

**REMOVAL PROGRAM
PRELIMINARY ASSESSMENT/
SITE INVESTIGATION REPORT
FOR THE
PRINCETON PFAS SITE
PRINCETON, WORCESTER COUNTY, MASSACHUSETTS
11 OCTOBER 2022 AND 24 AND 25 APRIL 2023**

Prepared For:

U.S. Environmental Protection Agency
Region I
Superfund and Emergency Management Division
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

CONTRACT NO. 68HE0120D0001

TASK ORDER NO. 68HE0120F0027

TO/AD NO.: TOFP-01-22-07-0005

TASK NO.: 0150

DC NO.: R-50613

Submitted By:

Weston Solutions, Inc.
Region I
Superfund Technical Assessment and Response Team
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October 2023

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I. Preliminary Assessment/Site Investigation Forms



EPA REGION I
REMOVAL PRELIMINARY ASSESSMENT

Site Name and Location

Name: Princeton PFAS Site **Location:** 30 Mountain Road
Town: Princeton **County:** Worcester **State:** Massachusetts

Site Status: NPL NON-NPL RCRA TSCA
 ACTIVE ABANDONED OTHER

Attached USGS Map of Location Site I.D. No.: 01RR

Latitude: 42° 27' 8.7" North **Longitude:** 71° 52' 47.9" West

Referral

Citizen City/Town State Preremedial RCRA
 Other:

Name of referring party: Massachusetts Department of Environmental Protection
(MassDEP)

Address: 8 New Bond Street, Worcester, MA **Telephone:** (508) 767-2805
01606

Contacts Identified

1) Kevin W. Daoust **Telephone:** (508) 514-0818
2)
3)

Source of Information

Verbal:
 Report: U.S. Environmental Protection Agency (EPA). 2022. Removal Action Request
from Massachusetts Department of Environmental Protection (MassDEP), 30
Mountain Road, Princeton, MA. 18 March 2022.
 Other:

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Potential Responsible Parties

Owner: Daniel Ervin **Telephone:** 978-833-0200
Address: 30 Mountain Road, Princeton, MA
Operator:
Address:

Site Access

Authorizing Person: Daniel Ervin
Date: 22 July 2022 **Obtained** **Verbal**
Telephone: (978) 833-0200 **Not Obtained** **Written**

Historical Preservation

Site is Historically Significant or Eligible for Historic Preservation

Contacts Identified

1) State Historical Preservation Officer (SHPO)

Name: Ms. Brona Simon, SHPO & **Telephone:** (617) 727-8470
Executive Director

2) Tribal Historical Preservation Officer (THPO)

Name: Cheryl Andrews-Maltais, THPO **Telephone:** (508) 645-9265 X 122

Comments:

Physical Site Characterization

Background Information:

The Princeton PFAS Site (the Site) is located at 30 Mountain Road in Princeton, Worcester County, Massachusetts (MA). The geographic coordinates of the site are 42° 27' 8.7" north latitude and 71° 52' 47.9" west longitude. The site is located in a predominantly residential area and is bordered by residential properties and wooded areas to the north, south, east, and west. The site consists of a residential property that once served as an inn. The property contains two buildings: a mostly destroyed 10,184-square-foot (ft²) main building (inn) and a 3,270-ft² barn that has been converted into a residence, built in 1900 and 1890, respectively. The property measures approximately 17.73 acres.

The property was subject to a lightning strike in 2017 that caused a large fire. As a result of the fire, Aqueous Film-Forming Foam (AFFF) had been deployed during firefighting efforts to get the fire under control under mutual aid with as many as 20 different fire departments. Soil samples indicate that the property is contaminated with per- and polyfluoroalkyl substances (PFAS), presumably from the AFFF used to combat the fire. Elevated concentrations of PFAS have also been detected in runoff water collected at the property through a shallow drainage pipe. The pipe

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is now capped/blocked as a measure to attempt to prevent direct discharge of the drainage water migrating off site.

On 4 November 2019, Massachusetts Department of Environmental Protection (MassDEP) was notified that PFAS had been detected in the Town Hall Complex public drinking water supply well (PWS#2241017-01G), which serves the town hall complex in Princeton, MA. The concentration of “PFAS6” [the sum total for the following six PFAS compounds: perfluorodecanoic acid (PFDA), perfluoroheptanoic acid (PFHpA), perfluorohexane sulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluorooctane sulfonic acid (PFOS), and perfluorooctanoic acid (PFOA)] was identified at 127 nanograms per liter (ng/L). [Note: 1 ng/L equals 1,000 parts per trillion (ppt).] MassDEP assigned Release Tracking Number (RTN) 2-0021072 to the reportable condition and required the Town of Princeton to conduct an Immediate Response Action (IRA). IRA activities conducted by Tighe & Bond (T&B) included sampling of all private drinking water wells and public supply wells within 500 feet of PWS 2241017-01G. Subsequent sampling of wells in the area has identified approximately 80 private wells with detections of PFAS6. Thirty-one of these private wells have had PFAS6 detections exceeding 20 ng/L, and point-of-entry treatment systems have been installed or installations are pending. The Town of Princeton has been conducting the required response actions and is in the process of conducting Comprehensive Site Assessment activities under the Massachusetts Contingency Plan (MCP) to define the nature and extent of PFAS impacts.

Potential sources of the PFAS impacts to the town groundwater include the reported use of Class B AFFF during a large fire at the 30 Mountain Road property and/or operations and training activities at the Town of Princeton Fire Department Station located in the Town Hall Complex.

Results from soil samples collected at the 30 Mountain Road property show concentrations of up to 170 micrograms per kilogram ($\mu\text{g}/\text{kg}$) of PFOS and 9.5 $\mu\text{g}/\text{kg}$ of PFHxS. [Note: 1 $\mu\text{g}/\text{kg}$ equals 1,000 ppt.] Soil at the 30 Mountain Road property is classified by the MCP as Category S-1, and the applicable MassDEP Method 1 standards are 2 $\mu\text{g}/\text{kg}$ for PFOS and 0.3 $\mu\text{g}/\text{kg}$ for PFHxS. An Imminent Hazard evaluation was conducted by the Town of Princeton Licensed Site Professional (LSP), and the soil results did not indicate the presence of an Imminent Hazard.

Impacted soils are located in areas with shallow bedrock (ranging from ground surface to depth of approximately 2 feet below ground surface) at the 30 Mountain Road property. The highest concentrations of PFAS in soil were detected in the immediate vicinity of the former inn building where firefighting operations were focused. Synthetic Precipitation Leaching Procedure (SPLP) testing indicated leachate from select soil samples exceeded the MassDEP GW-1 drinking water standard of 20 ng/L. Additional soil impacts exceeding Method 1 standards have been identified in a limited area on the adjacent property located at 22 Mountain Road. The Site and surrounding area, which includes the 30 Mountain Road property, are classified as groundwater category GW-1 by the MCP.

In February 2020, MassDEP collected a stormwater runoff sample from a discharge pipe located downgradient from the 30 Mountain Road property that reportedly drained runoff from a “French drain” associated with the inn building foundation. PFAS6 was detected at a concentration of 3,642 ng/L, and the discharge pipe was subsequently sealed. Samples of stormwater runoff from the 30 Mountain Road property have been collected from water flowing over the exposed bedrock face along Mountain Road near the location of the discharge pipe described above. Concentrations of

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PFAS6 in these runoff samples have ranged from 1,568 ng/L to 2,690 ng/L. A soil sample was collected at the base of the exposed bedrock face (“Mountain Rd Runoff Area”); PFOS was detected at 76 µg/kg, and PFHxS was detected at 3.4 µg/kg. Surface water bodies downgradient of the 30 Mountain Road property are located within the Zone A surface water protection area associated with the Wachusett Reservoir. PFAS6 concentrations from surface water samples collected from School House Pond (located within Zone A) were reported at 65 ng/L.

Soil sampling results at 30 Mountain Road exhibit concentrations of PFAS6 in excess of MassDEP RCS-1 standards, and SPLP testing indicates leachate from select soil samples exceed the MassDEP GW-1 drinking water standard of 20 ng/L. Residual PFAS impacts to the overburden soil are likely to continue leaching into the bedrock aquifer and potentially impacting private water supply wells in the area.

According to MassDEP, PFAS have been detected in over 80 private and public drinking water supply wells in the Town of Princeton. Potential PFAS background concentrations in groundwater at the site have not been evaluated but are presumed to be non-detect for PFAS6.

According to MassDEP, with the discharge pipe plugged to prevent overland flow from direct discharge, considering the limited groundwater storage in the overburden, the leachate from impacted soil will continue to impact groundwater at the Site above GW-1 concentrations without removal of the contaminated soil. The conservative estimated volume of soil to be removed is approximately between 1,500 to 2,000 cubic yards (approx. 0.75 acres with average soil depth of 1.5 feet above bedrock).

Description of Substances Possibly Present, Known or Alleged: Per- and polyfluoroalkyl substances (PFAS)

Existing Analytical Data

() Real-Time Monitoring Data:

(X) Sampling Data: Civil & Environmental Consultants, Inc. (CEC). 2022. Letter to Town of Princeton Select Board, Subject: Status of Environmental Remediation, 30 Mountain Road, Princeton, Massachusetts. 6 January 2022.

Tighe & Bond. 2022. Letter to MassDEP, RE: IRA Status Report No. 5, 6 Town Hall Drive, Princeton, RTN 2-21072. 8 March.

Potential Threat

Description of potential hazards to environment and/or population-identify any of the criteria for a Removal Action (from NCP) that may be met by the site under 40 CFR 300.415 [b] [2].

- i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants.
- ii. Actual or potential contamination of drinking water supplies or sensitive ecosystems.

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- vii. The availability of other appropriate federal or state response mechanisms to respond to the release.

Prior Response Activities

PRP STATE FEDERAL OTHER

Brief Description: The property was subject to a lightning strike in 2017 that caused a large structural fire. As a result of the fire, Aqueous Film-Forming Foam (AFFF) had been deployed during firefighting efforts to get the fire under control under mutual aid with as many as 20 different fire departments. Due to PFAS groundwater contamination in exceedance of Massachusetts MCL standards which are impacting drinking water at several residential homes, the Town of Princeton has been conducting actions to address drinking water under MassDEP oversight.

Priority for Site Investigation

High Medium Low None

Comments:

Report Generation

Originator: Bonnie Mace	Date: 26 October 2023
Affiliation: Weston Solutions, Inc. (START)	Telephone: (978) 552-2131
Contract No. 68HE0120D0001	Contract Name: START V
Task Order No. 68HE0120F0027	Task Order Name: FP_CRT
AD No.: TOFP-01-22-07-0005	Task No.: 0150



**EPA REGION I
REMOVAL SITE INVESTIGATION**

Inspection Information

Site Name: Princeton PFAS Site **Address:** 30 Mountain Road
Town: Princeton **County:** Worcester **State:** Massachusetts
Date of Inspection: 11 October 2022¹ **Time of Inspection:** 0845 - 1205 hours (hrs)
Weather Conditions: 52 °Fahrenheit (F), Cloudy, fog
Date of Inspection: 24 April 2023² **Time of Inspection:** 0830 - 1615 hrs
Weather Conditions: 55 °F, Mostly cloudy
Date of Inspection: 25 April 2023³ **Time of Inspection:** 0830 - 1300 hrs
Weather Conditions: 55 °F, Mostly cloudy
Site Status at Time of Inspection: **ACTIVE** **INACTIVE**
Comments: The site consists of a residential property that once served as an inn.

Agencies/Personnel Performing Inspection

	<u>Names</u>	<u>Program</u>
<input checked="" type="checkbox"/> EPA:	Catherine Young ^{1, 2, 3} Cayla Jimenez ^{1, 2, 3}	U.S. Environmental Protection Agency (EPA) Region I, Emergency Planning and Response Branch (EPRB), On-Scene Coordinator (OSC)
<input checked="" type="checkbox"/> EPA Contractor:	John Kelly ^{1, 2, 3} Bonnie Mace ^{2, 3} William Mahany ^{2, 3} William Trainer ^{2, 3} Chris Dupree ³	Weston Solutions, Inc. (WESTON), Superfund Technical Assessment and Response Team V (START)
<input checked="" type="checkbox"/> State:	Paul Vigeant ¹	Massachusetts Department of Environmental Protection (MassDEP)

Current Owner Based on Field Interview:

Physical Site Characteristics

<u>Parameter</u>	<u>Quantities/Extent</u>
<input type="checkbox"/> Cylinders:	
<input type="checkbox"/> Drums:	
<input type="checkbox"/> Lagoons:	
<input type="checkbox"/> Tanks:	<input type="checkbox"/> Above:

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() Below:

() Asbestos:

() Piles:

() Stained Soil:

() Sheens:

() Stressed Vegetation:

() Landfill:

(X) Population in Vicinity: The Site consists of a residential property and is located in a residential neighborhood.

() Wells: () Drinking:

() Monitoring:

() Other:

Physical Site Observations

Comments: The site is located in a predominantly residential area and is bordered by residential properties and wooded areas to the north, south, east, and west. The site consists of a residential property that once served as an inn. The property contains two buildings: the remains of a 10,184-square-foot (ft²) main building (the inn) and a 3,270-ft² barn that has been converted to a residence, built in 1900 and 1890, respectively. The property measures approximately 17.73 acres.

Field Sampling and Analysis

Matrix	Field Instrumentation Readings				
	CGI/O ₂ (%)	RAD (μR/hr)	PID (ppm)	FID (ppm)	Other
Background:	0.0/20.9	15-18	0.0	--	--
Air:	0.0/20.9	15-18	0.0	--	--
Soil:	0.0/20.9	15-18	0.0	--	--
Surface Water:					
Tanks:					
Drums:					
Vats:					
Lagoons:					
Spillage:					
Run Off:					
Piles:					
Sediments:					
Groundwater:					
Other:					

CGI/O₂ (%) = Combustible Gas Indicator/Oxygen (percentage)
 PID = PhotoIonization Detector (parts per million)

RAD (μR/hr) = Radiation (microRoentgens per hour)
 FID (ppm) = Flame Ionization Detector (parts per million)

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Field Quality Control Procedures

SOP Followed

Deviation from SOP

Comments:

Sampling was conducted according to the site Sampling and Analysis Plan (SAP), prepared as a separate document entitled *Sampling and Analysis Plan for the Princeton PFAS Site, Princeton, Worcester County, Massachusetts*, dated April 2023.

Description of Sampling Conducted

On 24 April 2023, START collected 27 wipe samples (including one field replicate) from inside both on-site buildings and from locations inside the on-site storage containers. On 24 and 25 April 2023, START collected 46 soil samples (including four field duplicates) from throughout the property including locations inside the basement of the former inn building.

Analyses

Analytical Parameter	Media	Laboratory
<input type="checkbox"/> VOC	<input type="checkbox"/> AIR	<input type="checkbox"/> NERL
<input type="checkbox"/> PCB	<input type="checkbox"/> WATER	<input type="checkbox"/> CLP
<input type="checkbox"/> PESTICIDE	<input checked="" type="checkbox"/> SOIL	<input type="checkbox"/> PRIVATE
<input type="checkbox"/> METALS	<input checked="" type="checkbox"/> SOURCE (Wipes)	<input checked="" type="checkbox"/> DAS
<input type="checkbox"/> CYANIDE	<input type="checkbox"/> SEDIMENT	<input type="checkbox"/> SOW
<input type="checkbox"/> SVOC	<input type="checkbox"/> SOIL GAS	<input type="checkbox"/> FIELD
<input type="checkbox"/> TOXICITY		
<input type="checkbox"/> DIOXIN		
<input type="checkbox"/> ASBESTOS		
<input checked="" type="checkbox"/> OTHER: PFAS		

Receptors

		<u>Comments</u>
<input checked="" type="checkbox"/> Drinking Water:	<input checked="" type="checkbox"/> Private:	There are approximately 15 private wells located within 500 feet of a public drinking water supply well (PWS#2241017-01G).
	<input checked="" type="checkbox"/> Municipal:	There is a public drinking water supply well (PWS#2241017-01G) which serves the town hall complex in Princeton, MA.
<input checked="" type="checkbox"/> Groundwater:		
<input checked="" type="checkbox"/> Unrestricted Access:		The Site is currently surrounded by a locked chain-link fence.
<input checked="" type="checkbox"/> Population in Proximity:		The Site consists of a residential property and is located in a residential neighborhood. The residential population of Princeton was approximately 3,478 in 2018.
<input type="checkbox"/> Sensitive Ecosystem:		

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Other:

Additional Procedures for Site Determination

Biological Evaluation

ATSDR

None

To be determined by the On-Scene Coordinator (OSC).

Site Determination

Depending on further information, criteria that may be met by the site include 40 CFR 300.415 [b] [2], parts:

- i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants.
- ii. Actual or potential contamination of drinking water supplies or sensitive ecosystems.
- vii. The availability of other appropriate federal or state response mechanisms to respond to the release.

Report Generation

Originator: Bonnie Mace	Date: 26 October 2023
Affiliation: Weston Solutions, Inc. (START)	Telephone: (978) 552-2131
Contract No. 68HE0120D0001	Contract Name: START V
Task Order No. 68HE0120F0027	Task Order Name: FP-CRT
AD No.: TOFP-01-22-07-0005	Task No.: 0150

II. Narrative Chronology

Narrative Chronology

Site History and Background

The Princeton PFAS (per- and polyfluoroalkyl substances) Site (the Site) is located at 30 Mountain Road in Princeton, Worcester County, Massachusetts (MA) (see Appendix A, Figure 1) [1]. The geographic coordinates of the Site are 42° 27' 8.7" north latitude and 71° 52' 47.9" west longitude. The Site is located in a predominantly residential area and is bordered by residential properties and wooded areas to the north, south, east, and west (see Appendix A, Figure 2) [2]. The Site consists of a residential property that once served as an inn. The property contains two buildings: a mostly destroyed 10,184-square-foot (ft²) main building (inn) and a 3,270-ft² barn that has been converted into a residence, built in 1900 and 1890, respectively. The property measures approximately 17.73 acres.

The property was subject to a lightning strike in 2017 that caused a large structural fire. As a result of the fire, Aqueous Film-Forming Foam (AFFF) had been deployed during firefighting efforts to get the fire under control under mutual aid with as many as 20 different fire departments providing support. Soil samples indicate that the property is contaminated with per- and polyfluoroalkyl substances (PFAS), presumably from the AFFF used to combat the fire. Elevated concentrations of PFAS have also been detected in runoff water collected at the property through a shallow drainage pipe. The pipe is now capped/blocked as a measure to attempt to prevent direct discharge of the drainage water migrating off site [3-5].

On 4 November 2019, Massachusetts Department of Environmental Protection (MassDEP) was notified that PFAS had been detected in the Town Hall Complex public drinking water supply well (PWS#2241017-01G), which serves the town hall complex in Princeton, MA. The concentration of "PFAS6" [the sum total for the following six PFAS compounds: perfluorodecanoic acid (PFDA), perfluoroheptanoic acid (PFHpA), perfluorohexane sulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluorooctane sulfonic acid (PFOS), and perfluorooctanoic acid (PFOA)] was identified at 127 nanograms per liter (ng/L). [Note: 1 ng/L equals 1,000 parts per trillion (ppt).] MassDEP assigned Release Tracking Number (RTN) 2-0021072 to the reportable condition and required the Town of Princeton to conduct an Immediate Response Action (IRA). IRA activities conducted by Tighe & Bond (T&B) included sampling of all private drinking water wells and public supply wells within 500 feet of PWS 2241017-01G. Subsequent sampling of wells in the area has identified approximately 80 private wells with detections of PFAS6. Thirty-one of these private wells have had PFAS6 detections exceeding 20 ng/L, and point-of-entry treatment systems have been installed or installations are pending. The Town of Princeton has been conducting the required response actions and is in the process of conducting Comprehensive Site Assessment activities under the Massachusetts Contingency Plan (MCP) to define the nature and extent of PFAS impacts [3-5].

Potential sources of the PFAS impacts to the town groundwater include the reported use of Class B AFFF during a large fire at the 30 Mountain Road property and/or operations and training activities at the Town of Princeton Fire Department Station located in the Town Hall Complex [3-5].

Results from soil samples collected at the 30 Mountain Road property show concentrations of up to 170 micrograms per kilogram ($\mu\text{g}/\text{kg}$) of PFOS and 9.5 $\mu\text{g}/\text{kg}$ of PFHxS. [Note: 1 $\mu\text{g}/\text{kg}$ equals 1,000 ppt.] Soil at the 30 Mountain Road property is classified by the MCP as Category S-1, and the applicable MassDEP Method 1 standards are 2 $\mu\text{g}/\text{kg}$ for PFOS and 0.3 $\mu\text{g}/\text{kg}$ for PFHxS. An Imminent Hazard evaluation was conducted by the Town of Princeton Licensed Site Professional (LSP), and the soil results did not indicate the presence of an Imminent Hazard.

Impacted soils are located in areas with shallow bedrock (ranging from ground surface to depth of approximately 2 feet below ground surface) at the 30 Mountain Road property. The highest concentrations of PFAS in soil were detected in the immediate vicinity of the former inn building where firefighting operations were focused. Synthetic Precipitation Leaching Procedure (SPLP) testing indicated leachate from select soil samples exceeded the MassDEP GW-1 drinking water standard of 20 ng/L. Additional soil impacts exceeding Method 1 standards have been identified in a limited area on the adjacent property located at 22 Mountain Road. The Site and surrounding area, which includes the 30 Mountain Road property, are classified as groundwater category GW-1 by the MCP [3-5].

In February 2020, MassDEP collected a stormwater runoff sample from a discharge pipe located downgradient from the 30 Mountain Road property that reportedly drained runoff from a “French drain” associated with the inn building foundation. PFAS6 was detected at a concentration of 3,642 ng/L, and the discharge pipe was subsequently sealed. Samples of stormwater runoff from the 30 Mountain Road property have been collected from water flowing over the exposed bedrock face along Mountain Road near the location of the discharge pipe described above between February 2020 and September 2022. Concentrations of PFAS6 in these runoff samples have ranged from 1,568 ng/L to 2,690 ng/L. A soil sample was collected at the base of the exposed bedrock face (“Mountain Rd Runoff Area”); PFOS was detected at 76 $\mu\text{g}/\text{kg}$, and PFHxS was detected at 3.4 $\mu\text{g}/\text{kg}$. Surface water bodies downgradient of the 30 Mountain Road property are located within the Zone A surface water protection area associated with the Wachusett Reservoir. PFAS6 concentrations from surface water samples collected from School House Pond (located within Zone A) were reported at 65 ng/L [3-5].

According to MassDEP, PFAS have been detected in over 80 private and public drinking water supply wells in the Town of Princeton. Potential PFAS background concentrations at the Site have not been evaluated but are presumed to be non-detect for PFAS6 [3-5].

Soil sampling results at 30 Mountain Road exhibit concentrations of PFAS6 in excess of MassDEP RCS-1 standards, and SPLP testing indicates leachate from select soil samples exceed the MassDEP GW-1 drinking water standard of 20 ng/L. The discharge pipe downhill of the property, potentially connected to a drainage system associated with the foundation of the former building, is currently sealed to prevent PFAS-containing groundwater (at concentrations measured at 3,642 ng/L) from discharging to the ground surface. Residual PFAS impacts to the overburden soil are likely to continue leaching into the bedrock aquifer and potentially impacting private water supply wells in the area [3-5].

According to MassDEP, with the discharge pipe plugged to prevent overland flow from direct discharge, and considering the limited groundwater storage in the overburden, the leachate from impacted soil will continue to impact groundwater at the Site above GW-1 concentrations without removal of the contaminated soil. The conservative estimated volume of soil to be removed is approximately between 1,500 to 2,000 cubic yards (approx. 0.75 acres with average soil depth of 1.5 feet above bedrock) [3-5].

On 18 March 2022, MassDEP requested EPA assistance with conducting sampling at the site [5].

Site/Sampling Activities

On 11 October 2022, a site walk was conducted with EPA On-Scene Coordinators (OSCs) Catherine Young and Cayla Jimenez; property owners Dan and Cheryl Ervin; MassDEP representative Paul Vigeant; Town of Princeton consultant LSP representative Mike Scherer of Tighe & Bond; property owner's consultant Jon Kitchen of Civil & Environmental Consultants (CEC); and Weston Solutions, Inc. (Weston) Superfund Technical Assessment and Response Team (START) member John Kelly. Personnel discussed the Site history and the potential for wipe and soil sampling at the Site. START personnel conducted the tailgate safety meeting and discussed Site hazards. START personnel reviewed and signed the health and safety plan (HASP), entitled *Weston Solutions, Inc., Region I START V Health and Safety Plan (HASP) for the Princeton PFAS Site*. Following the completion of the safety briefing, START member Kelly prepared the Ludlum Model 19A gamma radiation meter and the RAE Systems, Inc., MultiRAE multigas meter with oxygen (O²), carbon monoxide (CO), hydrogen sulfide (H₂S), lower explosive limit (LEL), and volatile organic compound (VOC) sensors [6-7]. Readings on the two instruments were as follows: Ludlum Model 19A = 15-18 microRoentgens per hour (μR/hr); and MultiRAE: O₂ = 20.9%, CO = 0 ppm, H₂S = 0 ppm, LEL = 0%, and VOC = 0 ppm. All personnel conducted the Site walk, noting the location of the burned residence/former inn, the converted residential barn, the garage, and the drainage swale. EPA and START personnel discussed and noted potential locations for wipe samples and surface soil samples. START member Kelly conducted marking for DigSafe prior to departing the site.

On 24 April 2023, EPA and START mobilized to the Site to conduct surface soil and wipe sampling [8-9]. Upon arrival, START personnel met with EPA OSCs Young and Jimenez to review and sign the sampling and analysis plan (SAP), entitled *Sampling and Analysis Plan for the Princeton PFAS Site, Princeton, Worcester County, Massachusetts* [10]. START personnel conducted the tailgate safety meeting and discussed Site hazards.

START personnel collected 27 wipe samples (including one field replicate) from inside both on-site buildings and from locations inside the on-site storage containers (see Appendix C, Table 1). In addition, START personnel collected 10 surface and subsurface soil samples from five borings. The soil samples from each boring were collected from the 0- to 6-inch (A) interval and the 6- to 12-inch (B) interval. START personnel followed sampling protocols outlined in the SAP to collect the wipe and soil samples (see Appendix A, Figures 3 and 4).

On 25 April 2023, EPA and START mobilized to the Site to continue soil sampling activities. START personnel conducted the tailgate safety meeting and discussed Site hazards. START

personnel collected a total of 36 soil samples (including three field duplicates). START collected 30 soil samples (including two field duplicates) from 14 soil borings throughout the Site property. The soil samples from each boring were collected from the 0- to 6-inch (A) interval and the 6- to 12-inch (B) interval. In addition, START also collected five source soil samples (including one field duplicate) from inside the basement of the former inn; and one soil sample from within the catchbasin, beneath the area of the sealed discharge pipe downhill of the property, potentially connected to a drainage system associated with the foundation of the former building.

START personnel photodocumented sample locations (see Appendix B, Photodocumentation Log). START member Mace collected Global Positioning System (GPS) spatial location information for each sample [11].

All of the soil and wipe samples were submitted to a Delivery of Analytical Services (DAS) Laboratory for PFAS analysis. EPA requested that the samples be analyzed for 10 PFAS compounds: PFBS, PFBA, PFHxS, PFPeA, PFHpA, PFHxA, PFOA, PFOS, PFNA, and PFDA.

On 17 May 2023, START received the analytical data from the DAS laboratory for the wipe and soil samples submitted for PFAS analysis [12-13].

Analytical Data Summaries

Soil Sample Results

A total of 10 PFAS compounds were detected in the soil samples, and include the following [maximum concentration in nanograms per kilogram (ng/Kg), and sample location in parentheses]: PFBS (140 ng/Kg in SS-07B); PFBA (880 ng/Kg in SS-07B); PFHxS (3,500 ng/Kg in SS-07B); PFPeA (1,200 ng/Kg in SS-04A); PFHpA (610 ng/Kg in SS-04B); PFHxA (2,100 ng/Kg in SS-07B); PFOA (1,700 ng/Kg in SS-04B); PFOS (490,000 ng/Kg in SS-07B); PFNA (600 ng/Kg in SS-04B); and PFDA (1,000 ng/Kg in SS-03A). In addition, one PFAS compound (PFOS) was detected above the EPA Removal Management Levels (RMLs) for residential soil (see Appendix C, Tables 2 and 3) [12].

Wipe Sample Results

A total of 10 PFAS compounds were detected in the wipe samples, and include the following [maximum concentration in nanograms per wipe (ng/wipe), and sample location in parentheses]: perfluorobutanesulfonic acid (PFBS) (0.41 ng/wipe in WP-04); perfluorobutanoic acid (PFBA) (5.4 ng/wipe in WP-16); PFHxS (14 ng/wipe in WP-04); perfluoropentanoic acid (PFPeA) (0.5 ng/wipe in WP-15); PFHpA (3.4 ng/wipe in WP-15); perfluorohexanoic acid (PFHxA) (2.4 ng/wipe in WP-15); PFOA (3.1 ng/wipe in WP-15); PFOS (310 ng/wipe in WP-04); PFNA (1.8 ng/wipe in WP-15); and PFDA (1.2 ng/wipe in WP-15). No health-based benchmark/standards exist for PFAS compounds in wipe samples currently (see Appendix C, Table 4) [13].

REFERENCES

- [1] US. Geological Survey. 2021. 7.5-minute topographic map, Wachusett Mountain, Massachusetts.
- [2] Esri, i-cubed, USDA FSA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGP. April 2019. ArcGIS.com World Imagery Map.
- [3] Civil & Environmental Consultants, Inc. (CEC). 2022. Letter to Town of Princeton Select Board, Subject: Status of Environmental Remediation, 30 Mountain Road, Princeton, Massachusetts. 6 January.
- [4] Tighe & Bond. 2022. Letter to MassDEP, RE: IRA Status Report No. 5, 6 Town Hall Drive, Princeton, RTN 2-21072. 8 March.
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- [6] Weston Solutions, July 2020. Standard Operating Procedure for the PID-MultiRAE Model PGM-50; SOP No. WSI/S4-018, Superfund Technical Assessment and Response Team (START), Billerica, Massachusetts.
- [7] Weston Solutions, Inc. July 2020. Standard Operating Procedure for Ludlum Model 19 Micro R Meter, SOP No. WSI/S5-022, Superfund Technical Assessment and Response Team (START), Billerica, Massachusetts.
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- [9] Weston Solutions, Inc. July 2020. Standard Operating Procedure for Chip, Wipe, and Sweep Sampling, SOP No. WSI/S5-009, Superfund Technical Assessment and Response Team (START), Billerica, Massachusetts.
- [10] Weston Solutions, Inc. April 2023. Sampling and Analysis Plan for the Princeton PFAS Site, Princeton, Worcester County, Massachusetts. Document Control No. R-50539.
- [11] Weston Solutions, Inc. July 2020. Standard Operating Procedure for Trimble™ Global Positioning System (GPS), SOP No. WSI/S5-020, Superfund Technical Assessment and Response Team (START), Billerica, Massachusetts.
- [12] Mahany, B. (START). 2023. Letters to C. Young (EPA Region 1 – New England), RE: DAS Case No. 0949F, SDG Nos. D35933 and D35956. Earth Toxics, Inc., Princeton PFAS Site, Princeton, Massachusetts. 27 October.
- [13] Mahany, B. (START). 2023. Letter to C. Young (EPA Region 1 – New England), RE: DAS Case No. 0948F, SDG No. D35905. Earth Toxics, Inc., Princeton PFAS Site, Princeton, Massachusetts. 27 October.

III. Appendices

Appendix A

Figures

- Figure 1 - Site Location Map
- Figure 2 - Site Diagram
- Figure 3 - Sample Location Map
- Figure 4 - Wipe Sample Location Map

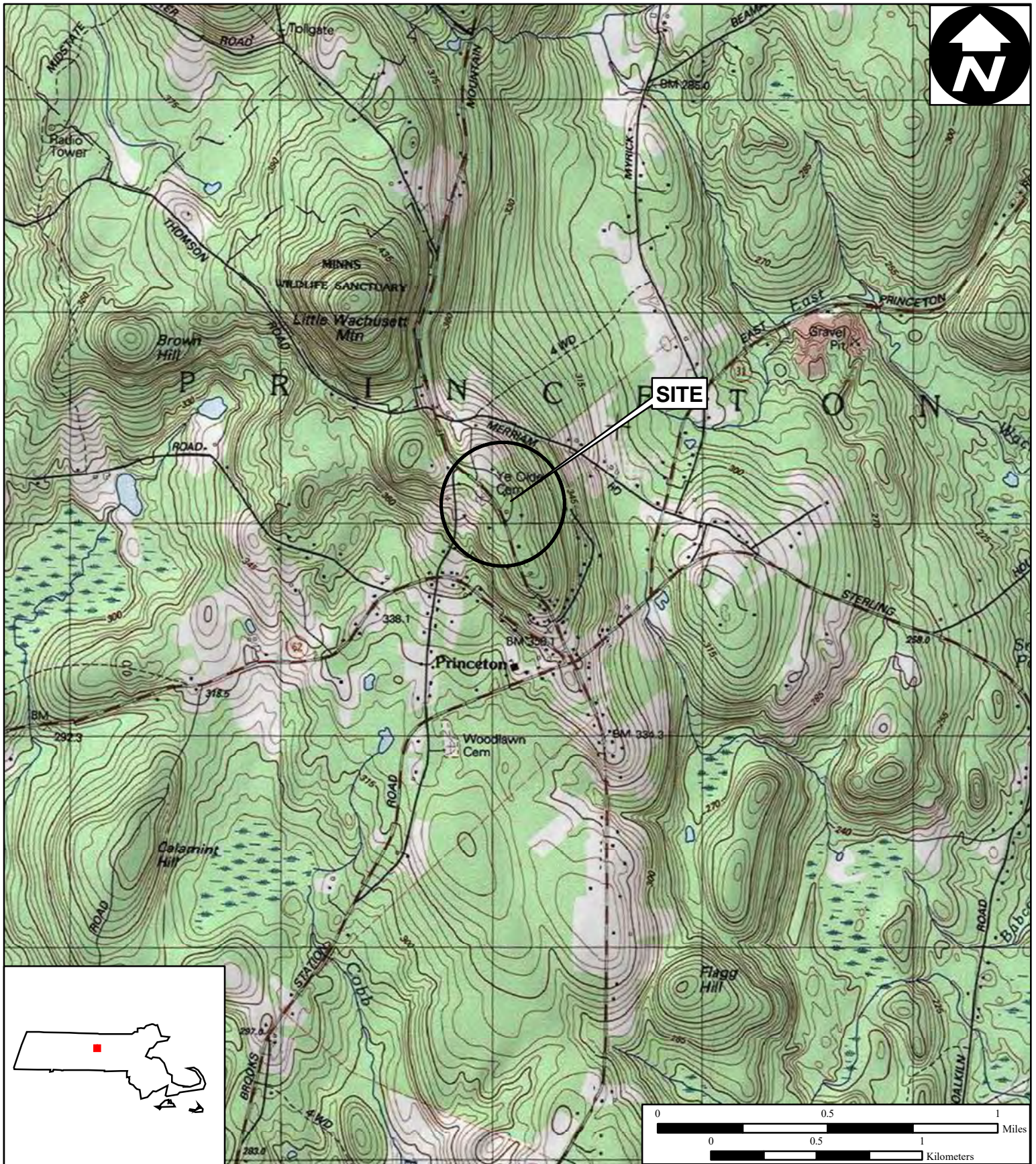


Figure 1

Site Location Map

**Princeton PFAS Site
30 Mountain Road
Princeton, Massachusetts**

**EPA Region I
Superfund Technical Assessment and
Response Team (START) V
Contract No. 68HE0120D0001**

AD Number: TOFP-01-22-07-0005
 Created by: B. Mace
 Created on: 26 October 2022
 Modified by: B. Mace
 Modified on: 26 October 2022

Data Sources:

Topos: MicroPath/USGS/USA Topo Maps
 Quadrangle Name(s):
 All other data: START







Figure 2

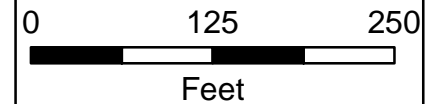
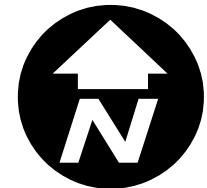
Site Diagram

**Princeton PFAS Site
30 Mountain Road
Princeton, Massachusetts**

**EPA Region I
Superfund Technical Assessment and
Response Team (START) V
Contract No. 68HE0120D0001
AD Number: TOFP-01-22-07-0005
Created by: B. Mace
Created on: 26 October 2022
Modified by: B. Mace
Modified on: 26 October 2022**

LEGEND

-  Site Boundary
-  Parcel Boundary



Data Sources:
Imagery: ESRI, i-cubed, USDA FSA, USGS
AEX, GeoEye, Getmapping, Aerogrid, IGP
Topos: USA TopoMaps
All other data: START








Figure 3
Soil Sample Location Map
Princeton PFAS Site
30 Mountain Road
Princeton, Massachusetts

EPA Region I
Superfund Technical Assessment and
Response Team (START) V
Contract No. 68HE0120D0001
AD Number: TOFP-01-22-07-0005
Created by: B. Mace
Created on: 26 October 2022
Modified by: B. Mace
Modified on: 13 September 2023

LEGEND

-  Site Boundary
-  Soil Sample Location
-  Basement Soil/Debris Samples

0 40 80
Feet

Data Sources:
 Imagery: ESRI, i-cubed, USDA FSA, USGS
 AEX, GeoEye, Getmapping, Aerogrid, IGP
 Topos: USA TopoMaps
 All other data: START







Figure 4

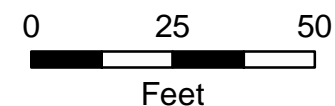
Wipe Sample Location Map

**Princeton PFAS Site
30 Mountain Road
Princeton, Massachusetts**

**EPA Region I
Superfund Technical Assessment and
Response Team (START) V
Contract No. 68HE0120D0001
AD Number: TOFP-01-22-07-0005
Created by: B. Mace
Created on: 26 October 2022
Modified by: B. Mace
Modified on: 25 September 2023**

LEGEND

-  Site Boundary
-  Wipe Sample Location



Data Sources:
Imagery: ESRI, i-cubed, USDA FSA, USGS
AEX, GeoEye, Getmapping, Aerogrid, IGP
Topos: USA TopoMaps
All other data: START



Appendix B

Photodocumentation Log

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts

TOP



SCENE: View of the on-site converted barn. Photograph taken facing northwest

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 0848 hours
CAMERA: Apple iPhone 13



SCENE: View of wipe sample location WP-01 collected from the second floor hallway wall.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 0959 hours
CAMERA: Apple iPhone 13

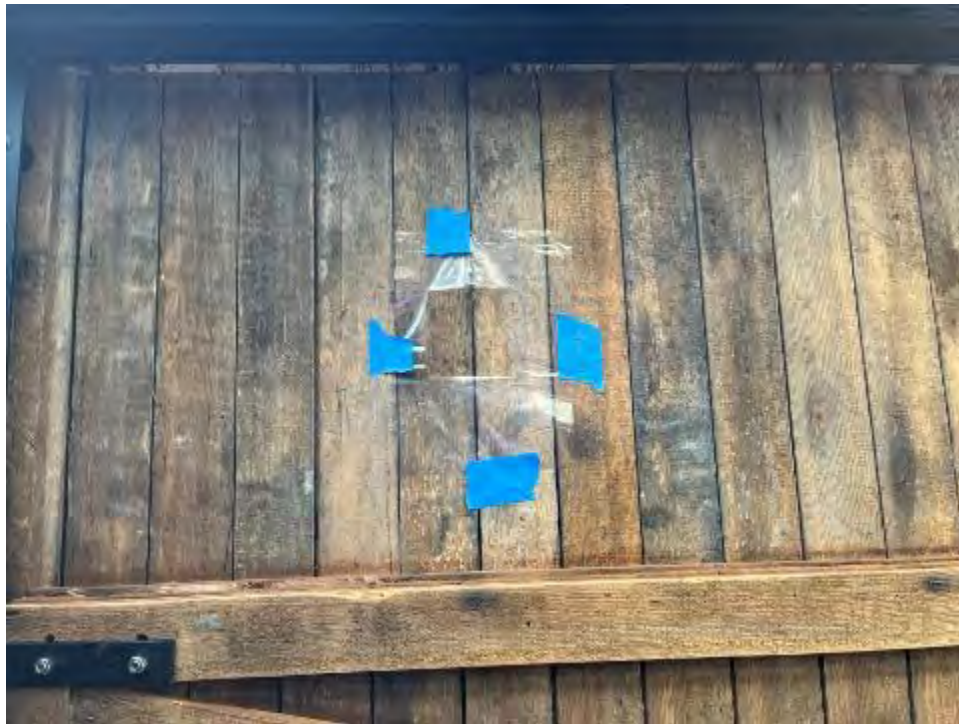
PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of wipe sample location WP-02 collected from the second floor main bedroom eastern wall.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 0959 hours
CAMERA: Apple iPhone 13



SCENE: View of wipe sample location WP-03 collected from the second floor main bedroom eastern closet wall.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 0959 hours
CAMERA: Apple iPhone 13

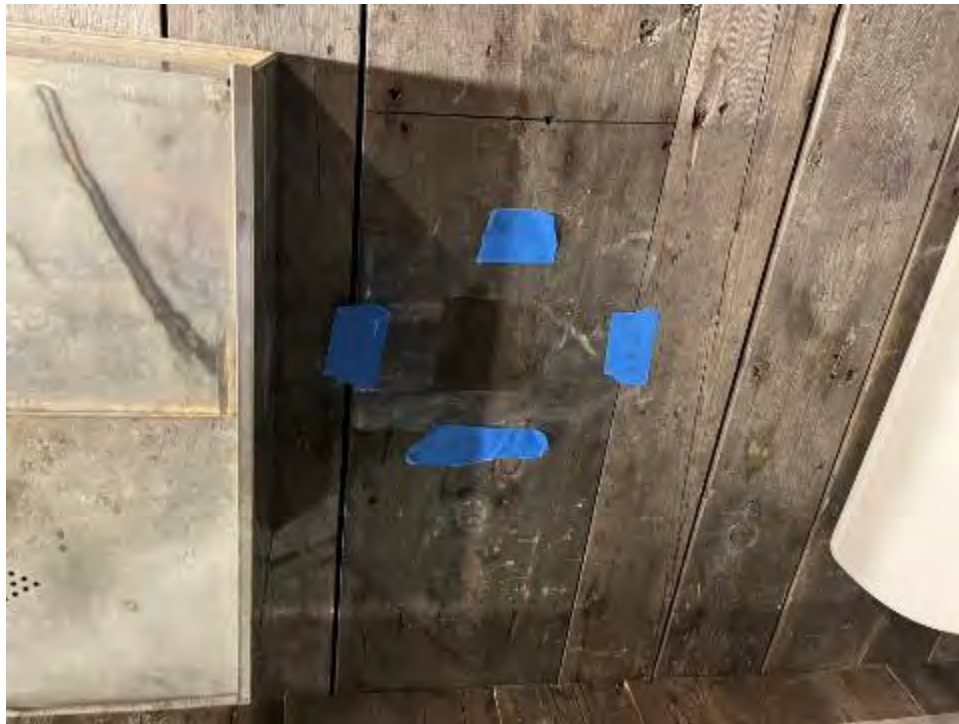
PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of wipe sample location WP-04 collected from the second floor bedroom western closet wall.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 0959 hours
CAMERA: Apple iPhone 13



SCENE: View of wipe sample location WP-05 collected from the second floor bathroom wall.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1001 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of wipe sample location WP-06 collected from the second floor secondary bedroom wall.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1004 hours
CAMERA: Apple iPhone 13

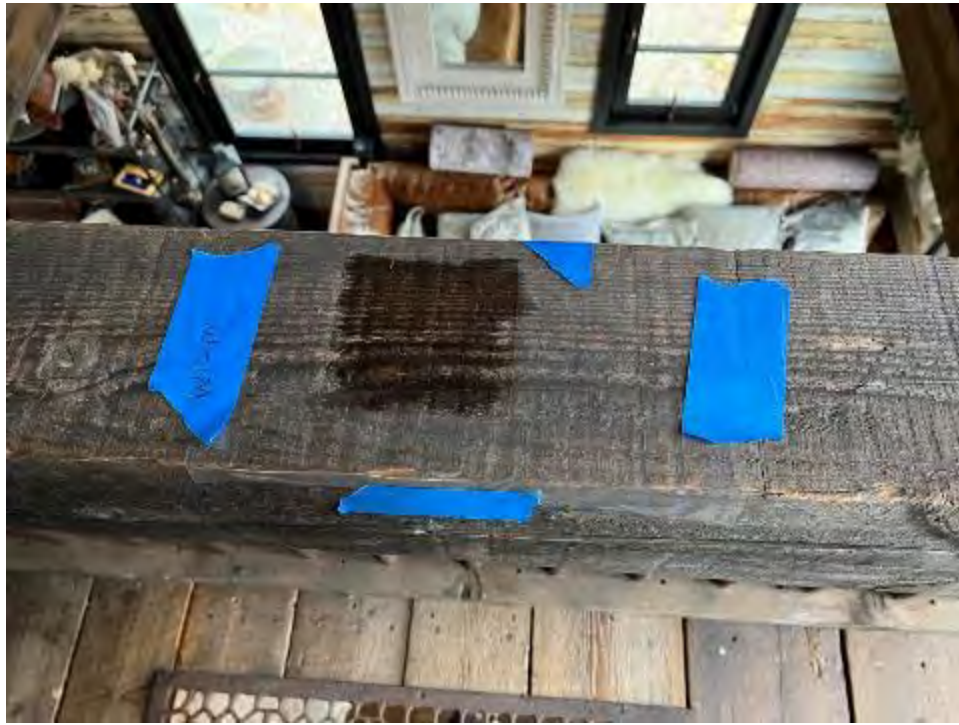


SCENE: View of wipe sample location WP-07 collected from the second floor secondary bedroom wall.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1004 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of wipe sample location WP-10 collected from the second floor foyer/bridge cross beam railing.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1010 hours
CAMERA: Apple iPhone 13



SCENE: View of wipe sample location WP-08 collected from the second floor foyer/bridge cross beam.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1015 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of wipe sample location WP-09 collected from the second floor foyer/bridge cross beam.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1015 hours
CAMERA: Apple iPhone 13



SCENE: View of wipe sample locations WP-12/WP-12R collected from the first floor dining room table.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1020 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of wipe sample location WP-13 collected from the first floor kitchen island counter.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1024 hours
CAMERA: Apple iPhone 13



SCENE: View of wipe sample location WP-14 collected from the first floor kitchen counter.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1025 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of location of wipe sample collected from inside conex storage container number 1.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1055 hours
CAMERA: Apple iPhone 13



SCENE: View of wipe sample location WP-19 collected from inside conex storage container number 2.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1055 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of wipe sample location WP-21 collected from inside conex storage container number 2.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1055 hours
CAMERA: Apple iPhone 13



SCENE: View of wipe sample locations WP-22, WP-23, and WP-24 collected from inside conex storage container number 3.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1101 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of the three conex storage containers 1, 2, and 3 (left to right). Photograph taken facing east.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1101 hours
CAMERA: Apple iPhone 13

TOP



SCENE: View of soil sample location SS-18 collected from material staged in soil pile to the north-northwest of the Inn. Photograph taken facing north.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1329 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts

TOP



SCENE: View of soil sample location SS-19 collected from material staged in soil pile to the north-northwest of the Inn. Photograph taken facing northeast.

DATE: 24 April 2023

PHOTOGRAPHER: B. Mace

TIME: 1329 hours

CAMERA: Apple iPhone 13



SCENE: View of soil sample location SS-03. Photograph taken facing southeast.

DATE: 24 April 2023

PHOTOGRAPHER: B. Mace

TIME: 1156 hours

CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of soil sample location SS-04. Photograph taken facing southeast.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1157 hours
CAMERA: Apple iPhone 13



SCENE: View of soil sample location SS-01. Photograph taken facing southeast.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1157 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of soil sample location SS-02. Photograph taken facing southeast.

DATE: 24 April 2023

PHOTOGRAPHER: B. Mace

TIME: 1158 hours

CAMERA: Apple iPhone 13



SCENE: View of soil sample location SS-05. Photograph taken facing southeast.

DATE: 24 April 2023

PHOTOGRAPHER: B. Mace

TIME: 1158 hours

CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of soil sample location SS-06. Photograph taken facing southeast.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1158 hours
CAMERA: Apple iPhone 13



SCENE: View of soil sample location SS-07. Photograph taken facing southeast.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 0805 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of soil sample location SS-08. Photograph taken facing southeast.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1159 hours
CAMERA: Apple iPhone 13



SCENE: View of soil sample location SS-09. Photograph taken facing southeast.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1159 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of soil sample location SS-10. Photograph taken facing southeast.

DATE: 24 April 2023

PHOTOGRAPHER: B. Mace

TIME: 1159 hours

CAMERA: Apple iPhone 13



SCENE: View of soil sample location SS-11. Photograph taken facing southeast.

DATE: 24 April 2023

PHOTOGRAPHER: B. Mace

TIME: 1200 hours

CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of soil sample locations SS-16 (left) and SS-17 (right). Photograph taken facing southeast.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1201 hours
CAMERA: Apple iPhone 13



SCENE: View of soil sample locations SS-14/SS-214, SS-15, and CB-01. Photograph taken facing southeast.

DATE: 24 April 2023
PHOTOGRAPHER: B. Mace

TIME: 1201 hours
CAMERA: Apple iPhone 13

PHOTODOCUMENTATION LOG
Princeton PFAS Site • Princeton, Massachusetts



SCENE: View of soil sample location SS-13. Photograph taken facing southeast.

DATE: 24 April 2023

PHOTOGRAPHER: B. Mace

TIME: 1202 hours

CAMERA: Apple iPhone 13

Appendix C

Tables

- Table 1 - Wipe Sample Descriptions
- Table 2 - Summary of Per- and Polyfluoroalkyl Substances Analysis, Soil Samples
- Table 3 - Summary of Per- and Polyfluoroalkyl Substances Analysis, Basement Soil, Catchbasin Samples
- Table 4 - Summary of Per- and Polyfluoroalkyl Substances Analysis, Wipe Samples

**TABLE 1
WIPE SAMPLE DESCRIPTIONS
PRINCETON PFAS
PRINCETON, MASSACHUSETTS**

Sample Location	Sample Number	Sample Type	General Location	Description of Sample
WP-01	D35905	Wipe	Second Floor Hallway	Hallway leading to Master Bedroom - wall to left adjacent siding door.
WP-02	D35906	Wipe	Master Bedroom	East (left) wall with light blotch staining on boards.
WP-03	D35907	Wipe	Master Bedroom	Wall for closet to east (left) of glass door in bedroom.
WP-04	D35908	Wipe	Master Bedroom	West (right) wall on closet door in bedroom.
WP-05	D35909	Wipe	2nd Floor Bathroom	Bathroom wall above toilet on wall.
WP-06	D35910	Wipe	Small bedroom (east off hallway)	Boards of east wall (straight ahead of entry.
WP-07	D35911	Wipe	Small bedroom (east off hallway)	Boards on southern wall with painting of drum set.
WP-08	D35912	Wipe	Foyer/Bridge	Massive Beam (multiple 2x8s) above base of stairway to 2nd floor, board runs North-South under hallway banister and historical survey transit.
WP-09	D35913	Wipe	Foyer/Bridge	Cross beam (6x6) above riser going up stairs to 2nd floor; under bridge to left of stair.
WP-10	D35914	Wipe	2nd floor Foyer Bridge	Surface for cross beam railing for bridge above stairs.
WP-11	D35915	Wipe	2nd floor Foyer Bridge	Floor of bridge above stairs adjacent metal grate.
WP-12	D35916	Wipe	First floor - Table	Table in northeastern corner of 1st floor. Wooden picnic table surface.
WP-12R	D35917	Wipe	First floor - Table	Table in northeastern corner of 1st floor. Wooden picnic table surface. (Replicate sample).
WP-13	D35918	Wipe	Kitchen	Display cabinet top counter surface.
WP-14	D35919	Wipe	Kitchen	Working counter (marble) surface next to kitchen sink.
WP-15	D35920	Wipe	Conex Box 1 (Numbered left to right) "MINU 200873 2261" - Gray Box	White Mantle Frame.
WP-16	D35921			Brown random door surface.
WP-17	D35922			Door surface - glass window area.
WP-18	D35923			2nd random door surface.
WP-19	D35924	Wipe	Conex Box 2 "HJCU 2901" - Blue Box	Panel Door frame on left of box with wood slots and 5-inch window panes.
WP-20	D35925			Random wooden boards/slots - 2.5-7-8 inches.
WP-21	D35926			Random wooden boards/slots - 1x4 inches.

**TABLE 1
WIPE SAMPLE DESCRIPTIONS
PRINCETON PFAS
PRINCETON, MASSACHUSETTS**

Sample Location	Sample Number	Sample Type	General Location	Description of Sample
WP-22	D35927	Wipe	Conex Box 3 CLHU 321361 6-Green Box	Random wooden boards/slots.
WP-23	D35928			Random wooden boards/slots.
WP-24	D35929			Random wooden boards/slots.
WP-25	D35930	Wipe	Inn Building - 1st floor open space	Inn Building - Doorway frame with windows on 1st floor open area immediately southwest of access port to basement steps.
WP-26	D35931	Wipe	Inn Building - Front of house	Inn Building - Front wall of Inn from window box in front room (southwestern room) with "octagonal-like" wall/window.

TABLE 2

**SUMMARY OF
PER- AND POLYFLUOROALKYL SUBSTANCES ANALYSIS
SOIL SAMPLES
PRINCETON PFAS SITE
PRINCETON, MASSACHUSETTS**

SAMPLE LOCATION SOIL SAMPLE DEPTH (FEET) DAS SAMPLE NUMBER LABORATORY SAMPLE ID SAMPLING DATE			SS-01A 0-1 D35933 3042217-01 4/24/2023	RL	SS-01B 1-3 D35934 3042217-02 4/24/2023	RL	SS-02A 0-1 D35935 3042217-03 4/24/2023	RL	SS-02B 1-3 D35936 23042217-04 4/24/2023	RL	SS-03A 0-1 D35937 23042217-05 4/24/2023	RL	SS-03B 1-3 D35938 23042217-06 4/24/2023	RL	SS-04A 0-1 D35939 23042217-07 4/25/2023	RL	SS-04B 1-3 D35940 23042217-08 4/25/2023	RL	
COMPOUND	EPA RML-Res (mg/Kg)	EPA RML-Res (ng/Kg)																	
Perfluorobutanoic acid - PFBA	230	230,000,000	ND	190	210	190	ND	180	180	180	ND	180	ND	160	190	180	460	190	
Perfluoropentanoic acid - PFPeA	NL	NL	ND	190	ND	190	ND	190	ND	180	ND	180	ND	160	1,200	180	480	190	
Perfluorobutanesulfonic acid - PFBS	57	57,000,000	ND	38	57	39	ND	37	ND	36	ND	35	ND	31	ND	36	46	37	
Perfluorohexanoic acid - PFHxA	95	95,000,000	ND	190	ND	190	ND	180	ND	180	ND	180	180	160	ND	180	500	190	
Perfluoroheptanoic acid - PFHpA	NL	NL	ND	190	220	190	ND	180	ND	180	ND	180	ND	160	ND	180	610	190	
Perfluorohexanesulfonic acid - PFHxS	3.8	3,800,000	ND J	190	ND J	190	ND J	180	ND	180	330 J	180	320 J	160	ND J	180	640 J ¹	190	
Perfluorooctanoic acid - PFOA	0.57	570,000	550	38	1,100	39	340	37	410	36	360	35	330	31	340	36	1,700	37	
Perfluorononanoic acid - PFNA	0.57	570,000	270	38	190	39	220	37	140	36	250	35	220	31	410	36	600	37	
Perfluorooctanesulfonic acid - PFOS	0.38	380,000	1,200 J ¹	38	680 J ¹	39	1,000 J ¹	37	620 J ¹	36	17,000 J ¹	350	9,000 J ¹	310	5,000 J ¹	36	3,100 J ¹	37	
Perfluorodecanoic acid - PFDA	NL	NL	ND	190	ND	190	ND	180	ND	180	1,000	180	860	160	570	180	390	190	
DILUTION FACTOR			1		1		1		1		1		1		1		1		
DATE SAMPLED			4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/25/2023		4/25/2023		
DATE OF PREPARATION			4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		
DATE ANALYZED			5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		

NOTES:

- 1) Samples collected by Weston Solutions, Inc., Superfund Technical Assessment and Response Team (START) on 24 April and 25 April 2023.
- 2) Samples analyzed by ALS Environmental - Holland, Michigan, via Earth Toxics, Inc. - Logan, Utah, using Method ASTM Method D7968-17a.
- 3) Results are reported in nanograms per kilogram (ng/Kg), equivalent to parts per trillion (ppt).
- 4) EPA RML-Res = US EPA Removal Management Levels (RMLs) for residential soil;
reported in milligrams per kilogram (mg/Kg), converted to nanograms per kilogram (ng/Kg) (1 mg/Kg = 1,000,000 ng/Kg).
- 5) RL = Sample Reporting Limit.
- 6) ND = Not Detected above the reporting limit (RL).
- 7) NL = Not Listed.
- 8) Samples SS-214A, SS-116A and SS-116B are field duplicates of SS-14A, SS-16A and SS-16B, respectively.
- 9) DAS = Delivery of Analytical Services.
- 10) J = Result is estimated (J) due to high surrogate recovery.
- 11) J¹ = Result is estimated (J) due to low matrix spike recovery.
- 12) * = Result is reported from a diluted analysis.

TABLE 2

**SUMMARY OF
PER- AND POLYFLUOROALKYL SUBSTANCES ANALYSIS
SOIL SAMPLES
PRINCETON PFAS SITE
PRINCETON, MASSACHUSETTS**

SAMPLE LOCATION			SS-05A		SS-05B		SS-06A		SS-06B		SS-07A		SS-07B		SS-08A		SS-08B			
SOIL SAMPLE DEPTH (FEET)			0-1		1-3		0-1		1-3		0-1		1-3		0-1		1-3			
DAS SAMPLE NUMBER			D35941		D35942		D35943		D35944		D35945		D35946		D35947		D35948			
LABORATORY SAMPLE ID			23042217-09		23042217-10		23042217-11		23042217-12		23042217-13		23042217-14		23042217-15		23042217-16			
SAMPLING DATE			4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023			
COMPOUND	EPA RML-Res (mg/Kg)	EPA RML-Res (ng/Kg)																		
	Perfluorobutanoic acid - PFBA	230	230,000,000	210	170	ND	190	190 J	160	390	160	280	160	880	170	210	170	350	180	
Perfluoropentanoic acid - PFPeA	NL	NL	ND	170	ND	190	ND	160	ND	160	ND	160	650	170	ND	170	300	180		
Perfluorobutanesulfonic acid - PFBS	57	57,000,000	ND	34	ND	38	38	32	67	33	110	32	140	34	100	34	140	36		
Perfluorohexanoic acid - PFHxA	95	95,000,000	ND	170	ND	190	260	160	400	160	220	160	2,100	170	270	170	880	180		
Perfluoroheptanoic acid - PFHpA	NL	NL	ND	170	ND	190	ND	160	ND	160	ND	160	290	170	ND	170	190	180		
Perfluorohexanesulfonic acid - PFHxS	3.8	3,800,000	510 J ¹	170	610 J ¹	190	920 J ¹	160	1,700 J ¹	160	1,700 J ¹	160	3,500 J ¹	170	2,200 J ¹	170	3,400 J ¹	180		
Perfluorooctanoic acid - PFOA	0.57	570,000	480	34	540	38	280	32	500	33	370	32	1,100	34	270	34	770	36		
Perfluorononanoic acid - PFNA	0.57	570,000	300	34	210	38	74	32	100	33	110	32	220	34	120	34	140	36		
Perfluorooctanesulfonic acid - PFOS	0.38	380,000	4,100 J ¹	34	2,200 J ¹	38	28,000 J ¹	320*	62,000 J ¹	330*	130,000 J ¹	3,200*	490,000 J ¹	3,400*	75,000 J ¹	3,400*	130,000 J ¹	3,600*		
Perfluorodecanoic acid - PFDA	NL	NL	ND	170	ND	190	ND	160	ND	160	240	160	260	170	180	170	320	180		
DILUTION FACTOR			1		1		1/10*		1/10*		1/100*		1/100*		1/100*		1/100*			
DATE SAMPLED			4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023			
DATE OF PREPARATION			4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023			
DATE ANALYZED			5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023			

NOTES:

- 1) Samples collected by Weston Solutions, Inc., Superfund Technical Assessment and Response Team (START) on 24 April and 25 April 2023.
- 2) Samples analyzed by ALS Environmental - Holland, Michigan, via Earth Toxics, Inc. - Logan, Utah, using Method ASTM Method D7968-17a.
- 3) Results are reported in nanograms per kilogram (ng/Kg), equivalent to parts per trillion (ppt).
- 4) EPA RML-Res = US EPA Removal Management Levels (RMLs) for residential soil; reported in milligrams per kilogram (mg/Kg), converted to nanograms per kilogram (ng/Kg) (1 mg/Kg = 1,000,000 ng/Kg).
- 5) RL = Sample Reporting Limit.
- 6) ND = Not Detected above the reporting limit (RL).
- 7) NL = Not Listed.
- 8) Samples SS-214A, SS-116A and SS-116B are field duplicates of SS-14A, SS-16A and SS-16B, respectively.
- 9) DAS = Delivery of Analytical Services.
- 10) J = Result is estimated (J) due to high surrogate recovery.
- 11) J¹ = Result is estimated (J) due to low matrix spike recovery.
- 12) * = Result is reported from a diluted analysis.

TABLE 2

**SUMMARY OF
PER- AND POLYFLUOROALKYL SUBSTANCES ANALYSIS
SOIL SAMPLES
PRINCETON PFAS SITE
PRINCETON, MASSACHUSETTS**

SAMPLE LOCATION SOIL SAMPLE DEPTH (FEET) DAS SAMPLE NUMBER LABORATORY SAMPLE ID SAMPLING DATE			SS-09A 0-1 D35949 23042217-17 4/25/2023	RL	SS-09B 1-3 D35950 23042217-18 4/25/2023	RL	SS-10A 0-1 D35951 23042217-19 4/25/2023	RL	SS-10B 1-3 D35952 23042217-20 4/25/2023	RL	SS-11A 0-1 D35953 23042217-21 4/25/2023	RL	SS-11B 1-3 D35954 23042217-22 4/25/2023	RL	SS-12A 0-1 D35955 23042217-23 4/25/2023	RL	SS-12B 1-3 D35956 23042217-24 4/25/2023	RL	
COMPOUND	EPA RML-Res (mg/Kg)	EPA RML-Res (ng/Kg)																	
Perfluorobutanoic acid - PFBA	230	230,000,000	ND	170	ND	180	180	150	ND	140	ND	140	ND	140	ND	150	ND	150	
Perfluoropentanoic acid - PFPeA	NL	NL	ND	170	ND	180	ND	150	ND	140	ND	140	ND	140	ND	150	ND	150	
Perfluorobutanesulfonic acid - PFBS	57	57,000,000	ND	34	67	37	ND	31	ND	28	ND	29	ND	29	ND	31	ND	29	
Perfluorohexanoic acid - PFHxA	95	95,000,000	ND	170	240	180	ND	150	ND	140	ND	140	ND	140	220	150	ND	150	
Perfluoroheptanoic acid - PFHpA	NL	NL	ND	170	ND	180	ND	150	ND	140	ND	140	ND	140	ND	150	ND	150	
Perfluorohexanesulfonic acid - PFHxS	3.8	3,800,000	890 J ¹	170	2,200 J ¹	180	180 J ¹	150	ND J	140	ND J	140	180 J ¹	140	180 J ¹	150	380 J ¹	150	
Perfluorooctanoic acid - PFOA	0.57	570,000	95	34	240	37	65	31	52	28	50	29	55	29	290	31	340	29	
Perfluorononanoic acid - PFNA	0.57	570,000	51	34	79	37	64	31	49	28	47	29	63	29	300	31	220	29	
Perfluorooctanesulfonic acid - PFOS	0.38	380,000	29,000 J ¹	340*	120,000 J ¹	3,700*	8,100 J ¹	310*	5,100 J ¹	28	2,400 J ¹	29	2700 J ¹	29	12,000 J ¹	310*	4,600 J ¹	29	
Perfluorodecanoic acid - PFDA	NL	NL	ND	170	ND	180	ND	150	ND	140	ND	140	180	140	ND	150	ND	150	
DILUTION FACTOR			1/10*		1/100*		1/10*		1		1		1		1/10*		1		
DATE SAMPLED			4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		
DATE OF PREPARATION			4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		
DATE ANALYZED			5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		

NOTES:

- 1) Samples collected by Weston Solutions, Inc., Superfund Technical Assessment and Response Team (START) on 24 April and 25 April 2023.
- 2) Samples analyzed by ALS Environmental - Holland, Michigan, via Earth Toxics, Inc. - Logan, Utah, using Method ASTM Method D7968-17a.
- 3) Results are reported in nanograms per kilogram (ng/Kg), equivalent to parts per trillion (ppt).
- 4) EPA RML-Res = US EPA Removal Management Levels (RMLs) for residential soil;
reported in milligrams per kilogram (mg/Kg), converted to nanograms per kilogram (ng/Kg) (1 mg/Kg = 1,000,000 ng/Kg).
- 5) RL = Sample Reporting Limit.
- 6) ND = Not Detected above the reporting limit (RL).
- 7) NL = Not Listed.
- 8) Samples SS-214A, SS-116A and SS-116B are field duplicates of SS-14A, SS-16A and SS-16B, respectively.
- 9) DAS = Delivery of Analytical Services.
- 10) J = Result is estimated (J) due to high surrogate recovery.
- 11) J¹ = Result is estimated (J) due to low matrix spike recovery.
- 12) * = Result is reported from a diluted analysis.

TABLE 2

**SUMMARY OF
PER- AND POLYFLUOROALKYL SUBSTANCES ANALYSIS
SOIL SAMPLES
PRINCETON PFAS SITE
PRINCETON, MASSACHUSETTS**

SAMPLE LOCATION			SS-13A		SS-13B		SS-14A		SS-214A		SS-15A		SS-15B		SS-16A		SS-16B		
SOIL SAMPLE DEPTH (FEET)			0-1		1-3		0-1		0-1		0-1		1-3		0-1		1-3		
DAS SAMPLE NUMBER			D35957		D35958		D35959		D35960		D35961		D35962		D35963		D35964		
LABORATORY SAMPLE ID			23042217-25	RL	23042217-26	RL	23042217-27	RL	23042217-28	RL	23042217-29	RL	23042217-30	RL	23042217-31	RL	23042217-32	RL	
SAMPLING DATE			4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		
COMPOUND	EPA RML-Res (mg/Kg)	EPA RML-Res (ng/Kg)																	
Perfluorobutanoic acid - PFBA	230	230,000,000	ND	140	ND	150	210	180	ND	200	ND	160	ND	140	330	170	ND	170	
Perfluoropentanoic acid - PFPeA	NL	NL	ND	140	ND	150	ND	180	ND	200	ND	160	ND	140	360	170	180	170	
Perfluorobutanesulfonic acid - PFBS	57	57,000,000	ND	29	ND	31	ND	36	58	40	ND	31	ND	28	40	35	63	33	
Perfluorohexanoic acid - PFHxA	95	95,000,000	ND	140	ND	150	ND	180	ND	200	ND	160	ND	140	400	170	390	170	
Perfluoroheptanoic acid - PFHpA	NL	NL	ND	140	ND	150	ND	180	ND	200	ND	160	ND	140	ND	170	ND	170	
Perfluorohexanesulfonic acid - PFHxS	3.8	3,800,000	ND J	140	ND J	150	530 J ¹	180	1,100 J ¹	200	660 J ¹	160	350 J ¹	140	1,100 J ¹	170	2,800 J ¹	170	
Perfluorooctanoic acid - PFOA	0.57	570,000	51	29	110	31	350 J	36	600 J	40	340	31	140	28	400	35	1,300	33	
Perfluorononanoic acid - PFNA	0.57	570,000	50	29	130	31	130	36	190	40	110	31	58	28	330	35	150	33	
Perfluorooctanesulfonic acid - PFOS	0.38	380,000	3,000 J ¹	29	4,500 J ¹	31	24,000 J ¹	360*	48,000 J ¹	400*	31,000 J ¹	310*	13,000 J ¹	280*	61,000 J ¹	350*	24,000 J ¹	330*	
Perfluorodecanoic acid - PFDA	NL	NL	150	140	380	150	370	180	420	200	280	160	170	140	ND	170	ND	170	
DILUTION FACTOR			1		1		1/10*		1/10*		1/10*		1/10*		1/10*		1/10*		
DATE SAMPLED			4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		
DATE OF PREPARATION			4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		4/27/2023		5/1/2023		
DATE ANALYZED			5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		

NOTES:

- 1) Samples collected by Weston Solutions, Inc., Superfund Technical Assessment and Response Team (START) on 24 April and 25 April 2023.
- 2) Samples analyzed by ALS Environmental - Holland, Michigan, via Earth Toxics, Inc. - Logan, Utah, using Method ASTM Method D7968-17a.
- 3) Results are reported in nanograms per kilogram (ng/Kg), equivalent to parts per trillion (ppt).
- 4) EPA RML-Res = US EPA Removal Management Levels (RMLs) for residential soil;
reported in milligrams per kilogram (mg/Kg), converted to nanograms per kilogram (ng/Kg) (1 mg/Kg = 1,000,000 ng/Kg).
- 5) RL = Sample Reporting Limit.
- 6) ND = Not Detected above the reporting limit (RL).
- 7) NL = Not Listed.
- 8) Samples SS-214A, SS-116A and SS-116B are field duplicates of SS-14A, SS-16A and SS-16B, respectively.
- 9) DAS = Delivery of Analytical Services.
- 10) J = Result is estimated (J) due to high surrogate recovery.
- 11) J¹ = Result is estimated (J) due to low matrix spike recovery.
- 12) * = Result is reported from a diluted analysis.

TABLE 2

SUMMARY OF
PER- AND POLYFLUOROALKYL SUBSTANCES ANALYSIS
SOIL SAMPLES
PRINCETON PFAS SITE
PRINCETON, MASSACHUSETTS

SAMPLE LOCATION SOIL SAMPLE DEPTH (FEET) DAS SAMPLE NUMBER LABORATORY SAMPLE ID SAMPLING DATE			SS-116A 0-1 D35965 23042217-33 4/25/2023	RL	SS-116B 1-3 D35966 23042217-34 4/25/2023	RL	SS-17A 0-1 D35967 23042217-35 4/25/2023	RL	SS-17B 0-1 D35968 23042217-36 4/25/2023	RL	SS-18A 0-1 D35969 23042217-37 4/25/2023	RL	SS-18B 1-3 D35970 23042217-38 4/25/2023	RL	SS-19A 0-1 D35971 23042217-39 4/25/2023	RL	SS-19B 1-3 D35972 23042217-40 4/25/2023	RL	
COMPOUND	EPA RML-Res (mg/Kg)	EPA RML-Res (ng/Kg)																	
Perfluorobutanoic acid - PFBA	230	230,000,000	380	160	ND	170	ND	170	ND	160	160	150	160	160	270	160	410	160	
Perfluoropentanoic acid - PFPeA	NL	NL	310	160	200	170	ND	170	ND	160	ND	150	ND	160	190	160	490	160	
Perfluorobutanesulfonic acid - PFBS	57	57,000,000	38	32	49	34	ND	35	ND	32	ND	29	ND	31	ND	32	ND	33	
Perfluorohexanoic acid - PFHxA	95	95,000,000	360	160	410	170	ND	170	ND	160	ND	150	ND	160	ND	160	370	160	
Perfluoroheptanoic acid - PFHpA	NL	NL	ND	160	ND	170	ND	170	ND	160	ND	150	ND	160	ND	160	280	160	
Perfluorohexanesulfonic acid - PFHxS	3.8	3,800,000	990 J ¹	160	3,100 J ¹	170	990 J ¹	170	490 J ¹	160	ND J	150	ND J	160	ND J	160	620 J ¹	160	
Perfluorooctanoic acid - PFOA	0.57	570,000	380	32	1,400	34	130	35	120	32	100	29	200	31	760	32	1,600	33	
Perfluorononanoic acid - PFNA	0.57	570,000	310	32	170	34	76	35	82	32	91	29	120	31	280	32	450	33	
Perfluorooctanesulfonic acid - PFOS	0.38	380,000	53,000 J ¹	320*	31,000 J ¹	340*	54,000 J ¹	350*	52,000 J ¹	320*	1,700 J ¹	29	2,400 J ¹	31	8,800 J ¹	320*	14,000 J ¹	330*	
Perfluorodecanoic acid - PFDA	NL	NL	ND	160	ND	170	ND	170	ND	160	ND	150	ND	160	290	160	310	160	
DILUTION FACTOR			1/10*		1/10*		1/10*		1/10*		1		1		1/10*		1/10*		
DATE SAMPLED			4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		
DATE OF PREPARATION			5/1/2023		5/1/2023		5/1/2023		5/1/2023		5/1/2023		5/1/2023		5/1/2023		5/1/2023		
DATE ANALYZED			5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		

NOTES:

- 1) Samples collected by Weston Solutions, Inc., Superfund Technical Assessment and Response Team (START) on 24 April and 25 April 2023.
- 2) Samples analyzed by ALS Environmental - Holland, Michigan, via Earth Toxics, Inc. - Logan, Utah, using Method ASTM Method D7968-17a.
- 3) Results are reported in nanograms per kilogram (ng/Kg), equivalent to parts per trillion (ppt).
- 4) EPA RML-Res = US EPA Removal Management Levels (RMLs) for residential soil;
reported in milligrams per kilogram (mg/Kg), converted to nanograms per kilogram (ng/Kg) (1 mg/Kg = 1,000,000 ng/Kg).
- 5) RL = Sample Reporting Limit.
- 6) ND = Not Detected above the reporting limit (RL).
- 7) NL = Not Listed.
- 8) Samples SS-214A, SS-116A and SS-116B are field duplicates of SS-14A, SS-16A and SS-16B, respectively.
- 9) DAS = Delivery of Analytical Services.
- 10) J = Result is estimated (J) due to high surrogate recovery.
- 11) J¹ = Result is estimated (J) due to low matrix spike recovery.
- 12) * = Result is reported from a diluted analysis.

TABLE 3

**SUMMARY OF
PER- AND POLYFLUOROALKYL SUBSTANCES ANALYSIS
BASEMENT SOIL CATCHBASIN SAMPLES
PRINCETON PFAS SITE
PRINCETON, MASSACHUSETTS**

SAMPLE LOCATION SOIL SAMPLE LOCATION DAS SAMPLE NUMBER LABORATORY SAMPLE ID SAMPLING DATE			CB-01 BASIN D35973 3042217-41 4/25/2023	RL	SO-01 BASEMENT D35974 23042217-42 4/25/2023	RL	SO-101 BASEMENT D35974 23042217-43 4/25/2023	RL	SO-02 BASEMENT D35976 23042217-44 4/25/2023	RL	SO-03 BASEMENT D35977 23042217-45 4/25/2023	RL	SO-04 BASEMENT D35978 23042217-46 4/25/2023	RL
COMPOUND	EPA RML-Res (mg/Kg)	EPA RML-Res (ng/Kg)												
Perfluorobutanoic acid - PFBA	230	230,000,000	ND	180	ND	180	ND	210	ND	150	ND	210	ND	170
Perfluoropentanoic acid - PFPeA	NL	NL	ND	180	ND	180	ND	210	ND	150	ND	210	ND	170
Perfluorobutanesulfonic acid - PFBS	57	57,000,000	ND	36	110	36	89	42	ND	30	ND	41	110	33
Perfluorohexanoic acid - PFHxA	95	95,000,000	ND	180	ND	180	ND	210	ND	150	ND	210	ND	170
Perfluoroheptanoic acid - PFHpA	NL	NL	ND	180	ND	180	ND	210	ND	150	ND	210	ND	170
Perfluorohexanesulfonic acid - PFHxS	3.80	3,800,000	560 J ¹	180	3,600 J ¹	180	4,200 J ¹	210	ND J	150	ND J	210	3,400 J ¹	170
Perfluorooctanoic acid - PFOA	0.57	570,000	240	36	340	36	450	42	56	30	91	41	550	33
Perfluorononanoic acid - PFNA	0.57	570,000	99	36	69	36	88	42	34	30	43	41	76	33
Perfluorooctanesulfonic acid - PFOS	0.38	380,000	20,000* J ¹	360	60,000* J ¹	360	71,000* J ¹	420	1,800 J ¹	30	5,300 J ¹	41	150,000* J ¹	3300
Perfluorodecanoic acid - PFDA	NL	NL	290	180	ND	180	ND	42	ND	150	ND	210	220	170
DILUTION FACTOR			1 / 10*		1 / 10*		1 / 10*		1		1		1 / 100*	
DATE SAMPLED			4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023		4/25/2023	
DATE OF PREPARATION			5/1/2023		5/1/2023		5/1/2023		5/1/2023		5/1/2023		5/1/2023	
DATE ANALYZED			5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023		5/8/2023	

NOTES:

- 1) Samples collected by Weston Solutions, Inc., Superfund Technical Assessment and Response Team (START) on 25 April 2023.
- 2) Samples analyzed by ALS Environmental - Holland Michigan, via Earth Toxics, Inc. - Logan, Utah, using Method ASTM Method D7968-17a.
- 3) Results are reported in nanograms per kilogram (ng/Kg), equivalent to parts per trillion (ppt).
- 4) RL = Sample Reporting Limit.
- 5) ND = Not Detected above the reporting limit (RL).
- 6) NL = Not Listed.
- 7) EPA RML-Res = US EPA Removal Management Level for Residential Soil; reported in milligrams per kilogram (mg/Kg), converted to nanograms per Kilogram (ng/Kg) (1 mg/Kg = 1,000,000 ng/Kg).
- 8) Sample SO-101 is a field duplicate of SO-01.
- 9) DAS = Delivery of Analytical Services.
- 10) J = Result is estimated (J) due to high surrogate recovery.
- 11) J¹ = Result is estimated (J) due to low matrix spike recovery.
- 12) * = Result is reported from a diluted analysis.

TABLE 4

SUMMARY OF
 PER- AND POLYFLUOROALKYL SUBSTANCES ANALYSIS
 WIPE SAMPLES
 PRINCETON PFAS SITE
 PRINCETON, MASSACHUSETTS

SAMPLE LOCATION				WP-01		WP-02		WP-03		WP-04		WP-05		WP-06	
WIPE SAMPLE LOCATION				BARN-F2HALL		BARN-MB		BARN-MB		BARN-MB		BARN-2FBATH		BARN-SMBED	
DAS SAMPLE NUMBER				D35905		D35906		D35907		D35908		D35909		D35910	
LABORATORY SAMPLE ID				320-99329-1		320-99329-2		320-99329-3		320-99329-4		320-99329-5		320-99329-6	
SAMPLING DATE				4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023	
SAMPLE AREA (cm)				10x10		10x10		10x10		10x10		10x10		10x10	
COMPOUND	MDL	MassDEP RCs	EPA RMLs												
Perfluorobutanesulfonic acid - PFBS	0.19	NL	NL	ND	1.0	ND	1.0	0.26 J	1.0	0.41 J	1.0	ND	1.0	ND	1.0
Perfluorobutanoic acid - PFBA	0.23	NL	NL	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0
Perfluorohexanesulfonic acid - PFHxS	0.15	NL	NL	0.15 J	1.0	ND	1.0	4.4	1.0	14	1.0	0.41 J	1.0	ND	1.0
Perfluoropentanoic acid - PFPeA	0.21	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluoroheptanoic acid - PFHpA	0.19	NL	NL	ND	1.0	ND	1.0	0.19 J	1.0	0.39 J	1.0	ND	1.0	ND	1.0
Perfluorohexanoic acid - PFHxA	0.16	NL	NL	0.98 J	1.0	ND	1.0	0.71 J	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluorooctanoic acid - PFOA	0.27	NL	NL	0.78 J	1.0	ND	1.0	0.67 J	1.0	1.7	1.0	ND	1.0	ND	1.0
Perfluorooctanesulfonic acid - PFOS	0.22	NL	NL	0.89 J	1.0	ND	1.0	64	1.0	310 *	5.0	3.1	1.0	ND	1.0
Perfluorononanoic acid - PFNA	0.11	NL	NL	0.11 J	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluorodecanoic acid - PFDA	0.24	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
DILUTION FACTOR				1		1		1		1 / 5*		1		1	
DATE SAMPLED				4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023	
DATE OF PREPARATION				4/26/2023		4/26/2023		4/26/2023		4/26/2023		4/26/2023		4/26/2023	
DATE ANALYZED				4/30/2023		4/30/2023		4/30/2023		5/1/2023		4/30/2023		4/30/2023	

NOTES:

- 1) Samples collected by Weston Solutions, Inc., Superfund Technical Assessment and Response Team (START) on 24 April 2023.
- 2) Samples analyzed by Eurofins Sacramento - West Sacramento California, via Earth Toxics, Inc. - Logan, Utah, using EPA Method 537 (modified): Isotope Dilution Analyte (IDA).
- 3) Results are reported in nanograms (ng) per wipe. Sample collection area for each wipe is 10 centimeters (cm) by 10 cm (approximately 4 inch by 4 inch).
- 4) RL = Sample Reporting Limit.
- 5) MDL = Method Detection Limit.
- 6) ND = Not Detected above the reporting limit (RL).
- 7) NL = Not Listed.
- 8) RML = Removal Management Level.
- 9) RC = Reportable Concentration.
- 10) No US EPA Removal Management Level (RMLs) exist for PFAS wipe samples.
- 11) No Massachusetts Department of Environmental Protection (MassDEP) RCs exist for PFAS wipe samples.
- 12) No health based benchmark/standards exist for PFAS compounds in wipe samples currently.
- 13) Sample WP-12R is a field replicate of WP-12.
- 14) DAS = Delivery of Analytical Services.
- 15) J = Results that are greater than the MDL but less than the RL are flagged (J) as estimated values with no superscripts.
- 16) UJ = Non-detected result is estimated due to low surrogate recovery.
- 17) UG = Elevated Reporting limit due to matrix interference.
- 18) * = Result is reported from a diluted analysis.

TABLE 4

SUMMARY OF
 PER- AND POLYFLUOROALKYL SUBSTANCES ANALYSIS
 WIPE SAMPLES
 PRINCETON PFAS SITE
 PRINCETON, MASSACHUSETTS

SAMPLE LOCATION				WP-07		WP-08		WP-09		WP-10		WP-11		WP-12	
WIPE SAMPLE LOCATION				BARN-SMBED		BARN-F2FOYER		BARN-F2FOYER		BARN-F2RAIL		BARN-F2FLOOR		BARN-F1TABLE	
DAS SAMPLE NUMBER				D35911		D35912		D35913		D35914		D35915		D35916	
LABORATORY SAMPLE ID				320-99329-7		320-99329-8		320-99329-9		320-99329-10		320-99329-11		320-99329-12	
SAMPLING DATE				4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023	
SAMPLE AREA (cm)				10x10		10x10		10x10		10x10		10x10		10x10	
COMPOUND	MDL	MassDEP RCs	EPA RMLs												
Perfluorobutanesulfonic acid - PFBS	0.19	NL	NL	0.28 J	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluorobutanoic acid - PFBA	0.23	NL	NL	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0
Perfluorohexanesulfonic acid - PFHxS	0.15	NL	NL	7.7	1.0	0.26 J	1.0	0.24 J	1.0	2.5	1.0	2.0	1.0	0.64 J	1.0
Perfluoropentanoic acid - PFPeA	0.21	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluoroheptanoic acid - PFHpA	0.19	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0	0.27 J	1.0	ND	1.0
Perfluorohexanoic acid - PFHxA	0.16	NL	NL	0.70 J	1.0	ND	1.0	ND	1.0	ND	1.0	0.52 J	1.0	ND	1.0
Perfluorooctanoic acid - PFOA	0.27	NL	NL	0.85 J	1.0	ND	1.0	ND	1.0	ND	1.0	1.1	1.0	ND	1.0
Perfluorooctanesulfonic acid - PFOS	0.22	NL	NL	120*	5.0	1.2	1.0	1.2	1.0	13	1.0	17	1.0	4.8	1.0
Perfluorononanoic acid - PFNA	0.11	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluorodecanoic acid - PFDA	0.24	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
DILUTION FACTOR				1 / 5*		1		1		1		1		1	
DATE SAMPLED				4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023	
DATE OF PREPARATION				4/26/2023		4/26/2023		4/26/2023		4/26/2023		4/26/2023		4/26/2023	
DATE ANALYZED				5/1/2023		4/30/2023		4/30/2023		4/30/2023		4/30/2023		4/30/2023	

NOTES:

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- 9) RC = Reportable Concentration.
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- 16) UJ = Non-detected result is estimated due to low surrogate recovery.
- 17) UG = Elevated Reporting limit due to matrix interference.
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TABLE 4

SUMMARY OF
PER- AND POLYFLUOROALKYL SUBSTANCES ANALYSIS
WIPE SAMPLES
PRINCETON PFAS SITE
PRINCETON, MASSACHUSETTS

SAMPLE LOCATION				WP-12R		WP-13		WP-14		WP-15		WP-16		WP-17	
WIPE SAMPLE LOCATION				BARN-F1TABLE		BARN-F1CABT		BARN-F1COUNT		C1-MANTLE		C1-DOOR1		C1-GLASS	
DAS SAMPLE NUMBER				D35917		D35918		D35919		D35920		D35921		D35922	
LABORATORY SAMPLE ID				320-99329-13		320-99329-14		320-99329-15		320-99329-16		320-99329-17		320-99329-18	
SAMPLING DATE				4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023	
SAMPLE AREA (cm)				10x10		10x10		10x10		10x10		10x10		10x10	
COMPOUND	MDL	MassDEP RCs	EPA RMLs												
Perfluorobutanesulfonic acid - PFBS	0.19	NL	NL	ND	1.0	ND	1.0	ND	1.0	0.29 J	1.0	ND	1.0	ND	1.0
Perfluorobutanoic acid - PFBA	0.23	NL	NL	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UG	5.4	ND UJ	1.0
Perfluorohexanesulfonic acid - PFHxS	0.15	NL	NL	ND	1.0	ND	1.0	ND	1.0	1.8	1.0	ND	1.0	0.16 J	1.0
Perfluoropentanoic acid - PFPeA	0.21	NL	NL	ND	1.0	ND	1.0	ND	1.0	0.50 J	1.0	ND	1.0	ND	1.0
Perfluoroheptanoic acid - PFHpA	0.19	NL	NL	ND	1.0	ND	1.0	0.37 J	1.0	3.4	1.0	ND	1.0	ND	1.0
Perfluorohexanoic acid - PFHxA	0.16	NL	NL	ND	1.0	ND	1.0	0.54 J	1.0	2.4	1.0	ND	1.0	ND	1.0
Perfluorooctanoic acid - PFOA	0.27	NL	NL	ND	1.0	ND	1.0	1.5	1.0	3.1	1.0	0.35 J	1.0	0.63 J	1.0
Perfluorooctanesulfonic acid - PFOS	0.22	NL	NL	0.66 J	1.0	0.41 J	1.0	0.70 J	1.0	11	1.0	3.2 I	1.0	1.9	1.0
Perfluorononanoic acid - PFNA	0.11	NL	NL	ND	1.0	ND	1.0	0.11 J	1.0	1.8	1.0	ND	1.0	0.19 J	1.0
Perfluorodecanoic acid - PFDA	0.24	NL	NL	ND	1.0	ND	1.0	ND	1.0	1.2	1.0	ND	1.0	0.25 J	1.0
DILUTION FACTOR				1		1		1		1		1		1	
DATE SAMPLED				4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023	
DATE OF PREPARATION				4/26/2023		4/26/2023		4/26/2023		4/26/2023		4/26/2023		4/26/2023	
DATE ANALYZED				4/30/2023		4/30/2023		4/30/2023		4/29/2023		4/29/2023		4/29/2023	

NOTES:

- 1) Samples collected by Weston Solutions, Inc., Superfund Technical Assessment and Response Team (START) on 24 April 2023.
- 2) Samples analyzed by Eurofins Sacramento - West Sacramento California, via Earth Toxics, Inc. - Logan, Utah, using EPA Method 537 (modified): Isotope Dilution Analyte (IDA).
- 3) Results are reported in nanograms (ng) per wipe. Sample collection area for each wipe is 10 centimeters (cm) by 10 cm (approximately 4 inch by 4 inch).
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- 5) MDL = Method Detection Limit.
- 6) ND = Not Detected above the reporting limit (RL).
- 7) NL = Not Listed.
- 8) RML = Removal Management Level.
- 9) RC = Reportable Concentration.
- 10) No US EPA Removal Management Level (RMLs) exist for PFAS wipe samples.
- 11) No Massachusetts Department of Environmental Protection (MassDEP) RCs exist for PFAS wipe samples.
- 12) No health based benchmark/standards exist for PFAS compounds in wipe samples currently.
- 13) Sample WP-12R is a field replicate of WP-12.
- 14) DAS = Delivery of Analytical Services.
- 15) J = Results that are greater than the MDL but less than the RL are flagged (J) as estimated values with no superscripts.
- 16) UJ = Non-detected result is estimated due to low surrogate recovery.
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TABLE 4

SUMMARY OF
 PER- AND POLYFLUOROALKYL SUBSTANCES ANALYSIS
 WIPE SAMPLES
 PRINCETON PFAS SITE
 PRINCETON, MASSACHUSETTS

SAMPLE LOCATION				WP-18		WP-19		WP-20		WP-21		WP-22		WP-23	
WIPE SAMPLE LOCATION				C1-DOOR2		C2-DOOR		C2-WDSLOTS		C2-WDBOARD		C3-WDSLOTS		C3-WDBOARD	
DAS SAMPLE NUMBER				D35923		D35924		D35925		D35926		D35927		D35928	
LABORATORY SAMPLE ID				320-99329-19		320-99329-20		320-99329-21		320-99329-22		320-99329-23		320-99329-24	
SAMPLING DATE				4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023	
SAMPLE AREA (cm)				10x10		10x10		10x10		10x10		10x10		10x10	
COMPOUND	MDL	MassDEP RCs	EPA RMLs												
Perfluorobutanesulfonic acid - PFBS	0.19	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluorobutanoic acid - PFBA	0.23	NL	NL	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0
Perfluorohexanesulfonic acid - PFHxS	0.15	NL	NL	0.28 J	1.0	1.4	1.0	ND	1.0	0.19 J	1.0	ND	1.0	1.2	1.0
Perfluoropentanoic acid - PFPeA	0.21	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluoroheptanoic acid - PFHpA	0.19	NL	NL	0.26 J	1.0	0.58 J	1.0	ND	1.0	ND	1.0	ND	1.0	0.50 J	1.0
Perfluorohexanoic acid - PFHxA	0.16	NL	NL	0.37 J	1.0	0.85 J	1.0	ND	1.0	ND	1.0	ND	1.0	0.34 J	1.0
Perfluorooctanoic acid - PFOA	0.27	NL	NL	1.4	1.0	2.0	1.0	ND	1.0	0.30 J	1.0	ND	1.0	0.50 J	1.0
Perfluorooctanesulfonic acid - PFOS	0.22	NL	NL	5.4	1.0	31	1.0	0.67 J	1.0	1.1	1.0	0.69 J	1.0	18	1.0
Perfluorononanoic acid - PFNA	0.11	NL	NL	0.37 J	1.0	0.15 J	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluorodecanoic acid - PFDA	0.24	NL	NL	0.49 J	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
DILUTION FACTOR				1		1		1		1		1		1	
DATE SAMPLED				4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023	
DATE OF PREPARATION				4/26/2023		4/26/2023		4/26/2023		4/26/2023		4/26/2023		4/26/2023	
DATE ANALYZED				4/29/2023		4/29/2023		4/29/2023		4/29/2023		4/29/2023		4/29/2023	

NOTES:

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TABLE 4

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PER- AND POLYFLUOROALKYL SUBSTANCES ANALYSIS
WIPE SAMPLES
PRINCETON PFAS SITE
PRINCETON, MASSACHUSETTS**

SAMPLE LOCATION				WP-24		WP-25		WP-26		FRB -01	
WIPE SAMPLE LOCATION				C3-WDBOARD		INN-DOORFRM		INN-WINDFRM		BLANK	
DAS SAMPLE NUMBER				D35929		D35930		D35931		D35932	
LABORATORY SAMPLE ID				320-99329-25		320-99329-26		320-99329-27		320-99329-28	
SAMPLING DATE				4/24/2023		4/24/2023		4/24/2023		4/24/2023	
SAMPLE AREA (cm)				10x10		10x10		10x10		QA/QC	
COMPOUND	MDL	MassDEP RCs	EPA RMLs								
Perfluorobutanesulfonic acid - PFBS	0.19	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluorobutanoic acid - PFBA	0.23	NL	NL	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0	ND UJ	1.0
Perfluorohexanesulfonic acid - PFHxS	0.15	NL	NL	0.87 J	1.0	ND	1.0	0.54 J	1.0	ND	1.0
Perfluoropentanoic acid - PFPeA	0.21	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluoroheptanoic acid - PFHpA	0.19	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluorohexanoic acid - PFHxA	0.16	NL	NL	0.41 J	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluorooctanoic acid - PFOA	0.27	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluorooctanesulfonic acid - PFOS	0.22	NL	NL	5.1	1.0	ND	1.0	5.4	1.0	ND	1.0
Perfluorononanoic acid - PFNA	0.11	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Perfluorodecanoic acid - PFDA	0.24	NL	NL	ND	1.0	ND	1.0	ND	1.0	ND	1.0
DILUTION FACTOR				1		1		1		1	
DATE SAMPLED				4/24/2023		4/24/2023		4/24/2023		4/24/2023	
DATE OF PREPARATION				4/26/2023		4/26/2023		4/26/2023		4/26/2023	
DATE ANALYZED				4/29/2023		4/29/2023		4/29/2023		4/29/2023	

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Appendix D

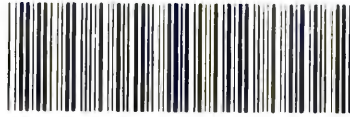
Chain-of-Custody Records

USEPA

DateShipped: 4/24/2023

CarrierName: FedEx

AirbillNo: 771944612900



320-99329 Chain of Custody

CHAIN OF CUSTODY RECORD

Site #: S50150MA

Contact Name: Bill Mahany

Contact Phone: 978-621-1211

No: MA22070005-001



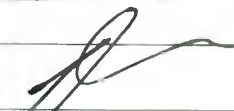
DAS #: 0948F

Lab: Eurofins Sacramento

Lab Phone: 916-373-59600

Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
	D35905	WP-01	PFAS m537		4/24/2023	09:51	1	4 oz HDPE Jar	MeOH/ KOH	
	D35906	WP-02	PFAS m537		4/24/2023	09:53	1	4 oz HDPE Jar	MeOH/ KOH	
	D35907	WP-03	PFAS m537		4/24/2023	09:56	1	4 oz HDPE Jar	MeOH/ KOH	
	D35908	WP-04	PFAS m537		4/24/2023	09:57	1	4 oz HDPE Jar	MeOH/ KOH	
	D35909	WP-05	PFAS m537		4/24/2023	10:01	1	4 oz HDPE Jar	MeOH/ KOH	
	D35910	WP-06	PFAS m537		4/24/2023	10:03	1	4 oz HDPE Jar	MeOH/ KOH	
	D35911	WP-07	PFAS m537		4/24/2023	10:05	1	4 oz HDPE Jar	MeOH/ KOH	
	D35912	WP-08	PFAS m537		4/24/2023	10:13	1	4 oz HDPE Jar	MeOH/ KOH	
	D35913	WP-09	PFAS m537		4/24/2023	10:14	1	4 oz HDPE Jar	MeOH/ KOH	
	D35914	WP-10	PFAS m537		4/24/2023	10:09	1	4 oz HDPE Jar	MeOH/ KOH	
	D35915	WP-11	PFAS m537		4/24/2023	10:10	1	4 oz HDPE Jar	MeOH/ KOH	
	D35916	WP-12	PFAS m537		4/24/2023	10:18	1	4 oz HDPE Jar	MeOH/ KOH	
	D35917	WP-12R	PFAS m537		4/24/2023	10:18	1	4 oz HDPE Jar	MeOH/ KOH	
	D35918	WP-13	PFAS m537		4/24/2023	10:23	1	4 oz HDPE Jar	MeOH/ KOH	
	D35919	WP-14	PFAS m537		4/24/2023	10:24	1	4 oz HDPE Jar	MeOH/ KOH	
	D35920	WP-15	PFAS m537		4/24/2023	10:58	1	4 oz HDPE Jar	MeOH/ KOH	
	D35921	WP-16	PFAS m537		4/24/2023	10:46	1	4 oz HDPE Jar	MeOH/ KOH	
	D35922	WP-17	PFAS m537		4/24/2023	10:49	1	4 oz HDPE Jar	MeOH/ KOH	
	D35923	WP-18	PFAS m537		4/24/2023	10:51	1	4 oz HDPE Jar	MeOH/ KOH	

Special Instructions: Earth Toxics/Weston Solutions Case 0948F Please email results to rcarr@earthtoxics.com and bill.mahany@westonsolutions.com	SAMPLES TRANSFERRED FROM
	CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
FedEx	 Weston	4/24/2023 1730			
				4/25/23 9:10	

• NO Sample matrix in coc for all samples. Wipes 504/25/23

1.9°C

USEPA

DateShipped: 4/25/2023
 CarrierName: FedEx
 AirbillNo: 771956658593

CHAIN OF CUSTODY RECORD

Site #: S50150MA
 Contact Name: Bill Mahany
 Contact Phone: 978-621-1211

No: MA22070005-002

DAS #: 0949F
 Lab: ALS Group, USA
 Lab Phone: 616-399-6070

Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
	D35933	SS-01A	PFAS/ASTM 7968	Soil	4/24/2023	14:02	1	125 mL HDPE	4 C	
	D35934	SS-01B	PFAS/ASTM 7968	Soil	4/24/2023	14:05	1	125 mL HDPE	4 C	
	D35935	SS-02A	PFAS/ASTM 7968	Soil	4/24/2023	14:32	1	125 mL HDPE	4 C	
	D35936	SS-02B	PFAS/ASTM 7968	Soil	4/24/2023	14:45	1	125 mL HDPE	4 C	
	D35937	SS-03A	PFAS/ASTM 7968	Soil	4/24/2023	14:51	1	125 mL HDPE	4 C	
	D35938	SS-03B	PFAS/ASTM 7968	Soil	4/24/2023	14:55	1	125 mL HDPE	4 C	
	D35939	SS-04A	PFAS/ASTM 7968	Soil	4/25/2023	09:05	1	125 mL HDPE	4 C	
	D35940	SS-04B	PFAS/ASTM 7968	Soil	4/25/2023	09:15	1	125 mL HDPE	4 C	
	D35941	SS-05A	PFAS/ASTM 7968	Soil	4/25/2023	09:10	1	125 mL HDPE	4 C	
	D35942	SS-05B	PFAS/ASTM 7968	Soil	4/25/2023	09:16	1	125 mL HDPE	4 C	
	D35943	SS-06A	PFAS/ASTM 7968	Soil	4/25/2023	09:08	1	125 mL HDPE	4 C	
	D35944	SS-06B	PFAS/ASTM 7968	Soil	4/25/2023	09:15	1	125 mL HDPE	4 C	
	D35945	SS-07A	PFAS/ASTM 7968	Soil	4/25/2023	09:15	1	125 mL HDPE	4 C	
	D35946	SS-07B	PFAS/ASTM 7968	Soil	4/25/2023	09:18	1	125 mL HDPE	4 C	
	D35947	SS-08A	PFAS/ASTM 7968	Soil	4/25/2023	09:08	2	125 mL HDPE	4 C	Y
	D35948	SS-08B	PFAS/ASTM 7968	Soil	4/25/2023	09:19	2	125 mL HDPE	4 C	Y
	D35949	SS-09A	PFAS/ASTM 7968	Soil	4/25/2023	09:42	1	125 mL HDPE	4 C	
	D35950	SS-09B	PFAS/ASTM 7968	Soil	4/25/2023	09:49	1	125 mL HDPE	4 C	
	D35951	SS-10A	PFAS/ASTM 7968	Soil	4/25/2023	09:40	1	125 mL HDPE	4 C	

Special Instructions: Case 0949F/Earth Toxics/EPA START. Please email results to rcarr@earthtoxics.com and bill.mahany@westonsolutions.com	SAMPLES TRANSFERRED FROM
	CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Fed Ex	<i>Bill Mahany</i> / Weston	4/25/2023 1730			
			<i>Karolyphlane</i>	4/26/23 090	

23042217

EARTHTOXICS: Earth Toxics, Inc.
 Project:



IR3 3.9°C

USEPA

DateShipped: 4/25/2023
 CarrierName: FedEx
 AirbillNo: 771956658593

CHAIN OF CUSTODY RECORD

Site #: S50150MA
 Contact Name: Bill Mahany
 Contact Phone: 978-621-1211

No: MA22070005-002

DAS #: 0949F
 Lab: ALS Group, USA
 Lab Phone: 616-399-6070

Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
	D35952	SS-10B	PFAS/ASTM 7968	Soil	4/25/2023	09:45	1	125 mL HDPE	4 C	
	D35953	SS-11A	PFAS/ASTM 7968	Soil	4/25/2023	09:45	1	125 mL HDPE	4 C	
	D35954	SS-11B	PFAS/ASTM 7968	Soil	4/25/2023	09:50	1	125 mL HDPE	4 C	
	D35955	SS-12A	PFAS/ASTM 7968	Soil	4/25/2023	09:56	1	125 mL HDPE	4 C	
	D35956	SS-12B	PFAS/ASTM 7968	Soil	4/25/2023	10:03	1	125 mL HDPE	4 C	
	D35957	SS-13A	PFAS/ASTM 7968	Soil	4/25/2023	10:22	1	125 mL HDPE	4 C	
	D35958	SS-13B	PFAS/ASTM 7968	Soil	4/25/2023	10:28	1	125 mL HDPE	4 C	
	D35959	SS-14A	PFAS/ASTM 7968	Soil	4/25/2023	10:38	1	125 mL HDPE	4 C	
	D35960	SS-214A	PFAS/ASTM 7968	Soil	4/25/2023	10:47	1	125 mL HDPE	4 C	
	D35961	SS-15A	PFAS/ASTM 7968	Soil	4/25/2023	10:45	1	125 mL HDPE	4 C	
	D35962	SS-15B	PFAS/ASTM 7968	Soil	4/25/2023	10:50	1	125 mL HDPE	4 C	
	D35963	SS-16A	PFAS/ASTM 7968	Soil	4/25/2023	10:20	1	125 mL HDPE	4 C	
	D35964	SS-16B	PFAS/ASTM 7968	Soil	4/25/2023	10:30	1	125 mL HDPE	4 C	
	D35965	SS-116A	PFAS/ASTM 7968	Soil	4/25/2023	10:20	1	125 mL HDPE	4 C	
	D35966	SS-116B	PFAS/ASTM 7968	Soil	4/25/2023	10:30	1	125 mL HDPE	4 C	
	D35967	SS-17A	PFAS/ASTM 7968	Soil	4/25/2023	09:55	1	125 mL HDPE	4 C	
	D35968	SS-17B	PFAS/ASTM 7968	Soil	4/25/2023	10:02	1	125 mL HDPE	4 C	
	D35969	SS-18A	PFAS/ASTM 7968	Soil	4/24/2023	13:20	1	125 mL HDPE	4 C	
	D35970	SS-18B	PFAS/ASTM 7968	Soil	4/24/2023	13:30	1	125 mL HDPE	4 C	

Special Instructions: Case 0949F/Earth Toxics/EPA START.
 Please email results to rcarr@earthtoxics.com and bill.mahany@westonsolutions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
FedEx	<i>Bill Mahany</i> / Weston	4/25/2023 1730	<i>Karlyn Jablonski</i>	4/26/23 0900	IR3 3.9°C

23042217

EARTHTOXICS: Earth Toxics, Inc.
 Project: S50150MA



