07	PDI-A-4-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:41	07/22/22
L2239485-08	PDI-A-4-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:46	07/22/22
L2239485-09	PDI-A-5-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 11:56	07/22/22
L2239485-10	PDI-A-5-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 12:00	07/22/22
L2239485-11	PDI-A-6-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 12:08	07/22/22
L2239485-12	PDI-A-6-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 12:13	07/22/22
L2239485-13	PDI-B-1-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 15:05	07/22/22
L2239485-14	PDI-B-1-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 15:08	07/22/22
L2239485-15	PDI-B-2-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:10	07/22/22
L2239485-16	PDI-B-2-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:18	07/22/22
L2239485-17	PDI-B-3-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:02	07/22/22
L2239485-18	PDI-B-3-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:08	07/22/22
L2239485-19	PDI-B-4-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:41	07/22/22
L2239485-20	PDI-B-4-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:45	07/22/22
L2239485-21	PDI-B-5-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:48	07/22/22
L2239485-22	PDI-B-5-0-6	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:50	07/22/22
L2239485-23	PDI-B-6-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:55	07/22/22
L2239485-24	PDI-B-6-0-6	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 14:58	07/22/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2239485-25	PDI-B-7-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 12:55	07/22/22
L2239485-26	PDI-B-7-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:00	07/22/22
L2239485-27	PDI-B-8-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:06	07/22/22
L2239485-28	PDI-B-8-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:11	07/22/22
L2239485-29	PDI-B-9-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:17	07/22/22
L2239485-30	PDI-B-9-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:26	07/22/22
L2239485-31	PDI-B-10-0-2	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:30	07/22/22
L2239485-32	PDI-B-10-10-12	SOIL	121 LAKE STREET, ITHACA, NY 14850	07/22/22 13:38	07/22/22

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315170
Report Date: 03/29/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2315170-01	PDI-A-1 24	SOIL	ITHACA,NY	03/22/23 08:15	03/22/23
L2315170-02	PDI-A-2 24	SOIL	ITHACA,NY	03/22/23 08:35	03/22/23
L2315170-03	PDI-A-3 24	SOIL	ITHACA,NY	03/22/23 08:21	03/22/23
L2315170-04	PDI-A-4 24	SOIL	ITHACA,NY	03/22/23 09:33	03/22/23
L2315170-05	PDI-A-5 24	SOIL	ITHACA,NY	03/22/23 09:53	03/22/23
L2315170-06	PDI-A-6 24	SOIL	ITHACA,NY	03/22/23 10:18	03/22/23
L2315170-07	DUP	SOIL	ITHACA,NY	03/22/23 00:00	03/22/23

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2315171
Report Date: 04/12/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2315171-01	PD1-A-4 2	SOIL	ITHACA, NY	03/22/23 08:53	03/22/23
L2315171-02	PD1-A-4 12	SOIL	ITHACA, NY	03/22/23 09:20	03/22/23
L2315171-03	PD1-A-4 24	SOIL	ITHACA, NY	03/22/23 09:33	03/22/23
L2315171-04	DUP	SOIL	ITHACA, NY	03/22/23 00:00	03/22/23

Project Name: FORMER ITHACA GUN BCP SITE
Project Number: X55.002.001

Lab Number: L2317327
Report Date: 04/05/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2317327-01	PDI-A-6S 0-2	SOIL	ITHACA, NY	04/03/23 12:00	04/03/23
L2317327-02	PDI-A-6E 0-2	SOIL	ITHACA, NY	04/03/23 12:02	04/03/23
L2317327-03	PDI-A-6W 0-2	SOIL	ITHACA, NY	04/03/23 12:05	04/03/23
L2317327-04	PDI-A-6N 0-2	SOIL	ITHACA, NY	04/03/23 12:08	04/03/23
L2317327-05	PDI-A-6S 12	SOIL	ITHACA, NY	04/03/23 12:18	04/03/23
L2317327-06	PDI-A-6S 24	SOIL	ITHACA, NY	04/03/23 12:24	04/03/23
L2317327-07	PDI-A-6E 12	SOIL	ITHACA, NY	04/03/23 12:40	04/03/23
L2317327-08	PDI-A-6E 24	SOIL	ITHACA, NY	04/03/23 12:50	04/03/23
L2317327-09	PDI-A-6W 12	SOIL	ITHACA, NY	04/03/23 13:00	04/03/23
L2317327-10	PDI-A-6W 24	SOIL	ITHACA, NY	04/03/23 13:10	04/03/23
L2317327-11	PDI-A-6N 12	SOIL	ITHACA, NY	04/03/23 13:18	04/03/23
L2317327-12	PDI-A-6N R4	SOIL	ITHACA, NY	04/03/23 13:20	04/03/23
L2317327-13	DUP-1	SOIL	ITHACA, NY	04/03/23 00:00	04/03/23

