



January 6, 2022

Town of Princeton Select Board
6 Town Hall Drive
Princeton, MA 01541

Subject: Status of Environmental Remediation
30 Mountain Road, Princeton, Massachusetts
CEC Project: 301-430

Dear Board Members,

Civil & Environmental, Inc. (CEC) is contacting you on behalf of our clients, Dan and Cheryl Ervin, who have been impacted by a release of per- and polyfluoroalkyl substances (PFAS) at their property located at 30 Mountain Road in Princeton, Massachusetts (the Property). As you may know, aqueous film forming foam (AFFF) was deployed during a fire at their home in May of 2017. Although this release occurred nearly 5 years ago, the soil impacts on the Property have only been assessed by the Town of Princeton (Town) this past year. Now that we have this assessment information, our clients are eager to hear what specific remedial activities will be implemented by the Town to address the impacts on their Property.

While the delineation of soil impacts at the Property is not entirely complete, an evaluation of the available data suggests that the area of soil impacts exceeding Massachusetts Contingency Plan (MCP) S-1/GW-1 soil standards is nearly an acre. The MCP S-1/GW-1 soil standards are based upon the potential for PFAS to leach into the underlying drinking water. The soils in question exhibit concentrations up to nearly 100 times the leaching-based standards. The consequences of allowing these soils to continue to leach into groundwater are obvious, as evidenced by the number of private wells already impacted by the plume of PFAS-impacted groundwater. With bedrock located just a few feet below the ground surface, it would be easy to excavate these highly impacted soils down to the top of bedrock. We understand that the cost associated with remedial actions relative to this soil are significant and we also understand that removing this source will not resolve all of the PFAS contamination issues within the Town in their entirety. However, any further delay in addressing this highly concentrated and easily excavated source area will only exacerbate the current groundwater contamination problems within the Town. Furthermore, delays in addressing this source area directly impact the Ervin's ability to use their Property.

Given the above, we request that a plan for remedial actions on the Property be prepared by the Town and shared with the Ervin's promptly. We believe that it is appropriate to conduct these initial activities as an Immediate Response Action (IRA) under the MCP. The MCP requires responsible parties, "where appropriate, [to] contain, isolate, remove or secure a release or threat

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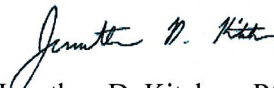
We appreciate the Town’s cooperation on this matter and look forward to the initiation of remedial actions at the Property.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Thomas L. Maher, PG
Vice President



Jonathan D. Kitchen, PG, LSP
Principal

cc: **Tim Maus, MassDEP**
Kevin Daoust, MassDEP
Barry Fogel, Esq., Keegan Werlin
Jeffrey L. Arps, LSP, Tighe & Bond

Civil & Environmental Consultants, Inc.
31 Bellows Road | Raynham, MA 02767

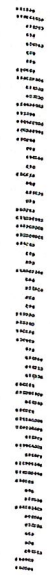


01806-251508

PROVIDENCE RI 028
10 JAN 2022 PM 3 L



Tim Maus
MassDEP Central Regional Office
8 New Bond Street
Worcester, MA 01606



Civil & Environmental Consultants, Inc.
31 Bellows Road | Raynham, MA 02767

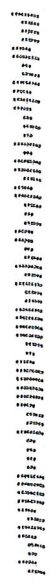


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Kevin Daoust
MassDEP Central Regional Office
8 New Bond Street
Worcester, MA 01606





TOWN OF PRINCETON

Office of the Town Administrator

6 Town Hall Drive
Princeton, MA 01541
(978) 464-2102 Phone (978) 464-2106 Fax
www.town.princeton.ma.us
townadministrator@town.princeton.ma.us

March 8, 2022

Jonathan D. Kitchen, LSP
Civil & Environmental Consultants, Inc.
31 Bellows Road
Raynham, MA 02767

Re: **30 Mountain Road, Princeton, Massachusetts**

Dear Mr. Kitchen:

The Town of Princeton Select Board has received the letter dated January 6, 2022, that you sent on behalf of Daniel and Cheryl Ervin, the owners of the property at 30 Mountain Road in Princeton. Based on a careful review of the letter with the Town's environmental consultants, the following response is presented on behalf of the Select Board.

The letter refers to the data obtained from soil sampling that was conducted on the Ervins' property in May 2021 and October 2021. The sampling in May included eight shallow soil samples, with two of those samples collected in the basement area of the former structure that burned in May 2017. The sampling in October included deeper sampling at these same eight locations, and additional sampling at ten other locations and two soil piles. As you note, some PFAS constituents were detected above the Massachusetts Contingency Plan ("MCP") S-1/GW-1 soil standards in some, but not all, of the samples.¹ All of these data were reported to the Ervins and to MassDEP.

The letter presents a "request that a plan for remedial actions on the Property be prepared by the Town and shared with the Ervins' promptly." In making this request, the letter suggests that "with bedrock located just a few feet below the ground surface, it would be easy to excavate these highly impacted soils down to the top of bedrock." The letter also asserts that "any further delay in addressing this highly concentrated and easily excavated source area will only exacerbate the current groundwater contamination problems within the Town," and that "delays in addressing

¹ MassDEP has indicated that the Method 1 standards are "generic" and that flexibility exists under the MCP to use more site-specific risk characterization approaches using Method 2 and Method 3. The leaching component of the Method 1 Soil Standards may be modified based on site-specific information, as described at 310 CMR 40.0985.

this source area directly impact the Ervin’s ability to use their Property.” The letter also states “we believe it is appropriate to conduct these initial activities as an Immediate Response Action (“IRA”) under the MCP.”

In evaluating the statements in the letter, the Town notes that the terms used in the letter reflect assumptions that may not be accurate, such as the descriptions of the soil as “highly impacted” and a “highly concentrated and easily excavated source area.” The Select Board has been advised that the determination to be made about whether any response action is required to address soil containing PFAS involves a number of important considerations that are addressed in the MCP, such as the factors acknowledged in the letter that “the cost associated with remedial actions relative to this soil are significant” and “removing this source will not resolve all of the PFAS contamination issues within the Town in their entirety.” In that regard, the letter also cites the MCP provision regarding IRAs, which states that an IRA shall be used “where appropriate” to contain, isolate, remove or secure a release in order to (1) abate, prevent or eliminate an Imminent Hazard (“IH”), and/or (2) respond to “other time-critical” release, threat of release and/or site conditions.

Prior to receiving the letter, the Town’s consultants had already been reviewing and evaluating how the standards and provisions in the MCP apply to the soil sampling data obtained from the Ervins’ property. Whenever the Town’s consultants have received analytical results of soil sampling, their first and most important concern has been to determine whether any of the soil concentrations may pose an IH, *i.e.*, a significant risk of harm if it were present for even a short period of time. The result in each instance has been that there is no IH condition in soil on the Ervins’ property. Further, as shown on the table below, a focused risk assessment for direct contact with the soil shows there is no significant risk for any person who may be present at the Ervins’ property for any foreseeable period of time.²

RISK CHARACTERIZATION SUMMARY: RESIDENTS			
Location	Total Non-Carcinogenic Hazard Index		
	Child	Youth	Adult
30 Mountain Road	0.09	0.03	0.03
Maximum Acceptable Level	1.0		

RISK CHARACTERIZATION SUMMARY: CONSTRUCTION/UTILITY WORKERS	
Location	Total Non-Carcinogenic Hazard Index
30 Mountain Road	0.07
Maximum Acceptable Level	1.0

The second question under evaluation has been whether the levels of PFAS detected in soil represent any “other time-critical condition.” For that question, the Town’s consultants have been

² With implementation of potable water mitigation through the installed POET system, the potential risk from exposure to groundwater has been eliminated.

evaluating whether any of the soil containing PFAS is acting as a *significant* source of PFAS that is exacerbating the PFAS levels being detected in the water supply wells in the affected area of Town, which uniformly are drilled into very deep bedrock fractures.

To evaluate this second issue, select soil samples were submitted for Synthetic Precipitation Leaching Procedure (“SPLP”) extraction and subsequent PFAS analysis to estimate the leachability of PFAS into groundwater from various types of soil found in the affected area in Town. The Town’s consultants are evaluating the SPLP results in the context of the overall conditions identified in soil and groundwater in the affected area of Town and will use that evaluation to determine if the presence of PFAS in soil presents a “time-critical condition” requiring implementation of an IRA. As stated in the MCP at 310 CMR 40.0414(2)(b), an IRA would not be required here if the evidence shows that the unmitigated migration of PFAS from soil, at present and for the time period that is likely to be required for the implementation and completion of Comprehensive Response Actions, is *not* likely to: (1) substantially increase the extent, area, or magnitude of environmental contamination; (2) substantially increase the degree or complexity of future remedial actions; (3) substantially increase cleanup costs; or (4) otherwise result in a substantial hazard to health, safety, public welfare or the environment.

These considerations are being evaluated currently by the Select Board and their consultants, and the information is relevant to responding further to the letter. Based on these factors, and subject to the on-going evaluation of the soil and groundwater data, the Select Board is not planning at this time to initiate remedial actions on soil at the Ervins’ property. We will provide a further response to the letter after the evaluation is completed. Thank you.

Very truly yours,



Sherry Patch
Princeton Town Administrator

cc: Princeton Select Board
Tighe & Bond

From: [Daoust, Kevin \(DEP\)](#)
To: [Jarrell, Allen](#)
Cc: [Maus, Timothy \(DEP\)](#); [Vigeant, Paul \(DEP\)](#); [Baldi, Mark \(DEP\)](#)
Subject: EPA Removal Request; 30 Mountain Road, Princeton, MA; DEP RTN 2-0021072
Date: Friday, March 18, 2022 3:35:00 PM
Attachments: [2-0021072 - Princeton - EPA Removal Request 30 Mtn Rd.pdf](#)

Good afternoon Allen,

Attached please find MassDEP's request for EPA Removal Action at 30 Mountain Road in Princeton, MA. The property was subject to a lightning strike in 2017 that caused a large fire. As a result of the fire, 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 at the property is contaminated with PFAS as well as elevated concentrations of PFAS in runoff water collected at the property through a shallow drainage pipe, which is now blocked as a measure to attempt to prevent direct discharge of the soil drainage water.

MassDEP appreciates EPA's consideration for this property for assistance. Please do not hesitate to contact me if you have any questions about the Site or this request.

Thank you and stay well!

Kevin W. Daoust
MassDEP
Section Chief
Emergency Response & Risk Reduction
Bureau of Waste Site Cleanup
(508) 767-2805 (office)
(978) 514-0818 (cell)

EPA Removal Program Request
30 Mountain Road, Princeton Massachusetts





United States Environmental Protection Agency

Region 1

5 Post Office Square – Suite 100
Boston, Massachusetts 02109-3912

Removal Action Request

Please fill out the following to the best of your ability so that EPA's Emergency Response and Planning Branch can initiate our Time Critical Removal Preliminary Assessment/Site Inspection. When possible, provide analytical, property ownership and any community relations information that will facilitate our evaluation.

EPRB management will assign an On-Scene Coordinator (OSC) once we receive your request and you or your point of contact will be contacted by an OSC within a week

NOTE: If this is a release of oil and or hazardous materials contact the National Response Center 800-424-8802. The EPA Region One Duty On-Scene Coordinator will contact you to coordinate appropriate response actions.

Site Name:

Site Lat/Long:

Site Address:

State POC/Contact Info:

Site Owner/Access Contact:

1. Priority Action Requested for EPA coordination/field deployment:

- "Urgent" requesting site evaluation 2-3 weeks
- Time Critical action within 2 months

2. Describe the site history, state actions, city/town actions to explain why the site is being referred to EPA:

3. Describe COCs/ Identify Risks & Receptors. Background site conditions (reference prior reports if applicable):

4. Sampling Data/Environmental Reports:

5. Environmental Reports (Y/N)

Yes

No

If yes, please identify and provide copies

6. Regulatory/Enforcement Investigative History:

7. Ownership/Tenant Information (this information helps to expedite access):

a. Title Information:

Deed: Book ____ Page ____ Please provide a copy of current deed, if possible

b. Ownership Information:

Current Owner include address, telephone numbers, e-mail if known::

Current Operators/Tenants include address, telephone numbers, e-mail if known:

Former Owners/Operators/Tenants: include address, telephone numbers, e-mail if known:

8. Local Contacts (community activists, local elected officials, etc):

9. Extenuating circumstances/Other issues?

Submitted by:

Date of Referral:

Signature

ATTACHMENT A

On November 4, 2019, MassDEP was notified that PFAS (per- and polyfluoroalkyl substances) 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). 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 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 are 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 include the reported use of Class B Aqueous Film-Forming Foam (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. The large fire, caused by a lightning strike, required mutual aid from as many as 18 local fire departments that provided resources to combat the fire, including inventories of AFFF from multiple fire departments. 30 Mountain Road is an owner-occupied residential encompassing approximately 10.2 acres. The property is currently owned by Daniel H. Erving and Cheryl A. Erving.

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. Soil at the 30 Mountain Road property is classified as category S-1 and the applicable MassDEP Method 1 standard for PFOS is 2 $\mu\text{g}/\text{kg}$ and 0.3 $\mu\text{g}/\text{kg}$ for PFHxS. An Imminent Hazard evaluation was conducted by the Town of Princeton LSP and the soil results did not indicate the presence of an Imminent Hazard. Soil impacts 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 was detected in the immediate vicinity of the former building where firefighting operations were focused. Synthetic Precipitation Leaching Procedure testing indicates leachate from select soil samples exceed the MassDEP GW-1 drinking water standard of 20 ng/L. Additional soil impacts exceeding Methos 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 considered GW-1.

In February 2020, a stormwater runoff sample was collected from a discharge pipe located downgradient from the 30 Mountain Road property that reportedly drained runoff from a "French drain" associated with the 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 are now collected from water flowing over the exposed bedrock face along Mountain Road near the location of the discharge pipe described above. 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") and 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

ATTACHMENT A

Zone A surface water protection area associated with the Wachusett Reservoir. PFAS6 concentrations from surface water samples collected from School House Pond (located within the Zone A) were reported at 65 ng/L. The Town is evaluating options to capture and treat any runoff from the 30 Mountain Road property. An evaluation of the drainpipe and drainage area is planned.

The town is also evaluating the feasibility of removing impacted soil from the 30 Mountain Road property. Economic feasibility will be a factor in the evaluation. The current owners of 30 Mountain Road recently issued a letter to the Town of Princeton Select Board requesting a plan for remedial actions at their property (Attached).

ATTACHMENT B

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

Soil sampling results at 30 Mountain Road exhibit concentrations of MassDEP PFAS6 in excess of RCS-1 and Synthetic Precipitation Leaching Procedure testing indicates leachate from select soil samples exceed the MassDEP GW-1 drinking water standard of 20 ng/L. A discharge pipe potentially connected to a drainage system associated with the foundation of the former building was identified downhill of the property. The discharge pipe is currently sealed in order 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 impacting private water supply wells in the area.

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).

ATTACHMENT C

Media

<https://www.wcvb.com/article/historic-property-badly-damaged-by-fire-in-princeton/9592085#>

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjxjLbL4Lb2AhWmFzQIHd86C2w4ChAWegQICRAB&url=https%3A%2F%2Fwww.masslive.com%2Fnews%2Fworchester%2F2017%2F05%2Ffire_tears_through_princeton_h.html&usg=AOvVaw3TSTsjFMejnlPEj7ht-Hp

ORTHOPHOTOGRAPH SITE PLAN

LEGEND

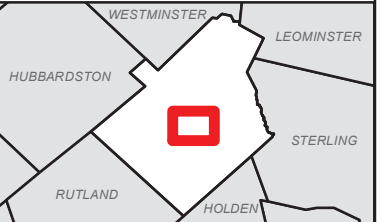
Total Regulated PFAS Concentrations
in Parts-Per-Trillion (ppt)

- Greater Than 100
- Greater Than 20 But Less Than 100
- Greater Than 2 But Less Than 20
- Non Detect (<2)
- Non-Community Transient Public Water Supply
- ⬭ 500' Radius (2021/11/30)

Affected Property Labels:

- (Point of Entry Treatment, if present)
Address
PFAS 6-Compound Total

LOCUS MAP



1:7,800

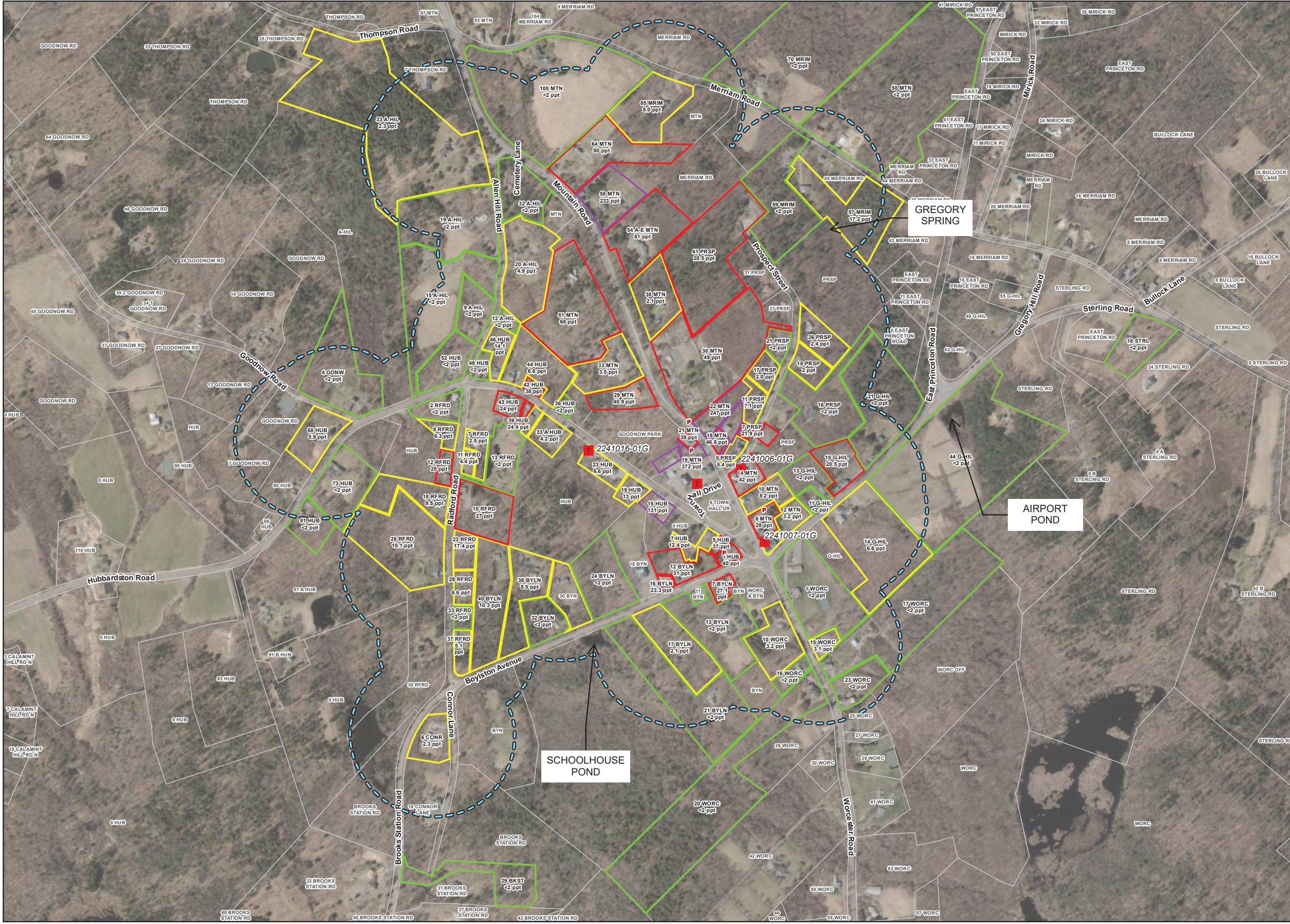
NOTES

1. Based on MassGIS Orthoimagery (2019)
2. 500' Buffer based on a 50' buffer of building structures. Well locations are assumed to be within 50' of each home.
3. Abbreviation Dictionary:

"ALLEN HILL RD": "A-HIL"
 "BOYLSTON AVE": "BYLN"
 "GREGORY HILL RD": "G-HIL"
 "HUBBARDSTON RD": "H-HUB"
 "MOUNTAIN RD": "MTN"
 "PROSPECT ST": "PRSP"
 "RADFORD RD": "RFRD"
 "WORCESTER RD": "WORC"
 "MERRIAM RD": "MRIM"
 "GOODNOW RD": "GDNW"
 "CONNOR LN": "CONR"
 "GREGORY RD": "GRGY"
 "STERLING RD": "STRL"
 "RALPH RD": "RLPH"

Princeton, Massachusetts

November 2021

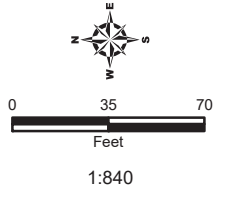
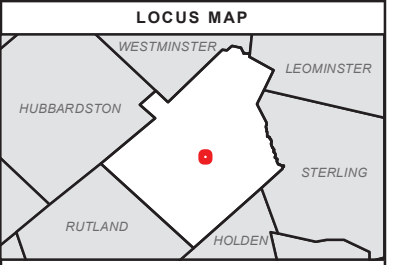




SOIL SAMPLE PLAN

LEGEND

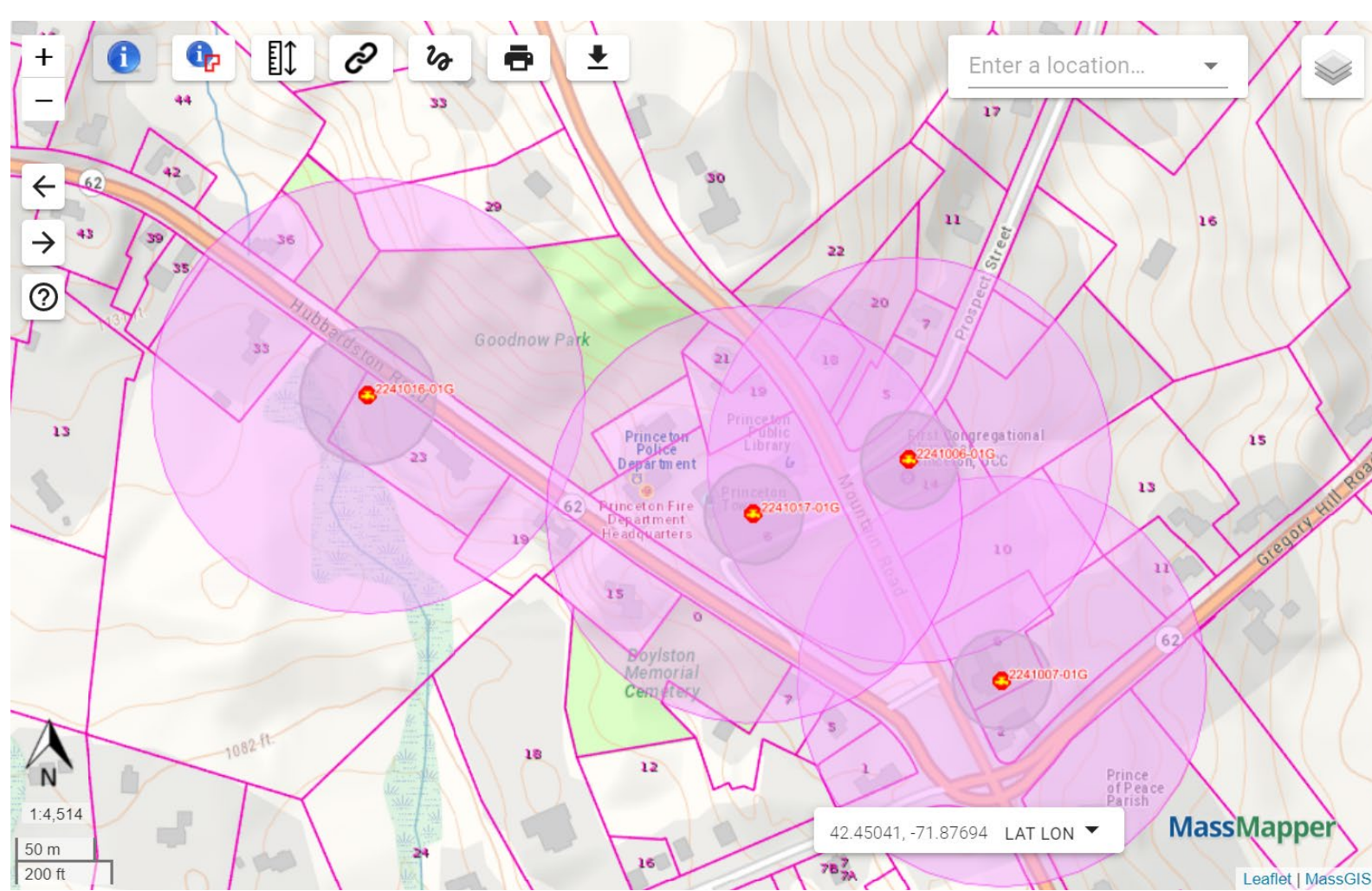
- Surface Water Sample
- Soil Boring Locations
- Non-Community Transient Public Water Supply
- Princeton Parcels



- NOTES**
1. Based on MassGIS Orthoimagery (2019)
 2. Soil Borings collected by Tighe & Bond (October 2021)
 3. Parcels by the Town of Princeton (FY2020)

Princeton, Massachusetts
December 2021





- > Interior Forest
 - > Land Use
 - > Outstanding Resource Waters
 - > Prime Forest Land
 - > Priority Natural Vegetation
 - > Communities
 - ✓ Public Water Supplies
 - ⊞ Public Water Supplies
 - > Soils
 - > Surficial Geology
 - > Topography Contours
 - > Watersheds
 - > Wind Power Density at 50m
 - > Political / Administrative Boundaries
 - > Regulated Areas
-
- [Public Water Supplies](#)
 - Community Groundwater Well
 - Non-Community Groundwater Well
 - Surface Water Intake
 - Emergency Surface Water Intake
 - Community Labels
 - Non-Community Labels
 - [Zone Is](#)
 -
 - [Zone IIs](#)
 -



January 6, 2022

Town of Princeton Select Board
6 Town Hall Drive
Princeton, MA 01541

Subject: Status of Environmental Remediation
30 Mountain Road, Princeton, Massachusetts
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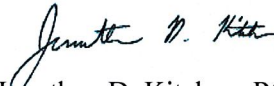
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Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Thomas L. Maher, PG
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cc: **Tim Maus, MassDEP**
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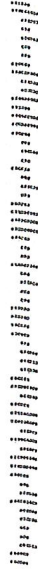


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MassDEP Central Regional Office
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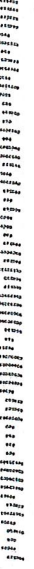


TABLE 2 - PFAS Soil Sampling Summary
Princeton, Massachusetts

Parameter	Reportable Concentrations (RCs)	MCP - Method 1 Standards	30 MOUNTAIN ROAD									
	RCS-1	S-1/GW-1	30MTN Basement-1		30MTN Basement-2		30MTN S-1	30MTN S-2		30MTN S-3		
Sampling Date			5/25/2021	10/29/2021	5/25/2021	10/29/2021	5/25/2021	5/25/2021	10/28/2021	5/25/2021	10/28/2021	10/28/2021
Sample Depth (inches)			0-6	6-8	0-6	6-12	0-6	0-6	12-Jun	0-6	6-12	12-24
SOP-466 PFAS (µg/kg dry)												
Perfluorobutanoic acid (PFBA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	0.3	ND (1.1)	0.25	0.37
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	0.092	ND (1.1)	ND (0.52)	0.16
Perfluoropentanoic acid (PFPeA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	0.3	ND (1.1)	0.27	0.57
Perfluorohexanoic acid (PFHxA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	0.63	ND (1.1)	1.2	1.6
11CI-PF3OUDs (F53B Minor)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
9CI-PF3ONS (F53B Major)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (2.5)	ND (0.48)	ND (2.1)	ND (0.77)	ND (2.0)	ND (0.48)	ND (2.3)	ND (0.48)	ND (0.52)	ND (0.53)
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Perfluorododecanoic acid (PFDoA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	0.34	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Perfluoroheptanesulfonic acid (PFHpS)	~	~	1.7	1.3	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	1.1	ND (1.1)	0.71	2
N-EtFOSAA	~	~	ND (1.2)	ND (0.48)	ND (1.1)	0.33	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
N-MeFOSAA	~	~	ND (1.2)	ND (0.48)	ND (1.1)	0.85	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Perfluorotetradecanoic acid (PFTA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	0.17	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Perfluorotridecanoic acid (PFTDA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	0.8	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Perfluorooctanesulfonamide (FOSA)	~	~	ND (1.2)	0.13	ND (1.1)	2.2	ND (0.99)	ND (1.1)	0.14	ND (1.1)	ND (0.52)	ND (0.53)
Perfluoronanesulfonic acid (PFNS)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	1.1	ND (1.1)	ND (0.52)	ND (0.53)
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	3.2	6.1	2.1	0.27	ND (0.99)	1.9	1.4	ND (1.1)	0.54	0.98
Perfluoro-1-butananesulfonamide (FBSA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	0.19	0.6
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (1.2)	0.53	ND (1.1)	0.19	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (1.2)	0.073	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	0.13	ND (1.1)	0.13	0.2
Perfluoroundecanoic acid (PFUnA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	ND (0.48)	ND (1.1)	ND (0.52)	ND (0.53)
Perfluoroheptanoic acid (PFHpA)	0.5	0.5	ND (1.2)	ND (0.48)	ND (1.1)	ND (0.77) *	ND (0.99)	ND (1.1)	0.15	ND (1.1)	0.52	0.56
Perfluorooctanoic acid (PFOA)	0.72	0.72	2.9	0.97	ND (1.1)	ND (0.77) *	ND (0.99)	1.4	0.72	ND (1.1)	1.3	2.1
Perfluorooctanesulfonic acid (PFOS)	2	2	120	170	59	13	1.1	100	130	27	9.2	24
Perfluorononanoic acid (PFNA)	0.32	0.32	ND (1.2)	0.08	ND (1.1)	ND (0.77) *	ND (0.99)	ND (1.1)	ND (0.48) *	ND (1.1)	ND (0.52) *	0.11
Perfluorodecanoic acid (PFDA)	0.3	0.3	ND (1.2)	ND (0.48) *	ND (1.1)	ND (0.77) *	ND (0.99)	ND (1.1)	ND (0.48) *	ND (1.1)	ND (0.52) *	ND (0.53) *
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.3	4.5	2.9	1.6	0.41	ND (0.99)	5.2	4.8	5.6	5.5	9.5
Total (All Compounds)			132.3	182.1	62.7	18.6	1.1	108.5	140.9	32.6	19.8	42.8
Regulated Total			127.4	174.0	60.6	13.4	1.1	106.6	135.7	32.6	16.5	36.3

NOTES:
 Gray colored cells indicate those compounds that are regulated by MassDEP
 ND = Not detected above the lab reporting limits shown in parentheses.
 ~ indicates that no current standard or RC for those compounds
 Bolded values exceed Method 1 Standard/RCS-1 Value
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit is:

TABLE 2 - PFAS Soil Sampling Summary
Princeton, Massachusetts

Parameter	Reportable Concentrations (RCs)	MCP - Method 1 Standards	30 MOUNTAIN ROAD									
	RCS-1	S-1/GW-1	30MTN S-4			30MTN S-5			30MTN S-6	30MTN S-6A	30MTN S-7	30MTN S-8
Sampling Date			5/25/2021	5/25/2021	10/28/2021	5/25/2021	10/28/2021	10/28/2021	5/25/2021	10/29/2021	10/28/2021	10/28/2021
Sample Depth (inches)			0-6	0-6 (DUP)	6-12	0-6	6-12	12-24	0-6	0-12	0-12	0-12
SOP-466 PFAS (µg/kg dry)												
Perfluorobutanoic acid (PFBA)	~	~	ND (1.0)	ND (1.1)	0.22	ND (0.92)	0.25	ND (0.53)	ND (0.97)	1.2	0.33	ND (0.44)
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (1.0)	ND (1.1)	0.13	ND (0.92)	ND (0.50)	0.79	ND (0.97)	0.12	ND (0.49)	ND (0.44)
Perfluoropentanoic acid (PFPeA)	~	~	ND (1.0)	ND (1.1)	0.22	ND (0.92)	0.20	ND (0.53)	ND (0.97)	2.1	0.21	ND (0.44)
Perfluorohexanoic acid (PFHxA)	~	~	ND (1.0)	ND (1.1)	0.6	ND (0.92)	0.52	0.11	ND (0.97)	3.0	0.3	ND (0.44)
11CI-PF3OJdS (F53B Minor)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
9CI-PF3ONS (F53B Major)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (2.0)	ND (2.1)	ND (0.60)	ND (1.8)	ND (0.50)	ND (0.53)	ND (1.9)	ND (0.64)	ND (0.49)	ND (0.44)
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluorododecanoic acid (PFDoA)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluorooctanesulfonic acid (PFHpS)	~	~	ND (1.0)	ND (1.1)	0.76	ND (0.92)	0.26	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
N-EtFOSAA	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
N-MeFOSAA	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluorotetradecanoic acid (PFTA)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluorotridecanoic acid (PFTDA)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluorooctanesulfonamide (FOSA)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluorononanesulfonic acid (PFNS)	~	~	ND (1.0)	ND (1.1)	0.38	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (1.0)	ND (1.1)	0.99	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	0.14
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (1.0)	ND (1.1)	0.13	ND (0.92)	ND (0.50)	0.58	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluoroundecanoic acid (PFUnA)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	~	~	ND (1.0)	ND (1.1)	ND (0.60)	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)
Perfluoroheptanoic acid (PFHpA)	0.5	0.5	ND (1.0)	ND (1.1)	0.21	ND (0.92)	0.28	0.085	ND (0.97)	0.36	0.28	ND (0.44)
Perfluorooctanoic acid (PFOA)	0.72	0.72	ND (1.0)	ND (1.1)	0.68	ND (0.92)	0.85	0.35	ND (0.97)	1.2	0.92	0.61
Perfluorooctanesulfonic acid (PFOS)	2	2	9.8	11	72	3.5	11	2	ND (0.97)	1.0	2.8	6.1
Perfluorononanoic acid (PFNA)	0.32	0.32	ND (1.0)	ND (1.1)	0.13	ND (0.92)	0.33	ND (0.53) *	ND (0.97)	0.22	0.14	ND (0.44) *
Perfluorodecanoic acid (PFDA)	0.3	0.3	ND (1.0)	ND (1.1)	ND (0.60) *	ND (0.92)	ND (0.50) *	ND (0.53) *	ND (0.97)	0.12	ND (0.49) *	ND (0.44) *
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.3	1.6	2.1	6.7	ND (0.92)	1	1.8	ND (0.97)	0.15	1.2	0.8
Total (All Compounds)			11.4	13.1	83.2	3.5	14.7	5.7	ND (0.97)	9.5	6.2	7.2
Regulated Total			11.4	13.1	79.7	3.5	13.5	4.2	ND (0.97)	3.1	5.3	7.0

NOTES:
 Gray colored cells indicate those compounds that are regulated by MassDEP
 ND = Not detected above the lab reporting limits shown in parentheses.
 ~ indicates that no current standard or RC for those compounds
 Bolded values exceed Method 1 Standard/RCS-1 Value
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit is:

TABLE 2 - PFAS Soil Sampling Summary
Princeton, Massachusetts

Parameter	Reportable Concentrations (RCs)	MCP - Method 1 Standards	30 MOUNTAIN ROAD									
	RCS-1	S-1/GW-1	30MTN S-9	30MTN S-10	30MTN S-11		30MTN S-12		30MTN S-13		30MTN S-14	
Sampling Date			10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021
Sample Depth (inches)			0-12	0-12	0-12	24-36	0-12	12-24	0-12	12-24	0-12	12-24
SOP-466 PFAS (µg/kg dry)												
Perfluorobutanoic acid (PFBA)	~	~	0.18	0.46	0.2	ND (0.41)	ND (0.52)	0.11	0.17	0.078	0.4	0.11
Perfluorobutanesulfonic acid (PFBS)	~	~	0.18	0.12	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	0.1	ND (0.51)	0.1
Perfluoropentanoic acid (PFPeA)	~	~	0.17	0.39	0.093	ND (0.41)	ND (0.52)	ND (0.54)	0.1	0.092	0.48	0.16
Perfluorohexanoic acid (PFHxA)	~	~	0.9	0.9	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	0.1	0.3	0.6	0.8
11CI-PF3OJdS (F53B Minor)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
9CI-PF3ONS (F53B Major)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluorododecanoic acid (PFDoA)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	0.22	ND (0.54)	ND (0.55)	ND (0.52)	0.13	ND (0.50)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluoroheptanesulfonic acid (PFHpS)	~	~	0.82	1.9	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
N-EtFOSAA	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
N-MeFOSAA	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.52)	0.2	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluoronanesulfonic acid (PFNS)	~	~	0.14	1.3	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	0.9	2	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluoro-1-butanefulfonamide (FBSA)	~	~	0.2	0.31	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	0.14	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluoropentanesulfonic acid (PFPeS)	~	~	0.24	0.17	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	0.092	ND (0.51)	ND (0.50)
Perfluoroundecanoic acid (PFUnA)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	0.43	ND (0.54)	0.12	ND (0.52)	0.12	ND (0.50)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)
Perfluoroheptanoic acid (PFHpA)	0.5	0.5	0.4	0.26	0.099	ND (0.41)	0.084	0.11	0.11	0.14	0.11	0.18
Perfluorooctanoic acid (PFOA)	0.72	0.72	0.93	1.1	0.39	ND (0.41)	0.37	0.69	0.48	0.70	0.46	0.58
Perfluorooctanesulfonic acid (PFOS)	2	2	26.0	110	1	ND (0.41)	6.9	2.3	2.4	2.7	0.8	1.6
Perfluorononanoic acid (PFNA)	0.32	0.32	0.095	0.098	0.22	ND (0.41) *	0.32	0.32	0.32	ND (0.52) *	0.22	0.27
Perfluorodecanoic acid (PFDA)	0.3	0.3	ND (0.52) *	ND (0.56) *	ND (0.51) *	ND (0.41) *	0.66	0.11	0.17	ND (0.52) *	0.27	0.09
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.3	11	7.7	ND (0.51) *	ND (0.41) *	ND (0.52) *	ND (0.54) *	0.33	0.96	ND (0.51) *	ND (0.50) *
Total (All Compounds)			42.2	126.9	2.1	0.1	9.0	3.6	4.3	5.1	3.6	3.9
Regulated Total			38.4	119.2	1.8	ND (0.41)	8.3	3.5	3.8	4.5	1.9	2.7

NOTES:
 Gray colored cells indicate those compounds that are regulated by MassDEP
 ND = Not detected above the lab reporting limits shown in parentheses.
 ~ indicates that no current standard or RC for those compounds
 Bolded values exceed Method 1 Standard/RCS-1 Value
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit is:

TABLE 2 - PFAS Soil Sampling Summary
Princeton, Massachusetts

Parameter	Reportable Concentrations (RCs)	MCP - Method 1 Standards	30 MOUNTAIN ROAD					
	RCS-1	S-1/GW-1	30MTN S-15		30MTN S-16	Soil Pile-1	Soil Pile-2	Mountain Rd Runoff Area
Sampling Date			10/28/2021	10/28/2021	10/28/2021	10/29/2021	10/29/2021	10/29/2021
Sample Depth (inches)						Composite	Composite	0-8
SOP-466 PFAS (µg/kg dry)								
Perfluorobutanoic acid (PFBA)	~	~	0.3	0.11	0.14	ND (0.47)	0.12	ND (0.74)
Perfluorobutanesulfonic acid (PFBS)	~	~	0.11	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluoropentanoic acid (PFPeA)	~	~	0.69	0.28	0.11	ND (0.47)	0.1	0.15
Perfluorohexanoic acid (PFHxA)	~	~	0.5	0.5	0.15	ND (0.47)	ND (0.52)	0.17
11CI-PF3OUdS (F53B Minor)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
9CI-PF3ONS (F53B Major)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluorododecanoic acid (PFDoA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.87
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.41
N-EtFOSAA	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
N-MeFOSAA	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.22
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.19
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.17
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	1.4
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.96
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.97
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	2
Perfluoro-1-butananesulfonamide (FBSA)	~	~	0.18	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.25
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.12
Perfluoroundecanoic acid (PFUnA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.77
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluoroheptanoic acid (PFHpA)	0.5	0.5	0.1	0.091	0.17	ND (0.47)	ND (0.52) *	ND (0.74) *
Perfluorooctanoic acid (PFOA)	0.72	0.72	0.63	0.55	0.76	ND (0.47)	0.46	0.92
Perfluorooctanesulfonic acid (PFOS)	2	2	2.1	1.1	0.9	1.1	5.7	76
Perfluorononanoic acid (PFNA)	0.32	0.32	0.23	0.14	0.13	ND (0.47) *	0.22	0.18
Perfluorodecanoic acid (PFDA)	0.3	0.3	0.16	ND (0.44) *	ND (0.60) *	ND (0.47) *	0.17	0.69
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.3	ND (0.51) *	ND (0.44) *	0.17	ND (0.47) *	0.16	3.4
Total (All Compounds)			5.0	2.7	2.5	1.1	6.9	89.8
Regulated Total			3.2	1.9	2.1	1.1	6.7	81.2

NOTES:
 Gray colored cells indicate those compounds that are regulated by MassDEP
 ND = Not detected above the lab reporting limits shown in parentheses.
 ~ indicates that no current standard or RC for those compounds
 Bolded values exceed Method 1 Standard/RCS-1 Value
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit is:

TABLE 2 - PFAS Soil Sampling Summary
Princeton, Massachusetts

Parameter	Reportable Concentrations (RCs)	MCP - Method 1 Standards	22 MOUNTAIN ROAD									
	RCS-1	S-1/GW-1	22MTN S-1				22MTN S-2	22MTN S-3			22MTN S-4	
Sampling Date			7/29/2021	7/29/2021	10/27/2021	10/27/2021	7/29/2021	7/29/2021	10/27/2021	7/29/2021	10/27/2021	10/27/2021
Sample Depth (inches)			0-6	0-6 DUP	6-12	12-24	0-6	0-6	6-12	0-6	6-12	12-18
SOP-466 PFAS (µg/kg dry)												
Perfluorobutanoic acid (PFBA)	~	~	0.91	0.72	0.25	0.21	0.6	0.58	0.23	0.48	0.18	ND (0.55)
Perfluorobutanesulfonic acid (PFBS)	~	~	0.4	0.27	ND (0.51)	ND (0.52)	0.6	0.25	0.11	0.086	ND (0.57)	ND (0.55)
Perfluoropentanoic acid (PFPeA)	~	~	0.97	0.71	0.22	0.13	0.38	0.24	0.13	0.29	ND (0.57)	ND (0.55)
Perfluorohexanoic acid (PFHxA)	~	~	3.4	2.3	0.48	0.27	0.48	ND (0.64)	0.15	0.35	ND (0.57)	ND (0.55)
11CI-PF3OJdS (F53B Minor)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
9CI-PF3ONS (F53B Major)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluorododecanoic acid (PFDoA)	~	~	0.09	ND (0.56)	ND (0.51)	ND (0.52)	0.12	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluoroheptanesulfonic acid (PFHpS)	~	~	1.3	0.9	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
N-EtFOSAA	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
N-MeFOSAA	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluoronanesulfonic acid (PFNS)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	0.76	0.6	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluoro-1-butanefulfonamide (FBSA)	~	~	0.24	0.18	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.53)	ND (0.56)	0.72	0.32	ND (0.57)	ND (0.64)	0.28	ND (0.55)	ND (0.57)	ND (0.55)
Perfluoropentanesulfonic acid (PFPeS)	~	~	0.45	0.3	ND (0.51)	ND (0.52)	0.62	0.24	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluoroundecanoic acid (PFUnA)	~	~	0.15	0.17	ND (0.51)	ND (0.52)	0.27	0.3	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.53)	ND (0.56)	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)
Perfluoroheptanoic acid (PFHpA)	0.5	0.5	0.65	0.48	0.21	0.13	0.38	0.31	0.15	0.3	0.088	ND (0.55) *
Perfluorooctanoic acid (PFOA)	0.72	0.72	1.4	0.91	0.45	0.34	1.7	0.71	0.71	1.1	0.36	0.17
Perfluorooctanesulfonic acid (PFOS)	2	2	17	13	4	4.3	3.1	1.7	0.71	0.88	0.54	0.33
Perfluorononanoic acid (PFNA)	0.32	0.32	ND (0.53) *	0.098	ND (0.51) *	0.11	0.68	0.49	0.14	0.19	0.18	0.13
Perfluorodecanoic acid (PFDA)	0.3	0.3	0.16	0.14	ND (0.51) *	ND (0.52) *	0.31	0.26	ND (0.68) *	ND (0.55) *	ND (0.57) *	ND (0.55) *
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.3	14	8.9	2.8	1.3	3.3	1	0.33	0.22	ND (0.57) *	0.13
Total (All Compounds)			41.9	29.7	9.1	7.1	12.5	6.1	2.9	3.9	1.3	0.8
Regulated Total			33.2	23.5	7.5	6.2	9.5	4.5	2.0	2.7	1.2	0.8

NOTES:
 Gray colored cells indicate those compounds that are regulated by MassDEP
 ND = Not detected above the lab reporting limits shown in parentheses.
 ~ indicates that no current standard or RC for those compounds
 Bolded values exceed Method 1 Standard/RCS-1 Value
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit exceeds one or more of the regulatory criteria.

TABLE 2 - PFAS Soil Sampling Summary
Princeton, Massachusetts

Parameter	Reportable Concentrations (RCs)		22 MOUNTAIN ROAD									
	RCS-1	MCP - Method 1 Standards S-1/GW-1	22MTN S-5			22MTN S-6		22MTN S-7		22MTN S-8		
			7/29/2021 0-6	10/27/2021 6-12	10/27/2021 12-18	7/29/2021 0-6	10/27/2021 6-12	7/29/2021 0-6	10/27/2021 6-12	7/29/2021 0-6	10/27/2021 6/12	10/27/2021 12-18
Sampling Date			7/29/2021	10/27/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021	10/27/2021	10/27/2021
Sample Depth (inches)			0-6	6-12	12-18	0-6	6-12	0-6	6-12	0-6	6/12	12-18
SOP-466 PFAS (µg/kg dry)												
Perfluorobutanoic acid (PFBA)	~	~	0.48	ND (0.39)	ND (0.40)	1.3	ND (0.44)	1.3	ND (0.58)	0.59	ND (0.50)	ND (0.51)
Perfluorobutanesulfonic acid (PFBS)	~	~	0.22	ND (0.39)	ND (0.40)	0.66	ND (0.44)	ND (0.62)	0.25	ND (0.49)	ND (0.50)	ND (0.51)
Perfluoropentanoic acid (PFPeA)	~	~	0.2	ND (0.39)	ND (0.40)	0.79	ND (0.44)	0.48	ND (0.58)	0.23	ND (0.50)	ND (0.51)
Perfluorohexanoic acid (PFHxA)	~	~	0.23	ND (0.39)	ND (0.40)	0.85	ND (0.44)	0.43	ND (0.58)	0.26	ND (0.50)	ND (0.51)
11CI-PF3OJdS (F53B Minor)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
9CI-PF3ONS (F53B Major)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluorododecanoic acid (PFDoA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
N-EtFOSAA	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
N-MeFOSAA	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluoronanesulfonic acid (PFNS)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	0.26	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.50)	0.18	0.16	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	0.20	ND (0.51)
Perfluoropentanesulfonic acid (PFPeS)	~	~	0.15	ND (0.39)	ND (0.40)	0.82	ND (0.44)	ND (0.62)	0.18	ND (0.49)	ND (0.50)	ND (0.51)
Perfluoroundecanoic acid (PFUnA)	~	~	0.094	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	0.19	ND (0.49)	ND (0.50)	ND (0.51)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.50)	ND (0.39)	ND (0.40)	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)
Perfluoroheptanoic acid (PFHpA)	0.5	0.5	0.32	ND (0.39)	ND (0.40)	0.92	0.066	0.62	0.17	0.25	ND (0.50)	ND (0.51) *
Perfluorooctanoic acid (PFOA)	0.72	0.72	1.5	ND (0.39)	ND (0.40)	3.5	0.22	2.6	0.57	0.69	ND (0.50)	0.25
Perfluorooctanesulfonic acid (PFOS)	2	2	1.7	0.12	ND (0.40)	2.6	0.37	1.7	2.1	1.4	ND (0.50)	0.26
Perfluorononanoic acid (PFNA)	0.32	0.32	0.57	ND (0.39) *	ND (0.40) *	0.8	ND (0.44) *	1.1	0.45	0.46	ND (0.50) *	ND (0.51) *
Perfluorodecanoic acid (PFDA)	0.3	0.3	0.15	ND (0.39) *	ND (0.40) *	0.15	ND (0.44) *	0.19	0.23	0.17	ND (0.50) *	ND (0.51) *
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.3	0.63	0.17	0.35	5	0.21	ND (0.62) *	0.33	ND (0.49) *	ND (0.50) *	0.095
Total (All Compounds)			6.2	0.5	0.5	17.7	0.9	8.4	4.5	4.1	0.2	0.6
Regulated Total			4.9	0.3	0.4	13.0	0.9	6.2	3.9	3.0	ND (0.50)	0.6

NOTES:
 Gray colored cells indicate those compounds that are regulated by MassDEP
 ND = Not detected above the lab reporting limits shown in parentheses.
 ~ indicates that no current standard or RC for those compounds
 Bolded values exceed Method 1 Standard/RCS-1 Value
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit is:

TABLE 2 - PFAS Soil Sampling Summary
Princeton, Massachusetts

Parameter	Reportable Concentrations (RCs)	MCP - Method 1 Standards	22 MOUNTAIN ROAD							
	RCS-1	S-1/GW-1	22MTN S-9	22MTN S-10	22MTN S-11	22MTN S-12	22MTN S-13		22MTN Basement-1	22MTN Basement-2
Sampling Date			7/29/2021	10/27/2021	10/27/2021	10/27/2021	10/27/2021	10/27/2021	10/29/2021	10/29/2021
Sample Depth (inches)			0-6	0-6	0-12	0-12	0-12	12-24	0-6	0-6
SOP-466 PFAS (µg/kg dry)										
Perfluorobutanoic acid (PFBA)	~	~	0.67	0.62	0.36	1.4	0.08	0.09	0.087	0.38
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.49)	0.12	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	0.12
Perfluoropentanoic acid (PFPeA)	~	~	0.13	0.30	0.17	0.50	0.09	ND (0.48)	ND (0.43)	0.29
Perfluorohexanoic acid (PFHxA)	~	~	0.17	0.29	0.17	0.43	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
11CI-PF3OJDs (F53B Minor)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
9CI-PF3ONS (F53B Major)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluorododecanoic acid (PFDoA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	0.13	0.11	ND (0.48)	ND (0.43)	0.12
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
N-EtFOSAA	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	0.29	ND (0.48)	ND (0.43)	ND (0.77)
N-MeFOSAA	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluorotridecanoic acid (PFTrDA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluorodecanesulfonic acid (PFDS)	~	~	0.35	ND (0.68)	ND (0.57)	ND (0.77)	0.13	ND (0.48)	ND (0.43)	ND (0.77)
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	0.25	0.45	ND (0.48)	ND (0.43)	ND (0.77)
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluoroundecanoic acid (PFUnA)	~	~	0.12	ND (0.68)	ND (0.57)	0.22	0.18	ND (0.48)	ND (0.43)	ND (0.77)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.43)	ND (0.77)
Perfluoroheptanoic acid (PFHpA)	0.5	0.5	0.21	0.29	0.25	0.66	0.13	0.1	ND (0.43)	ND (0.77) *
Perfluorooctanoic acid (PFOA)	0.72	0.72	0.43	0.86	0.91	1.4	0.58	0.64	ND (0.43)	0.6
Perfluorooctanesulfonic acid (PFOS)	2	2	2.0	1.1	1.0	1.7	3.9	0.53	0.4	0.65
Perfluorononanoic acid (PFNA)	0.32	0.32	0.53	0.2	0.25	0.46	0.15	ND (0.48) *	ND (0.43) *	ND (0.77) *
Perfluorodecanoic acid (PFDA)	0.3	0.3	ND (0.49) *	ND (0.68) *	0.11	0.25	0.21	ND (0.48) *	0.09	ND (0.77) *
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.3	ND (0.49) *	0.11	0.16	0.16	ND (0.53) *	0.09	ND (0.43) *	0.13
Total (All Compounds)			4.6	3.9	3.4	7.6	6.3	1.4	0.6	2.3
Regulated Total			3.2	2.6	2.7	4.6	5.0	1.4	0.5	1.4

NOTES:
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 ~ indicates that no current standard or RC for those compounds
 Bolded values exceed Method 1 Standard/RCS-1 Value
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit is:



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