

Town of Princeton
6 Town Hall Drive
Princeton, Massachusetts
RTN 2-21072

Phase II Comprehensive Site Assessment

Town of Princeton
November 2023

Tighe & Bond

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Section 1

Introduction

Tighe & Bond has prepared this Phase II Comprehensive Site Assessment (CSA) for Release Tracking Number (RTN) 2-21072 on behalf of the Town of Princeton in response to the detection of per- and polyfluoroalkyl substances (collectively known as "PFAS") in the drinking water well that serves the Princeton Town Hall Campus (THC) at 6 Town Hall Drive in Princeton and the subsequent detection of PFAS in water supply wells and other media in the surrounding area ("the Site").

This Phase II CSA was prepared in accordance with the Massachusetts Contingency Plan (MCP) at 310 CMR 40.0835. For reference, a Site Location Map (Figure 1), Priority Resource Map (Figure 2), and Aerial Site Plan showing the current disposal site boundary (Figure 3) are included in Appendix A.

1.1 Site Background

In May 2019, the Town and MassDEP entered into Administrative Consent Order ACO-CE-19-5D00006872 ("ACO") to address the Town's obligations for the Public Water Supply ("PWS") being operated at the Town Hall Campus. In accordance with Section 8(C)(vii) of the ACO, drinking water samples from the PWS well were collected by the Town's PWS operator on September 5, 2019, and September 27, 2019. These sample results identified total regulated PFAS concentrations of 127 and 102 parts per trillion (ppt or nanograms/liter (ng/L)), respectively. At that time, MassDEP's drinking water guideline for PFOS and PFOA was 70 ppt, but a Maximum Contaminant Level (MCL) for PFAS in drinking water was proposed to be a combined total of 20 ppt for six specific PFAS compounds, collectively referred to as "PFAS6."

The PWS sampling results were reported by the Town's PWS operator to MassDEP's Division of Water Supply, which reportedly informed MassDEP's Bureau of Waste Site Cleanup (BWSC) staff of the results. On November 4, 2019, MassDEP's BWSC staff contacted Jeffrey Arps of Tighe & Bond, by telephone, as the LSP of Record for RTN 2-11327 (a historical fuel oil release at the THC), to indicate that the Department believed action needed to be taken by the Town to address the results under the Massachusetts Contingency Plan (MCP). On November 4, 2019, on behalf of the Town of Princeton, Tighe & Bond made a formal verbal notification to MassDEP BWSC of these drinking water sample results as a 2-hour reporting condition.

On November 4, 2019, MassDEP assigned RTN 2-21072 to the notification, but in doing so MassDEP modified the release to a 72-hour Substantial Release Migration (SRM) condition under 310 CMR 40.0313(4)(d). This change was made because the MCP, at 310 CMR 40.0317(11), states that releases of oil and/or hazardous material in groundwater detected by sampling conducted by PWS owners or operators under 310 CMR 22.00: Massachusetts Drinking Water Regulations, as indicated by the presence of oil and/or hazardous material in a public water supply source, are exempt from the notification requirements in the MCP.

Under the MCP, the requirement to provide notification for an SRM condition is triggered when a release to groundwater is detected in a PWS well, where that condition is associated with a release for which notification otherwise is or has at any time in the past

been required under the MCP. Although the presence of PFAS in the PWS well at the THC was not identified as a condition associated with a release for which notification had at any time in the past been required under the MCP, the NOR sent to the Town by MassDEP apparently was based on an assumption that a release of PFAS had occurred at the THC, and states: "The detection of PFAS in the public drinking water supply well from a release at the Site constitutes a condition of SRM."

Despite the absence of information indicating that a release of PFAS had occurred at the THC, since November 2019, Tighe & Bond has been performing Immediate Response Action (IRA) and comprehensive assessment activities on behalf of the Town of Princeton, consisting of private well sampling, the installation and monitoring of point-of-entry treatment systems (POETs), sampling of existing groundwater monitoring wells, installation of additional monitoring wells, soil sampling, and surface water sampling for PFAS analysis. As part of these activities, it was determined that AFFF had been used during the course of firefighting efforts in May 2017 in response to a major structural house fire at the 30 Mountain Road property upgradient of the THC. A treatment system has been installed to remove elevated PFAS concentrations from surface water runoff emanating from the 30 Mountain Road property as a measure to reduce that secondary source of PFAS concentrations from infiltrating the subsurface and entering the bedrock groundwater, which is the source of drinking water in Princeton, which does not have a municipal water or sewer system; all homes are served by private wells.

1.2 Updated Release History and Response Actions

A detailed release history was provided in the Phase I Initial Site Investigation for RTN 2-21072, which was dated November 5, 2020. Response actions are ongoing and in accordance with the Immediate Response Action (IRA) Plan submitted on January 3, 2020, and the various IRA Modifications submitted and approved thereafter. The following is list of submittals for RTN 2-21072:

January 3, 2020 – Immediate Response Action Plan

March 3, 2020 – IRA Status Report No. 1 and IRA Plan Modification No. 1

Requested Modifications:

1. A reduction in the sampling of POET systems during the first month of operation from days 3, 6, and 1 month to once per month, as long as bottled water continues to be supplied until it is proven through laboratory analysis that the system is operating effectively;
2. Discontinuation of bottled water at houses where POET systems have been proven effective;
3. A reduction in how often field blank samples are analyzed.

August 18, 2020 – IRA Plan Modification No. 2

Requested Modification: Reduction in POET system monitoring frequency.

September 10, 2020 – IRA Status Report No. 2 and Imminent Hazard Evaluation

November 5, 2020 – Phase I Initial Site Investigation

December 15, 2020 – IRA Plan Modification No. 3

Modification: Elimination of monthly status reports

March 10, 2021 – IRA Status Report No. 3

June 4, 2021 – Quarterly Status Report and IRA Modification No. 4

Modifications:

1. All potable well locations with PFAS6 concentrations below 20 ng/L will be sampled on a semi-annual basis (April and October).
2. Reduction in POET sampling of locations with a PFAS6 concentration greater than 100 ng/L to semi-annually until breakthrough is observed on the primary carbon vessel.
3. Reduction in POET sampling of locations with a PFAS6 concentration between 20 ng/L and 100 ng/L to annually until January 2023 at which point, they will be sampled semi-annually until breakthrough is observed on the primary carbon vessel.
4. Proposed that new POET systems be sampled within the first month of installation to demonstrate effectiveness and then sampled annually thereafter. (This modification was conditionally approved, with the condition that after one year of operation, POET system midfluent and effluent shall be sampled semiannually, and after two years, quarterly until the carbon is changed).

September 7, 2021 – IRA Status Report No. 4

December 13, 2021 – Quarterly Status Report

March 8, 2022 – IRA Status Report No. 5

May 31, 2022 – IRA Modification No. 5

Modifications:

1. Discontinue runoff sampling at 41 Prospect Street
2. Elimination of quarterly status reports

September 8, 2022 – IRA Status Report No. 6

March 7, 2023 – IRA Status Report No. 7

August 17, 2023 – Notification of Substantial Release Migration

Notification: PFAS in surface water linked to groundwater recharge

September 11, 2023 – IRA Status Report No. 8

The current IRA includes the monitoring of 32 two-vessel POETs installed at homes with PFAS6 concentrations greater than 20 ppt, and another 40 homes with a single-vessel POET where PFAS6 concentrations are less than 20 ppt.

1.3 Site Hydrogeological Characteristics

This section describes the regional and local hydrogeological characteristics of the site. The information was researched through a review of published mapping and investigations performed at the site.

In general, soils observed at all of the properties where soil samples were collected, consist of organic material and loam from the surface to 12 to 18 inches below surface grade (bsg), beyond which soils are comprised of fine silt and sand with some areas containing coarser sand and gravel. Bedrock was encountered at most boring locations as observed by rock fragments in the tip of the sample probe. At 30 Mountain Road, bedrock was encountered at all boring locations as shallow as 12 inches bsg. The deepest borings were 30MTN S-5 and 30MTN S-13 at 36 inches BSG. At 22 Mountain Road, bedrock ranges from 12 inches bsg to 60 inches bsg. Refusal depths at 54 Mountain Road ranged from 6 inches bsg to 48 inches bsg. Bedrock in the area of the Library samples was encountered at approximately 6 inches bsg at both sample locations. This shallow bedrock results in limited occurrences of overburden groundwater.

1.3.1 Topography and Drainage

The maximum elevation of the THC property is approximately 1,190 feet above MSL at its northeastern corner near Mountain Road. The maximum elevation within the disposal site is 1,315 feet above MSL at 33 Allen Hill Road. The majority of the disposal site is located on a hillside and slopes downward to the south, with southerly portions of the Site sloped steeply to the south. The Site is located on the Wachusett, Massachusetts 7.5-minute series topographic quadrangle map published by the USGS, as shown on Figure 1.

Drainage within the disposal site is overland with some stormwater catchment on Hubbardston Road and lower Mountain Road. Catch basins within Hubbardston and Mountain Road flow south to Gregory Hill Road and discharge into a stream near the intersection of Gregory Hill Road and East Princeton Road. There is one catch basin on upper Mountain Road that discharges onto 29 Mountain Road and flows onto Goodnow Park. Other catch basins within the disposal site are believed to discharge locally to a roadside or nearby surface water, but they are not within areas where the surface runoff is expected to be impacted by PFAS.

1.3.2 Surficial Geology and Soils

With the exception of artificial fill used in site development, the surficial deposits in the study area are primarily glacial till. Bedrock was encountered at the site during subsurface investigations at depths ranging from the ground surface to approximately 8 feet below surface grade (bsg).

According to the Natural Resources Conservation Service Web Soil Survey, the Site is underlain with soils characterized as the Tunbridge-Lyman-Berkshire association soil unit. The Tunbridge-Lyman-Berkshire soils are encountered in upland hills and mountains with multiple small waterways formed in areas of glacial till and are considered very rocky. Typically, Tunbridge-Lyman-Berkshire soils consist of very deep, moderately deep, and shallow, gently sloping to very steep, well drained and somewhat excessively drained, loamy soils that formed in glacial till. The permeability of Tunbridge-Lyman-Berkshire soils ranges from moderate to moderately rapid, with 15 to 45 percent slopes and moderate water capacity.

According to the US Department of Agriculture General Soil Map, depths to bedrock in Berkshire soils tend to be very deep and shallower in Lyman soils. Berkshire and Turnbridge soils are well drained and Lyman soils are somewhat excessively drained with all soils consisting of loam. Berkshire, Turnbridge, and Lyman soils intermingle on uneven landscapes controlled by the underlying bedrock.

1.3.3 Bedrock Geology

A description of the underlying bedrock was obtained from the generalized Bedrock Geologic Map of Massachusetts, (Zen, 1983). The Site lies within an area of Lower Devonian bedrock known as the Fitchburg Formation. The Fitchburg Formation consists of foliated biotite-muscovite granite to granodiorite-gneiss with common inclusions of the Littleton Formation. The Littleton Formation consists of aluminous mica schist, quartzose schist and aluminous phyllite. Numerous field investigations at the site confirmed the presence of these materials. Depth to bedrock ranges from the ground surface to approximately 8 feet bsg.

1.3.4 Groundwater Flow

Shallow groundwater flow at the THC has been calculated using elevation data collected from monitoring wells that remain in place after they were installed as part of assessment activities associated with RTN 2-11327. Groundwater flow at the THC is in a westerly direction, toward Hubbardston Road. Bedrock groundwater flow direction has not been assessed, but based on the contaminant distribution in the sampled private wells, bedrock groundwater flow appears to be to the west-southwest in the southern portion of the Disposal Site and the north in the northern portion of the Site. The MassGIS Priority Resource Map shows a groundwater divide traversing the site roughly east to west (see Figure 2 in Appendix A).

1.3.5 Groundwater Flow Velocity

Knowing the date of the 30 Mountain Road fire (May 2, 2017), we are able to approximate groundwater flow velocity by identifying homes where PFAS were initially not detected but showed a detection during later sampling. To determine whether the PFAS compounds detected could be associated with the AFFF from the fire at 30 Mountain Road, the presence of PFHxS was used as the determining factor. Note that PFHxS is absent from the northern area and the actual date of a release for the northern source is unknown, precluding any flow velocity approximations for the northern area.

This review identified three locations where PFAS were not initially detected but PFHxS was subsequently detected; 2 Mountain Road, 17 Boylston Avenue and 11 Gregory Hill Road. Using the dates PFAS were detected at each of these properties and the distance between the subject property and 30 Mountain Road, we have estimated groundwater flow velocities of 0.91, 1.13 and 0.73 feet/day, respectively.

1.3.6 Potential for Flooding

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Panel No. 2500329-0025B dated July 2, 1981, the Disposal Site is located in an area mapped as a Zone C Area of Minimal Flooding.

1.4 Environmental Fate and Transport

In accordance with the MCP at 310 CMR 40.0835(4)(e)1, an evaluation of the environmental fate and transport characteristics of the oil and/or hazardous material identified at the Disposal Site, including, without limitation, mobility, stability, volatility, persistence, and bioaccumulation potential, is required as part of the Phase II Comprehensive Site Assessment. 310 CMR 40.0835(4)(e)(2) and (3) requires the identification and characterization of existing and potential migration pathways and an evaluation of the potential for soil, groundwater, or non-aqueous phase liquid (NAPL) to be a source of vapors to indoor air or occupied structures. The environmental fate and transport characteristics for PFAS are discussed in the sections below.

1.4.1 Mobility and Migration

1.4.1.1 Soil Mobility and Migration

PFAS present in unsaturated soils are subject to downward leaching during precipitation or irrigation events that promote dissolution of the soil-bound contaminant mass. This process is a potential driver of PFAS transport from surface soils to groundwater and surface water.¹

Leaching potential is a function of both media properties (for example, pH, redox conditions, increased partitioning with organic-rich soil) and PFAS structural properties (for example, ionic charge, and chain length).² While some studies have reported PFAS transport by leaching others have observed long-term retention of longer chain PFAS on shallow soils after extended percolation. It is important to note that MassDEP Method 1 Standards mainly focus on the longer chain compounds, with PFHpA (five carbons) being the only regulated short chain compound among the PFAS6.

PFAS analysis by Synthetic Precipitation Leaching Procedure (SPLP) was completed for several select soil samples collected from 22, 30, and 54 Mountain Road. The results of these analyses are discussed in Section 3 of this report.

1.4.1.2 Groundwater Mobility and Migration

PFAS are highly mobile in groundwater and can be transported through rainwater run-off or seep through the soil and migrate into groundwater, which in Princeton is the source of drinking water. In general, PFAS compounds with short carbon chains are more mobile in the environment than longer chain compounds. For example, PFBS (4 carbons) may be detected during plume migration monitoring before PFOA or PFOS (each has 8 carbons).

¹ Environmental Fate and Transport for Per- and Polyfluoroalkyl Substances, Interstate Technology Regulatory Council, <https://www.nccoast.org/wp-content/uploads/2018/10/ITRC-PFAS-Transport-Fact-Sheet.pdf>

² Gellrich V, Stahl T, Knepper TP. Behavior of perfluorinated compounds in soils during leaching experiments. *Chemosphere*. 2012;87(9):1052-1056.

Number of Carbons	4	5	6	7	8	9	10	11	12
PFCAs	Short-chain PFCAs				Long-chain PFCAs				
	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnA	PFDoA
PFASs	PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFNS	PFDS	PFUnS	PFDoS
	Short-chain PFASs			Long-chain PFASs					

Source: Health Impacts Of Per- And Polyfluoroalkyl Substances: Literature Review, Elaine Chottiner, December 4, 2018

Due to relatively shallow bedrock conditions at 30 Mountain Road (approximately 12 inches bsg) and the number of private wells within the Disposal Site, PFAS has impacted an extended area of groundwater within the center of the Town. Due to the limited information available for the private drinking water well depths and fracture elevations within those wells, it is currently not possible to determine the vertical distribution of PFAS impacts within groundwater. Tighe & Bond considered the potential value of a geophysical survey of select drinking water wells within the Disposal Site. However, based on the absence of viable options for remediation of PFAS in groundwater on this scale, it was determined that there would be no actionable information obtained from conducting the survey.

1.4.1.3 Surface Water Mobility and Migration

Human exposure to PFAS from surface water can occur through direct ingestion or by consuming aquatic biota from contaminated waterbodies. PFAS that reach surface water tend to remain in solution, partitioning to sediment and uptake to biota can occur. Once in surface water, PFAS can contaminate groundwater through groundwater recharge or be transported downstream,¹ depending on the groundwater elevations along the water body.

Stormwater PFAS concentrations usually depend on proximity to releases. In addition to releases associated with identified sources, stormwater runoff water from nonpoint sources may contribute significant loads of PFAS to surface water.

1.4.1.4 Air Mobility, Volatility, and Migration

Certain PFAS compounds are found in ambient air, with elevated concentrations observed or expected in urban areas near emission sources, such as manufacturing facilities, wastewater treatment plants, fire training facilities, and landfills. There are no known outside sources at or near the Disposal Site that could contribute PFAS to ambient air.

Once airborne, PFAS can occur in a gaseous state or be associated with particulate matter or other aerosols suspended within the air. Neutral volatile precursor compounds, such as 8:2 fluorotelomer alcohol (8:2-FTOH) are the dominant PFAS compound present in the gas phase and account for at least 80% of the total PFAS mass in ambient air based on one study.¹

To continue to understand the fate and transport of PFAS and PFAS-related compounds in soil and groundwater, additional chemical characteristics need to be considered. For instance, vapor pressure is a measurement of the tendency of a material to change into the gaseous or vapor state. The higher the vapor pressure, the more volatile a substance is. PFAS, which are ionic and possess a negative charge under ambient environmental conditions, are far less volatile than many other groundwater contaminants. In general, vapor pressures of PFAS are low and water solubilities are high, limiting partitioning from

water to air. However, under certain conditions, particularly within industrial stack emissions, PFAS can be transported through the atmosphere in both the gas phase and as particulates. In particular, volatile PFAS compounds consisting mainly of fluorotelomer alcohols (FTOHs) may be present in the gas phase, whereas PFOA and PFOS are more likely to aerosolize and be transported as particulates.³

Considering the COCs detected at the site (non-fluorotelomer alcohols), the concentrations of PFAS detected in soil and groundwater at the site (regardless of depth), and the MassDEP GW-2 Standards for the six regulated PFAS compounds, vapor phase migration or exposure is unlikely at the Site.

1.4.2 Stability

PFAS are often referred to as “forever chemicals” due to their innate chemical stability. Properties such as the high electronegativity and small size of fluorine lead to a strong carbon to fluorine bond, the strongest covalent bond in organic chemistry.⁴ The low polarizability of fluorine further leads to weak intermolecular interactions. These unique properties of fluorine give many PFAS compounds their stain resistant and surfactant properties and make them thermally and chemically stable.

Numerous studies have reported both biotic and abiotic transformations of some polyfluorinated PFAS, typically fluorotelomer alcohols and fluorotelomer sulfonates. Polyfluorinated PFAS shown to transform are referred to as precursors and typically form PFOA and PFOS as end products, which do not degrade or otherwise transform under ambient environmental conditions. The fundamental differences between polyfluorinated precursors and perfluorinated chemicals that affect transformation potential are the presence, location, and number of carbon-hydrogen (C-H) bonds and potentially carbon-oxygen (C-O) bonds throughout the alkyl carbon chain. Specifically, PFAS with C-H bonds are subject to a variety of biotic and abiotic reactions that ultimately result in the formation of shorter chain PFAAs.

The primary contaminants at the Site are PFOS and PFHxS in the southern area and PFOA and PFOS in the northern area. These compounds are considered stable in the environment.

1.4.3 Persistence

The persistence of a chemical is the length of time that a chemical can exist in the environment before being destroyed or transformed by natural processes and is described by its half-life (the time it takes for the concentration of a chemical in a medium under certain conditions to have decreased by 50%). Due to the inherent difficulty in determining PFAS half-lives in different mediums, PFAS half-life calculations vary. Some PFAS compounds have estimated half-lives of over 1,000 years in soil. One study conducted in 2002 indicates that PFOS has a half-life of 40 years or more⁵. PFAS are extremely resistant to environmental degradation and are considered persistent in the environment.

³ https://www.enviro.wiki/index.php?title=PFAS_Transport_and_Fate#cite_note-ITRC2020-1

⁴ <https://pfas-1.itrcweb.org/4-physical-and-chemical-properties/>

⁵ <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/publications/ecological-screening-report-sulfonate/chapter-2.html>

1.4.4 Bioaccumulation

Bioaccumulation is the net uptake of a compound from the environment by all possible routes (respiration, ingestion, dermal exposure) from any source (air, water, soil, sediment, and other organisms). The bioaccumulation factor (BCF) is an indication of the potential for a compound to bioaccumulate in the environment. The higher the BCF, the more likely it is to bioaccumulate. According to EPA, a chemical is characterized as "bioaccumulative" if it has a BCF factor greater than 1,000. A chemical with a BCF greater than 5,000 is considered very bioaccumulative. As shown below, of the PFAS6 compounds, only PFOA and PFOS are considered very bioaccumulative while the other four compounds have BCF values well below 1,000.

Compound	Bioaccumulation Factor (No Units)
PFHpA	92.2
PFOA	7,670
PFOS	1,900
PFNA	165
PFDA	49.3
PFHxS	175

1.4.5 Preferential Migration Pathways

Other than the known presence of PFAS in groundwater in the Disposal Site, preferential pathways for the migration of PFAS at the Site were considered as part of the Environmental Fate and Transport evaluation. The primary preferential migration pathway from the presumed PFAS source area is the flow of surface water runoff to the stormwater collection system from the discharge pipe at 30 Mountain Road where firefighting with AFFF was reported in May 2017. As discussed in Section 2.3, analytical results for stormwater samples collected from the pipe have indicated very elevated PFAS concentrations. While stormwater generally infiltrates the ground surface at 30 Mountain Road, a catch basin located near the pipe discharge is connected to a stormwater catchment system within Mountain Road. The discharge point for this system is a stream off Gregory Hill Road which is part of the Wachusett Reservoir Watershed. An Imminent Hazard Evaluation completed by Sovereign Consulting, Inc indicates that an IH condition does not exist for the concentrations detected. However, this runoff is currently being mitigated with a carbon treatment system designed to prevent the continued discharge of stormwater from the pipe at 30 Mountain Road to the surrounding area and the stormwater system.

1.4.6 Non-Aqueous Phase Liquid

The presence of non-aqueous phase liquid (NAPL) has not been observed at the Site. PFAS concentrations at the Site would need to exceed solubility limits for NAPL to be observed. The solubility of PFOA is approximately 64 mg/L (6.4×10^7 ng/L)¹ indicating that NAPL would likely form if concentrations in water exceeded this value. For PFOS, NAPL would likely be observed at concentrations above 7.7 mg/L (7.7×10^6 ng/L). PFAS concentrations at the Site do not approach these solubility limits, precluding the presence of NAPL at the Site.

Section 2

Phase II Comprehensive Site Assessment

Consistent with our conceptual Phase II scope of work presented in the Phase I/Tier Classification submittal, Phase II investigations completed at the Site included the assessment of various media, as detailed below.

2.1 Soil Assessment

Soil sampling was completed at 18, 19, 21, 22, 29, 30, and 54 Mountain Road, as well as at the THC at 6 Town Hall Drive. Soil sample locations for the soil samples collected from the THC, 18, 19, 21, 22, 29 and 30 Mountain Road are shown on Figure 4A, included in Appendix A. Soil sample locations for the soil samples collected from 54 Mountain Road are shown on Figure 4B, included in Appendix A. Soil sample results are summarized in Tables 2A and 2B, included in Appendix B. These properties were selected as the areas for soil sampling based upon reports that this is where water with AFFF migrated during the firefighting activity at 30 Mountain Road in May 2017.

2.1.1 30 Mountain Road Soil Sampling

On May 25, 2021, six surface soil samples (30MTN S-1 through 30MTN S-6) and one duplicate soil sample (30MTN S-4 Dup) were collected from the area surrounding the structure at 30 Mountain Road that was destroyed in the May 2017 fire. In addition, two soil samples were collected from the basement of the former structure, identified as Basement-1 and Basement-2. The soil samples were collected following the standard operating procedure, that was included in IRA Status Report No. 4, from 0-6 inches below surface grade (bsg). The samples were submitted for PFAS laboratory analysis using the isotope dilution method.

The laboratory reports for the May 25, 2021, soil samples collected at 30 Mountain Road were included in IRA Status Report No. 4, which was submitted on September 7, 2021.

On October 28, 2021, Tighe & Bond used a GeoProbe® operated by Technical Drilling Services (TDS) of Sterling, Massachusetts to advance 16 soil borings at 30 Mountain Road. The purpose of the soil borings was to further assess the horizontal and vertical extent of PFAS impacted soil and determine depth to bedrock. Discrete soil samples were collected from the 6-12 inch and 12-24-inch depth intervals below surface grade (bsg) at the locations where shallow surface soil samples were previously collected. Soil samples at locations with no previous shallow soil samples were collected from 0-12 inch and 12-24-inch depth intervals. In general, bedrock was encountered at 12 inches bsg or less at 30 Mountain Road. Soil samples were submitted to Pace for PFAS analysis using the isotope dilution method.

The laboratory reports for the October 28, 2021, soil samples collected at 30 Mountain Road were included in the December 2021 Quarterly Status Report.

2.1.2 EPA Soil Sampling Program

On April 24 and 25, 2023, EPA initiated a soil boring program at 30 Mountain Road. This work was completed to determine if soils at 30 Mountain Road met EPA's PFAS Removal

Management Levels to qualify for a soil Removal Action. EPA collected 40 soil samples from 19 locations for PFAS analysis. The EPA locations focused on areas nearest to the fire-damaged structure, the runoff pipe discharge area and two existing soil stockpiles. The results of the EPA's soil sampling were shared with Tighe & Bond and are included in Table 2B for reference.

EPA's soil sampling results were similar to the Tighe & Bond sample results; however, EPA's program focused on soil closer to the building's foundation. Based on EPA's results, PFAS concentrations are higher near the building's foundation than soils farther away, as evidenced in EPA SS-07B which has a PFOS concentration of 490 ug/kg. This result exceeds both the MCP Method 1 S-1/GW-1 Soil Standard and Method 2 Direct Contact Standard. This was the only location sampled by EPA or Tighe & Bond that exceeded the Method 2 Standard. While EPA has not issued a full report on these findings, they have indicated that the results do not meet their criteria for a soil Removal Action.

2.1.3 22 Mountain Road Soil Sampling

On July 29, 2021, nine surface soil samples (22MTN S-1 through 22MTN S-9) and one duplicate sample (22MTN S-1 Dup) were collected from 22 Mountain Road, which is located adjacent to and downhill from 30 Mountain Road. It was reported that firefighting water and foam were observed flowing over this property during the May 2017 firefighting efforts at 30 Mountain Road. The soil samples were collected and analyzed using the same methods as the soil samples at 30 Mountain Road.

On October 27, 2021, Tighe & Bond used a GeoProbe® operated by Technical Drilling Services (TDS) of Sterling, Massachusetts to advance 13 soil borings at 22 Mountain Road. The soil samples were collected using the same protocol as the soil samples collected at 30 Mountain Road. In general, bedrock was encountered 12 to 24 inches bsg at 22 Mountain Road.

In addition to the soil borings, two surface soil samples were collected from the basement of 22 Mountain Road which are identified as 22MTN Basement-1 and 22MTN Basement-2.

Soil samples were submitted to Pace for PFAS analysis using the isotope dilution method. The laboratory reports for the October 27, 2021, soil samples collected at 22 Mountain Road were included in the December 2021 Quarterly Status Report.

On July 11, 2023, Tighe & Bond collected five additional soil samples from areas at 22 Mountain Road that were previously inaccessible due to home renovations being conducted in 2021. These samples are identified as 22MTN S-14 and 22MTN S-15, and were collected using a handheld gas-powered GeoProbe and the direct push sampling method. Soil samples were collected at 6-inch intervals to a depth of 24 inches bsg and submitted to Pace for PFAS laboratory analysis using the isotope dilution method. The July 11, 2023, soil sample results are summarized in Table 2, included in Appendix A. The laboratory reports for the soil samples collected on July 11, 2023, are included in Appendix C, for reference.

2.1.4 54 Mountain Road Soil Sampling

According to a 1967 newspaper report, there was a major fire at 54 Mountain Road in April 1967. Although details of the firefighting method utilized on that property (i.e., whether AFFF was used) are not available, soil sampling was completed at this location to

determine if a second PFAS source was present within the Disposal Site Boundary, given the observed differences in the PFAS signature in groundwater from private wells between the northern and southern areas (i.e., there are higher PFOA levels and a lack of PFHxS in the northern area).

On October 28, 2021, Tighe & Bond used a GeoProbe® operated by Technical Drilling Services (TDS) of Sterling, Massachusetts to advance 14 borings at 54 Mountain Road. The soil samples were collected using the same protocol as the soil samples collected at 22 and 30 Mountain Road. In general, bedrock was encountered 12 to 18 inches bsg at 54 Mountain Road

Soil samples were submitted to Pace for PFAS analysis using the isotope dilution method. The laboratory reports for the October 28, 2021 soil sample results and associated laboratory reports for 54 Mountain Road were included in the December 2021 Quarterly Status Report.

2.1.5 29 Mountain Road Soil Sampling

Based on information provided by the property owner and our observations, stormwater collects at the end of a culvert passing beneath Mountain Road in the Town right of way adjacent to 29 Mountain Road. This water runs from the discharge point over land to the property's driveway. Water then flows through a pipe under the driveway and daylights on the eastern portion of the property near a stone wall, where it flows onto Goodnow Park, which is property owned by the Town of Princeton. On December 20, 2022, Tighe & Bond collected two surface soil samples from 0-3 inches bsg, identified as 29MTN S-1 and 29MTN S-2. 29MTN S-1 was collected approximately 20 feet south of the culvert's discharge point onto the property and 29MTN S-2 was collected approximately 100 feet east of the driveway near the stonewall.

The soil sample results are summarized in Table 2A, included in Appendix B. The laboratory reports for the water and soil samples collected 29 Mountain Road, are included in Appendix C, for reference.

2.1.6 18, 19, 21 Mountain Road Soil Sampling

On November 17, 2021, Tighe & Bond collected soil samples at 18, 19, and 21 Mountain⁶ Road to evaluate the distribution of PFAS in soil in areas downhill from 30 Mountain Road that were reportedly subject to runoff from the firefighting efforts at that property in May 2017. The soil samples were collected from 0-6 inches bsg using the previously referenced standard operating procedure. The soil samples were collected using hand tools from 0-6 inches bsg and the samples were submitted to Pace for PFAS laboratory analysis using the isotope dilution method. A summary of the samples collected at these properties is provided below:

18 Mountain Road – Six samples identified as 18MTN S-1 through 18MTN S-6

19 Mountain Road – Five samples identified as 19MTN S-1 through 19MTN S-5

21 Mountain Road – Seven samples identified as 21MTN S-1 through 21MTN S-7

⁶ Some soil samples labeled as 21 Mountain Road appear to be on the 19 Mountain Road property. We are evaluating the property line between these properties.

The results for the soil samples collected on November 17, 2021, are summarized in Table 2, included in Appendix B. The laboratory reports for these samples were included in the March 8, 2022, IRA Status Report No. 5.

On July 11, 2023, Tighe & Bond collected additional soil samples from 18, 19, and 21 Mountain Road. The samples were collected to further delineate the vertical extent of PFAS soil impacts on those properties.

At 18 Mountain Road, seven soil samples were collected from four previously sampled locations (18 MTN S-1, 18MTN S-5, 18 MTN S-7, and 18 MTN S-8).

At 19 Mountain Road, additional soil samples were collected from greater depths at three previously sampled locations (19MTN S-1, 19MTN S-3, and 19MTN S-4).

At 21 Mountain Road, additional soil samples were collected at three new locations identified as 21MTN S-8, 21MTN S-9, and 21MTN S-10.

The soil samples collected on July 11, 2023, were collected using a handheld gas-powered GeoProbe and the direct push sampling method. Soil samples were collected at 6-inch intervals to a depth of 24 inches bsg and then at 24-inch intervals thereafter. Soil samples were submitted to Pace for PFAS laboratory analysis using the isotope dilution method.

The soil sample results are summarized in Table 2, included in Appendix A. The laboratory reports for the soil samples collected on July 11, 2023, are included in Appendix C, for reference.

2.1.7 Town Campus Surface Soil Sampling

On August 24, 2021, Tighe & Bond collected four soil samples from around a small accessory building located in the THC to evaluate reports that the building (formerly used to store surplus transformers) may have been used in the past for firefighting training. This all-brick structure was located east of the fire station at the THC property on the slope above Hubbardston Road. The samples are identified as Transformer Building S-1 through S-4, are shown on Figure 4A, included in Appendix A, and were submitted to Pace for PFAS analysis by isotope dilution.

On October 29, 2021, two surface soil samples were collected from the landscaped area west of the Library building located on the THC. These locations are near monitoring well MW-102, where elevated PFAS concentrations have been detected in shallow bedrock groundwater. The samples are identified as Library-1 and Library-2 on Figure 4A, included in Appendix A and were submitted to Pace for PFAS analysis by isotope dilution.

The results for the Library soil samples are summarized in Table 2, included in Appendix B. The laboratory reports for these samples were included in the March 8, 2022, IRA Status Report No. 5.

2.2 Groundwater Monitoring Well Sampling

During the 1990s and early 2000s, a number of groundwater monitoring wells were installed at the THC associated with investigation of a diesel fuel release under RTN 2-

11327. Remaining viable monitoring wells include MW-6, MW-7DRR, MW-10A, MW-10D, MW-14 and MW-18R.

These monitoring wells were installed to assess the petroleum release under RTN 2-11327, so they are shallower (these wells range in depth from approximately 8 to 10 feet deep, with MW-18R being approximately 30 feet deep) than the deep bedrock well used by the Town Hall water supply and the deep bedrock private wells at residences in the sampling radii, which are generally hundreds of feet deep.

Initial sampling of monitoring wells MW-10A, MW-10D, MW-14, and MW-18R was completed on January 2, 2020. At that time, MW-6 had a blockage that prevented sample collection and MW-7DRR could not be located. The blockage in MW-6 was removed on June 23, 2020, and the well was sampled at that time. MW-7DRR was determined to have been paved over during the resurfacing of Hubbardston Road and was subsequently located and repaired. An initial sample was collected from MW-7DRR on January 12, 2021.

On December 15 and 16, 2020, two new groundwater monitoring wells (MW-101 and MW-102) were installed at the THC to further evaluate PFAS concentrations within shallow groundwater at the THC. MW-101 was installed approximately 100 feet southwest of the Town Hall building and approximately 50 feet northeast of Hubbardston Road. MW-102 was installed approximately 50 feet north of the library building, near the property boundary between the library and 19 Mountain Road.

MW-101 and MW-102 were advanced into shallow bedrock using a hollow stem auger/air rotary drill rig operated by TDS. At MW-101, bedrock was encountered at approximately 10 feet bsg. The boring was advanced through bedrock using an air-rotary hammer until a water bearing fracture was encountered. Minor fractures were encountered at 22 and 23 feet bsg and a water bearing fracture was encountered at 32 feet bsg. MW-101 was installed as a 2-inch diameter monitoring well with 15 feet of slotted well screen.

Bedrock was encountered at approximately 1 foot bsg at MW-102. Water bearing fractures were encountered at 13 to 14 feet bsg and a monitoring well was set at 15 feet bsg with 10 feet of slotted well screen. Both monitoring wells were sealed with cement grout above the sand-packed well screen to prevent vertical migration of precipitation and any overburden groundwater in the well. Soil samples were not collected during the well installation. Monitoring well completion reports were included in IRA Status Report No. 3, which was submitted on March 10, 2021.

Quarterly monitoring of the existing wells was included in the IRA Plan submitted on January 3, 2023. MW-101 and MW-102 were incorporated into the quarterly sampling schedule after initial sampling on January 12, 2021. In accordance with an IRA Modification, groundwater sampling of these wells has been reduced to semi-annually.

The THC monitoring well locations are shown on Figure 5, included in Appendix A. Monitoring well laboratory data is summarized in Table 1, in Appendix B. The laboratory reports for groundwater monitoring well sampling were included in the various IRA Status Reports submitted under RTN 2-21072.

2.2.1 Private Water Supply Monitoring

As of the writing of this report, 115 private water supply wells were either sampled or are part of semi-annual monitoring in accordance with the IRA Plan for the Site. There are

currently 36 locations where no PFAS has been detected to date, 47 locations where PFAS6 was detected but is below 20 ng/L, 24 locations with PFAS6 greater than 20 ng/L but less than 90 ng/L, and 8 locations with PFAS6 greater than 100 ng/L.

PFAS sampling results for private and public water supply locations are included in Table 1, included in Appendix B, for reference. In accordance with the IRA Plan for RTN 2-21072, private wells are sampled semi-annually, and the sampling radius is extended by 500 feet from any location with a confirmed PFAS detection.

PFAS sampling results are included in Table 1, included in Appendix B, for reference. The individual laboratory reports are submitted as they become available with the various IRA Status Reports.

2.2.1.1 Point-of-Entry Treatment

Private well locations with PFAS6 greater than 20 ng/L have been provided with Point-of-Entry (POET) systems that consist of two 2-cubic foot (cf) granular activated carbon (GAC) vessels plumbed in series. There are two locations (18 and 19 Mountain Road) that consist of two 6-cf GAC vessels and two locations with four 2-cf GAC vessels (54 and 58 Mountain), due to the elevated concentrations detected at those locations, and higher water usage or low basement ceiling clearance.

POET systems at all 32 locations where PFAS has been detected above 20 ng/L are monitored either on a semi-annual or quarterly basis in accordance with the MassDEP approved IRA Modification for POET monitoring.

There are two public water supplies with POETs, the THC and the First Congregational Church (14 Mountain Road). As PWS's, the POET systems at these locations are operated by third-party operators in accordance with the MassDEP Drinking Water Regulations.

PFAS sampling results for private and public water supply locations are included in Table 1, included in Appendix B, for reference.

2.2.1.2 Voluntary POET System Installations

As reported in IRA Status Report No. 7, on November 17, 2021, during a special town meeting, the town voted to appropriate funds to offer the option for property owners at locations with detectable PFAS6 concentrations below the MCL of 20 ng/L to have the Town install a POET system in place of providing bottled water. To date the town's contractor has installed 40 single vessel POETs at the following locations:

- 12, 20, and 33 Allen Hill Road
- 13, 30, 32, 38, and 40 Boylston Avenue
- 6 Connor Lane
- 11 and 13 Gregory Hill Road
- 19, 33, 36, 44, 46, 48, and 73 Hubbardston Road
- 57, 105 Merriam Road
- 2, 10, 33, and 38, 92 Mountain Road
- 17 Prospect Street

- 7, 8, 11, 18, 23, 28, 29, and 37 Radford Road
- 1, 10, 17, 23, 25, and 27 Worcester Road

The current monitoring program for these POETs is to sample the effluent of each newly installed POET for PFAS within the first month of operation, and if the system is shown to effectively remove PFAS, bottled water is discontinued. Considering the low influent concentrations and the performance of the GAC at other locations with much higher influent concentrations, the GAC at these locations is expected to last for many years. A monitoring program for these POETs will be developed based on the breakthrough observed at the two-vessel systems, i.e., once breakthrough at more of the two-vessel systems occurs and a sufficient data set is available to develop a conservative monitoring program. Influent and effluent monitoring data for these locations is included in Table 1, in Appendix B.

2.3 Surface Water Assessment

On February 26 and 27, 2020, approximately 0.83 inches of rain was received at the Site and an overland flow of rainwater and flow from a 6-inch diameter pipe was observed flowing through and over the bedrock face at 30 Mountain Road. Information from area residents and photographs taken during the fire in 2017 indicate that firefighting water with AFFF flowed over this area. Therefore, a stormwater runoff sample was collected from the drainpipe that appeared to drain runoff from the property at 30 Mountain Road. Analytical results for this sample indicated very elevated PFAS concentrations (3,642 ng/L for PFAS6, 3,795 ng/L for total PFAS).

Immediately following receipt of the results from the February 2020 sample, the property owner of 30 Mountain Road had the drainage pipe capped to prevent discharge.

In accordance with the IRA Plan Modification No. 3 Conditional Approval, dated February 2, 2021, MassDEP required at least four quarterly stormwater runoff samples from 30 Mountain Road and 41 Prospect Street. Stormwater sampling at 41 Prospect Street was discontinued after three sampling events showed no PFAS detections in any of the samples collected from that location.

As reported in IRA Status Report No. 7, a camera was used to assess the condition of the pipe at 30 Mountain Road and to identify its path. Based on those activities, it was determined that the 6-inch diameter pipe is constructed of sections of clay, cast iron and perforated PVC pipe and is connected to a sump in the basement of the fire-damaged structure at 30 Mountain Road, with no lateral connections observed entering the pipe. The perforated PVC section is located outside near the foundation of the structure, and appears to collect water that accumulates in that area between the foundation and the bedrock face along Mountain Road. It was also determined at that time that a storm drain is present at the base of the bedrock face, which was covered and partially filled with debris. This drain is located in a grass area off the roadway to the north of the sidewalk associated with Mountain Road. The drain was uncovered and opened to observe whether there was a pipe discharge from the basin. A pipe was observed heading toward the next downhill catch basin on Mountain Road.

While the pipe is now known to be connected to the sump in the basement of the structure, the sump inlet currently is elevated approximately four to six inches above the concrete

floor of that portion of the basement, which suggests water is not regularly entering the sump. Tighe & Bond has not been able to assess basement conditions during heavy rain events to determine whether sufficient water accumulates in the basement to enter the sump. However, it is expected that water is entering the perforated section of the pipe as water infiltrating the soil during rain events accumulates on the bedrock surface in the area above the bedrock face.

Surface water runoff results collected from 30 Mountain Road are summarized in Table 3A included in Appendix B. Laboratory reports for the tabulated results were included with the various IRA Status Reports submitted for RTN 2-21072.

2.3.1 30 Mountain Road Pipe Discharge Treatment

To reduce the PFAS concentrations flowing from the 30 Mountain Road property in surface water runoff, a treatment system has been installed to treat stormwater discharging from the runoff discharge pipe in the bedrock face below 30 Mountain Road. The treatment system consists of two 55-gallon Carbtrol L-1 drums containing granular activated carbon. The Town repurposed a small electronic equipment shed, which has been placed along the roadside. A 4-inch diameter pipe is connected to the pipe in the bedrock face and runs approximately 40 feet along the bedrock face to the shed. The 4-inch pipe reduces to 1¼ inches prior to entering the first carbon vessel. The pipe reduction is designed to increase the carbon contact time and reduce air in the system. Runoff then flows through a second carbon vessel before flowing out of the shed to a vegetated area along the sidewalk, where it percolates into the subsurface, in accordance with the MCP (310 CMR 40.0045(1)).

At the time of this report, the system has begun treating stormwater runoff and MassDEP has indicated that they consider this treatment as a part of the ongoing IRA.

To confirm the level of treatment achieved, system monitoring will include influent, midfluent and effluent samples collected during rain events that provide sufficient flow to generate a consistent flow rate through the system. Samples will be collected quarterly to allow calculation of mass removal and to track the carbon loading at breakthrough. Considering the system will only treat runoff from rainwater or spring snow melt and is not expected to be operational during January and February, this monitoring schedule is expected to be sufficient. Treated water from the system is currently being discharged to the ground surface adjacent to the treatment shed in accordance with the MCP [310 CMR 40.0045(1)].

On September 13, 2023, the 72-hour rainfall total for the area was measured at 6.44 inches. On that date, Tighe & Bond collected influent, midfluent, and effluent samples from the system. At that time, approximately 10,938 gallons of runoff had been treated. Treatment system results from the September 13, 2023, samples indicated an influent Total PFAS concentration of 1,114 ng/L and a midfluent concentration of 57 ng/L. PFAS was not detected in the effluent sample. It is not clear if the midfluent detection is indicative of breakthrough of the first vessel or if the flow rate was too high due to the significant volume of water. Additional samples were collected on October 21, 2023, and those results are pending.

Pipe discharge, overland runoff and treatment system sample results are summarized in Table 3B, included in Appendix B. The laboratory report for the treatment system samples collected on September 13, 2023, are included in Appendix C, for reference.

2.3.2 Schoolhouse Pond and Airport Pond Surface Water Sampling

On October 18, 2021, Tighe & Bond collected surface water samples from Schoolhouse Pond and Airport Pond, which potentially receive surface water runoff (overland and via stormwater discharge) from the vicinity of the THC and 30 Mountain Road. Both of these ponds are equipped with hose connections to draw firefighting water by the Princeton Fire Department.

Since PFAS will preferentially form films at the air-water interface, the surface water samples were collected using a peristaltic pump and dedicated (non-Teflon) tubing at the surface and just below the surface to evaluate vertical PFAS distribution within the pond. The tubing was submerged approximately 1 inch below the surface during surface sample collection. Using new tubing after collection of the shallow sample, the tubing was then weighted with stainless steel weights and submerged to the bottom of the surface water body. Once at the bottom, the tubing was raised slightly to avoid the collection of sediment or organic debris and a second sample was collected. Each sample is identified as "shallow" or "deep". For Schoolhouse Pond, the deep sample was collected at approximately 3.5 feet below the surface of the water. Depth of bottom at Airport Pond was measured at approximately 4 feet below the surface. The shallow and deep samples collected at each surface water body were submitted for PFAS laboratory analysis by the isotope dilution method. The expanded list of 34 compounds was requested for these samples. Schoolhouse Pond and Airport Pond are shown on the Site Plan included in Appendix A.

Based on the laboratory results, no PFAS compounds were detected above MassDEP Surface Water Quality Benchmarks; however, the PFAS6 results for Schoolhouse Pond, both the Shallow and Deep samples, exceed the GW-1 standard for PFAS6 of 20 ng/L. Airport Pond results were well below the GW-1 standard. The Town has advised the Fire Department not to use water from Schoolhouse Pond for firefighting purposes. Laboratory results for the surface water samples collected from Schoolhouse and Airport Ponds are summarized in Table 3, included in Appendix B. The laboratory report for these samples was included in the December 13, 2021, Quarterly Status Report.

2.3.3 Stream Surface Water Sampling

On July 25, 2023, Tighe & Bond collected four surface water samples from four streams that are believed to be within/downgradient of the release area at and near 30 Mountain Road. The samples were collected from a tributary entering Schoolhouse Pond (SW-1), a stream associated with a wetland area along Brooks Station Road (SW-2), the stream located off Gregory Hill Road near Airport Pond (SW-3) and a stream on lower Worcester Road (SW-4). The sample locations are shown on Figure 5 included in Appendix A.

Due to their chemical structure (hydrophilic head and hydrophobic tail), PFAS tend to accumulate at the water surface-air interface. As such, samples taken at the surface are likely to result in high biased results that are not representative of bulk surface water. To ensure the collection of representative surface water samples, Tighe & Bond personnel collected the surface water samples using the direct sampling method by submerging the sample container below the surface of the water. In addition, the samples were collected at least 72 hours after any rain to avoid runoff/dilution impacts, to evaluate ambient conditions. The samples were submitted to Pace Analytical in East Longmeadow, Massachusetts for PFAS analysis by isotope dilution. A field blank was also collected for quality control purposes.

The results of the surface water samples collected on July 25, 2023, are summarized in Table 3 in Appendix B. The July 25, 2023, surface water analytical laboratory report was included with IRA Status Report No. 8, which was submitted on September 8, 2023.

2.3.4 Surface Water Sampling Near 29 Mountain Road

On November 16, 2022, a stormwater sample was collected at the outfall of a storm drain that discharges stormwater from Mountain Road onto the property identified as 29 Mountain Road. The surface water sample was submitted to Pace for PFAS analysis by the isotope dilution method. The stormwater sample results are summarized in Table 3A. The laboratory report for the November 26, 2022, stormwater sample is included in Appendix C.

2.4 Indoor Air Assessment

Indoor air assessments were not completed as part of Phase II Comprehensive Site Assessment activities since the Site PFAS are not volatile.

Section 3

Nature and Extent of Contamination

3.1 Contaminants of Concern

Contaminants of Concern (COCs) evaluated for RTN 2-21072 include the following:

- Perfluoroheptanoic acid (PFHpA)
- Perfluorooctanoic acid (PFOA)
- Perfluorooctanesulfonic acid (PFOS)
- Perfluorononanoic acid (PFNA)
- Perfluorodecanoic acid (PFDA)
- Perfluorohexanesulfonic acid (PFHxS)

MassDEP currently regulates only the six above-listed PFAS compounds, collectively identified as PFAS6, for which there are published Method 1 Standards. In addition, up to 30 other PFAS compounds were evaluated during Phase II assessment activities for the evaluation of source identification, depending on the sample medium, analytical method used and its associated analyte list. While other PFAS were detected, their detections are low frequency and/or low concentration, with PFOA, PFOS and PFHxS being the most frequently detected compounds.

3.2 Nature and Extent of Contamination for Soil

3.2.1 30 Mountain Road

Based on a review of the soil data obtained at 30 Mountain Road, the six PFAS compounds regulated by MassDEP were detected at all soil sample locations and sample depths above MCP Method 1 S-1/GW-1 Soil Standards with the exception of 30MTN S-11, S-14, and S-16. The dominant compound detected in these samples is PFOS with the highest PFOS concentrations detected at 30MTN Basement-1 (6-8) and 30MTN S-2 (6-12) at 170 and 130 µg/kg, respectively. PFOS is also the dominant compound detected in the surface water runoff samples collected from 30 Mountain Road as well as the groundwater sample collected from the well (not currently in use) that served the structure that was lost in the 2017 fire. PFOS and PFHxS are the most dominant compounds in the well that serves the currently-occupied structure at 30 Mountain Road. PFAS compounds were not detected above the Method 2 S-1 Direct Contact soil standards in the soil samples collected by Tighe & Bond at 30 Mountain Road.

3.2.1.1 30 Mountain Road EPA Soil Sample Findings

EPA soil sample results are generally similar to soil results collected by Tighe & Bond. PFOS is notably higher at sample locations immediately adjacent to the fire damaged building, with the highest concentration detected at EPA SS-07B (12-36 inches) of 490 ug/kg. This concentration exceeds the Method 1 S-1 Soil Standard of 2 ug/kg as well as the Method 2 Direct Contact Standard of 300 ug/L. However, the exposure point concentration for PFOS at 30 Mountain Road (which includes the EPA data) was calculated to be 34.8 ug/kg (ppt), which is below the direct contact standard of 300 ug/L (ppb).

3.2.2 22 Mountain Road

One or more PFAS6 compounds were detected above their MCP Method 1 S-1/GW-1 Soil Standards in nine of the 16 soil samples collected. The highest concentrations were detected in the soil samples collected from 22MTN S-1, S-2, S-6, S-7, and S-13. These locations are consistent with the expected flow pattern for runoff originating from 30 Mountain Road during the firefighting efforts, based on topography of the Site and information provided by the homeowners. No PFAS compounds were detected in the soil samples collected at 22 Mountain Road above the Method 2 S-1 Direct Contact Soil Standards.

3.2.3 18, 19, 21 Mountain Road

In general, the PFAS concentrations in shallow soil at 18, 19 and 21 Mountain Road were lower than the concentrations in shallow soil at the other properties sampled. A review of these results compared to the Method 1 S-1/GW-1 standards indicates the following:

- PFHpA was not detected above laboratory reporting limits in the surface soil samples collected at 18, 19, or 21 Mountain Road.
- PFHxS was detected in three samples above the Method 1 S-1/GW-1 Soil Standard at 21 Mountain Road and in one sample at 19 Mountain Road.
- PFDA was detected above the Method 1 S-1/GW-1 Soil Standard at one sample from 18 Mountain Road and one sample from 19 Mountain Road.
- PFOA was detected in two soil samples at 18 Mountain Road and one sample at 21 Mountain Road above the S-1 Soil Standard.
- PFNA was detected at 18, 19 and 21 Mountain Road at four locations above the Method 1 Soil Standard.
- PFOS was detected at six sample locations above its Method 1 Soil Standard, four at 18 mountain Road, one at 19 Mountain and five at 21 Mountain Road. The highest concentrations of PFOS were detected at 21 Mountain Road (21MTN S-8, S-9, and S-10), where the homeowner reported observing foam runoff from the 2017 fire.

3.2.4 29 Mountain Road

PFAS was not detected above laboratory reporting limits in the soil samples collected at 29 Mountain Road.

3.2.5 54 Mountain Road

As previously stated, the report of a fire at 54 Mountain Road in 1967 (and possible use of material containing PFAS during that event) was evaluated as a possible source of PFAS impacts to soil and groundwater at the Site.

PFAS6 compounds were detected above laboratory reporting limits at all soil sample locations at 54 Mountain Road, except 54MTN S-7 (12-24) and 54MTN S-11 (12-24). Of the remaining soil samples, five had PFAS6 compounds detected above the Method 1 S-1/GW-1 Soil Standards, but none exceeded the Method 2 S-1 Direct Contact Standards.

Although details of the firefighting method utilized on that property (i.e., whether AFFF was used) are not available, the soil sampling data from 54 Mountain Road show PFAS

detections around the perimeter of the building, as would be expected if the PFAS is from a material used during firefighting. Further, the soil data generally agree with the well water data, with PFHxS and PFBS notably absent from both media, whereas these compounds have been detected in the southern site area (and PFBS is also present in other private supply wells in the northern area).

3.2.6 Town Hall Campus

The soil samples collected from the area of the former brick building did not identify PFAS6 above Method 1 S-1/GW-1 Soil Standards and the majority of the results were estimated ("J flag"), which are not considered actual detections. J Flag estimated concentrations are reported whenever the measured concentration is lower than the reporting limit but above the method detection limit and are suspect with regard to useability. Of four samples collected, there was only one detection of a PFAS compound, which was PFOS at 0.95 µg/kg in sample Transformer Building S-3.⁷ This concentration is less than half the RCS-1 Reportable Concentration of PFOS of 2 µg/kg.

The Library-1 and Library 2 soil samples indicate PFOS detections of 0.48 and 1.3 µg/kg, respectively, which are below the Method 1 S-1 Soil Standard for PFOS. PFHxS was reported in the Library-2 soil sample at a concentration of 1.2 µg/kg, which is above the PFHxS Method 1 Soil Standard of 0.3 µg/L. All other PFAS6 compounds were either below laboratory reporting limits or were below the applicable Method 1 S-1/GW-1 Soil Standards.

Also, the highest detected levels of PFAS in the shallow bedrock wells at the THC are in the area immediately downgradient of the bedrock face and pipe where runoff discharged from 30 Mountain Road. Taken together, these results support a conclusion that material containing PFAS was not used as part of firefighting training that may have been conducted at the building. Therefore, the THC is no longer considered an initial source area of the PFAS impacts to groundwater detected at the THC.

3.2.7 Soil Leachability Analysis

PFAS analysis by Synthetic Precipitation Leaching Procedure (SPLP) was completed for soil samples 30MTN S-3 (12-24), S-4 (6-12), S-5 (6-12), S-5 (12-24), S-8 (0-12), S-9 (0-12); 54MTN S-6 (6-12), S-10 (12-24); 22MTN S-1 (6-12), S-1 (12-24) and 22MTN S-7 (6-12). The SPLP concentration represents the amount of PFAS available to leach from soil and is evaluated to better understand the potential mobility of PFAS in soil and what levels could potentially reach groundwater.

The samples were selected based on their range of concentrations and soil type to determine PFAS retention in those soils. In the attached tables, the PFAS results from the isotope dilution analysis, which reports the total concentration of each compound detected in the sample, are compared to the SPLP concentration detected (the soil results are in solid units (ng/kg) while the SPLP results are in liquid units (ng/L), both presented in parts per trillion, ppt, in the tables).

⁷ Previous IRA status reports inadvertently indicated that there were no PFAS detections in any of the samples. However, the single low detection of PFOS does not change the conclusion.

The SPLP results indicate that the amount of PFAS leaching from soil is 89 to 99 percent less than the total PFAS concentration in the soil, regardless of soil type. For example, the total PFOS concentration in the soil sample collected at 30MTN S-3 is 24,000 ppt. In contrast, the SPLP result for the same soil sample is 330 ppt. This indicates that approximately 99 percent of PFOS is being retained in the soil at this location, meaning that the leachable mass is finite and decreasing with each precipitation leaching event. Although there is significant retention of PFAS in the soil matrix, the summed SPLP PFAS6 concentrations still exceeded the GW-1 standard of 20 ng/L for PFAS6. However, the SPLP results are indicative of precipitation entering shallow groundwater, with these concentrations becoming significantly diluted as the water migrates vertically into bedrock groundwater and is diluted further still as groundwater discharges to surface water.

The SPLP soil results and the calculated percent retained are summarized in Table 2B in Appendix B. The complete laboratory reports for the SPLP soil samples are included in Appendix C.

3.2.8 Summary of Soil Analytical Results

An overall review of the soil analytical data indicates that the distribution of PFAS6 compounds vertically through the thin soil column above bedrock in the Disposal Site is relatively uniform, regardless of soil stratigraphy. PFAS6 compounds are likely retained in the denser fine sand and silt layers and less so in the loose loamy sand and gravel layers, and may accumulate where PFAS-impacted water is trapped in soil at the bedrock surface after rain events. This is observable in the sample collected at 30MTN S-4 where soils at this location consist of sandy loam and organics to approximately 6 inches bsg and fine sand and silt from 6 to 12 inches bsg. At this location PFOS (and to a lesser extent, PFHxS) is higher in the 6-12-inch sample than the 0-6-inch sample, while at locations Basement-2, S-11 and S-12, concentrations are lower at the bedrock surface (see Table 2A).

Bedrock was encountered at shallow depths at most boring locations. At 22 Mountain Road, bedrock was encountered at 12-18 inches bsg on the western portion of the property along the slope that rises towards 30 Mountain Road. This is also the area with the most elevated PFAS6 concentrations, with the dominant concentrations being PFOS. The deepest boring at 22 Mountain Road was 22MTN S-13 where bedrock was encountered at approximately 60 inches bsg.

Bedrock at 30 Mountain Road is shallow with the deepest encounter at 36 inches bsg at 30MTN S-5, S-11 and S-13. Bedrock in the areas with the highest PFAS concentrations is on the eastern portion of the property where bedrock is shallow at approximately 12 inches bsg. The eastern portion of the 30 Mountain Road property slopes toward 22 Mountain Road and the concentrations detected in this area are consistent with the elevated concentrations detected on the same slope on the 22 Mountain Road property.

The reported runoff off AFFF/firefighting water across Mountain Road onto 21 Mountain Road appears likely based on the results from soil sample 21MTN S-8 through S-10, where elevated PFOS concentrations were observed.

PFAS soil impacts at 54 Mountain Road indicate a possible separate source of PFAS impacts as the soil data generally agree with the well water data, with PFHxS and PFBS notably

absent from both media, whereas these compounds have been detected in the southern site area of 30 Mountain Road. This finding is further discussed in Section 3.3 below.

As indicated, the vertical extent of PFAS soil impacts appears to be defined to the underlying bedrock, which is shallow, ranging from a few inches to a few feet, and 5 feet at one sampling location.

The horizontal extent of PFAS soil impacts appears to extend from the 30 Mountain property, with the highest concentrations on the southeastern portion of the property, and extending onto 22 Mountain Road, across Mountain Road onto 21 Mountain Road and to a lesser extent onto 18 and 19 Mountain Road, and the Town Library.

PFAS soil impacts east of 18MTN S-5, where PFOA, PFOS, and PFNA were detected in surficial soil above Method 1 S-1/GW-1 Soil Standards, have not been fully defined. PFAS soil impacts are also not defined east and south of 21MTN S-8, S-9, and S-10 which may extend onto the THC.

While PFAS soil impacts associated with the release of AFFF at 30 Mountain Road are not likely present west of 30MTN S-14 and S-15, soil sampling has not been conducted south of 30MTN S-12 and EPA SS-13. Also, with the exception of soil sample 29MTN S-2, soil sampling has not been conducted south of Mountain Road in vicinity of Goodnow Park.

The PFAS concentrations in the perimeter samples are well below the Method 2 Direct Contact Standards (all but one of the soil samples collected Site-wide are below these standards). It is worth noting that of the perimeter samples listed above, only 21 MTN S-9 has PFHxS detected, suggesting the potential that some of the PFAS detections are not attributable to the AFFF used in 30 Mountain Road firefighting.

While S-1/GW-1 are the applicable Method 1 soil standards, these standards are set very low because they are intended to include the consideration of leaching to groundwater. Here, it is known that Site groundwater is impacted and represents a risk condition.

Further, the data indicate that PFAS concentrations on the properties downhill from 30 Mountain Road are generally similar (i.e., individual compound concentrations are typically in the range of <1 µg/kg to 10 µg/kg, with limited outliers from that range). There is sufficient data to suggest that collecting additional samples would provide more information with the same concentrations, but with more similar data an Exposure Point Concentration (calculated as the average) would not change significantly (i.e. would not indicate risk where direct exposure risk or S-1/GW-1 risk does not exist based on the current data set).

Finally, many of the PFAS concentrations detected in the soil samples collected farther from 30 Mountain Road are below or similar to published Background values for Maine and Vermont, as well as the results published by Woodard & Curran from their 2022 state-wide background study in Massachusetts (*"PFAS in Massachusetts Soils: Establishing Background Conditions to Inform Regulatory Decision-Making"*). See footnote 7.

These factors support a conclusion that there is limited value in further soil sampling. In addition, preliminary research on remedial alternatives for soil indicates that soil

remediation is not currently feasible or cost-effective, further reducing the potential utility of additional soil sampling.

3.3 Nature and Extent of Contamination for Groundwater

With the monitoring of over 100 water supply wells and the seven monitoring wells at the THC, horizontal PFAS groundwater impacts are well defined at the Site. A review of the PFAS6 concentration distribution at each sample point indicates that two distinct PFAS signatures are present providing a line of evidence that there are two separate sources within the study area (see Figures 6A and 6B, Appendix A).

3M branded Light Water™ AR/AFFF was documented in a photograph from the Site during the 2017 firefighting (3M AFFF is characterized by PFOS and PFHxS). Therefore, the presence/absence of PFHxS appears to be a good indicator of the limits of the AFFF impacts from the 30 Mountain Road fire.

Northern Area (PFOA Dominant, PFHxS Absent)

Potable wells north and west-northwest of 30 Mountain Road ("northern area" -51, 54, 58, 64 Mountain Road, 43 Hubbardston Road and 15 Radford Road) generally have higher concentrations of PFOA (represents an average of 37 percent of PFAS6) and no PFHxS. As indicated above, PFOS and PFHxS are understood to be associated with AFFF manufactured by 3M. Therefore, the northern portion of the study area where PFOA is the dominant compound appears to be impacted by PFAS impacts from another source. 54 Mountain Road is identified as a possible source of PFOA in the northern area, from the occurrence of a fire in 1967 and the possible (but unverified) application of a material containing PFAS during that event.

Another consideration relevant to the different detections of PFAS in the northern area is the possibility that the PFAS detected is associated with another source. For example, it is known that biosolids applied as an agricultural or landscaping soil amendment are a source of PFAS in the environment. Any compost derived from paper sludge, municipal wastewater sludge or myriad other sources, has the potential to contain PFAS. While agricultural-scale biosolids application in Princeton, specifically within the bounds of the Disposal Site, has not been documented, the potential exists that smaller-scale applications of compost derived from biosolids has occurred at properties within the Disposal Site Boundary for landscaping or gardening purposes. Notably, Mass Natural Fertilizer, located in the adjacent Town of Westminster, has been a local vendor of such products and their location is identified currently as a MassDEP Disposal Site under Release Tracking Number 2-21866 due to PFAS impacts detected in soil and groundwater at the facility.

The apparent northern boundary of PFAS impacts in deep bedrock groundwater has migrated slightly north with the detections at 105 Merriam Road and 92 Mountain Road, but PFAS were not detected at 7 Thompson Road or 97 Mountain Road.

Southern Area (PFOS and PFHxS Dominant)

Potable wells at and to the south-southwest of 30 Mountain Road ("southern area" 14, 18, 19, 21, 29 and 30 Mountain, 15 Hubbardston, 12 Boylston and now 11, 13, and 14 Gregory Hill Road) have elevated PFHxS (59 percent average) and PFOS concentrations (22%) but

little PFOA (9 percent average). PFOS and PFOA concentrations are similar in the northern plume, suggesting both PFOA and PFOS are present in the northern area source. There is likely some mixing of PFAS along the boundary between these two release areas.

Merriam Road and East Princeton Road appear to be the current easterly limit of PFAS impacts in deep bedrock groundwater, as PFAS have not been detected northeast of Merriam Road or beyond 18 and 26 Prospect Street.

The southerly limits of the PFAS impact in deep bedrock groundwater appear to be limited to 27 Worcester Road, 17 Boylston Ave, and 18 Connor Lane. The western limit appears to be the properties identified as 18 and 28 Radford Road.

A review of the groundwater data from samples collected from the monitoring wells on the THC indicate a high percentage of PFHxS and PFOS, consistent with the concentrations identified in potable wells located within the southern portion of the disposal site and the runoff samples collected from the drainpipe at 30 Mountain Road. Note that MW-10D shows only PFBS and PFBA in the pie chart on Figure 6B. This is likely due to the elevated reporting limit (11 ng/L) in the April 2023 sample.

It is noted that PFAS have not been detected at 21 or 24 Boylston Avenue. Wells to the east of these homes along Boylston Avenue have PFHxS and homes to the west do not. Similarly, 5, 7, 11 and 17 Prospect Street have PFHxS while 18 and 26 Prospect Street do not. Finally, while PFHxS is detected along lower Mountain Road and Gregory Hill Road, none of the wells along Worcester Road show PFHxS as a reported compound. PFHxS is a smaller molecule than PFOA or PFOS and is expected to be less retarded as it migrates, so this compound would be expected to identify the leading edge of the southern plume. The three locations used to estimate the groundwater flow velocity (2 Mountain Road, 17 Boylston Avenue and 11 Gregory Hill Road) all had only PFHxS as their initial detection, supporting this idea. These data introduce the possibility that the PFAS detections along Worcester Road may not be associated with the AFFF used during the 30 Mountain Road firefighting.

3.4 Nature and Extent of Contamination for Surface Water

MassDEP used surface water target values of 1,705 µg/L for PFOA and 19 µg/L for PFOS (from Minnesota Pollution Control Agency, 2007, cited in MassDEP *Summary of Proposed MCP Method 1 Standards Revisions*, March 2019) as the basis for establishing the Method 1 GW-3 standards. The PFOA (100 ppt) and PFOS (2,800 ppt) concentrations detected in the runoff sample from 30 Mountain Road are significantly below these target values.

The laboratory results for the July 2023 stream samples show PFAS6 concentrations are well below the MassDEP Surface Water Benchmark Values. Since the samples were collected during ambient conditions, i.e., more than 72 hours after the last rain event, the concentrations that were detected are expected to reflect groundwater discharge to surface water, which in turn is expected to reflect the impact on groundwater of PFAS in the 30 Mountain Road runoff and potentially in discharges from septic systems at properties in the upgradient areas.

Surface water bodies located to the south of Hubbardston Road and Boylston Avenue are considered Zone A surface water since they discharge into drinking water supplies (Quinapoxet or Wachusett Reservoirs). In accordance with the MCP at 310 CMR 40.0313(4)(e), releases to groundwater that have been or are within one year likely to be detected in a surface water body, wetland, or public water supply reservoir constitutes a Condition of Substantial Release Migration (SRM), which requires notification to MassDEP within 72 hours from the time of knowledge. After it was determined that these detections of PFAS in surface water were likely associated with PFAS in groundwater, on August 17, 2023, MassDEP was notified of these data as an SRM condition.

While additional surface water sampling is planned to refine the areas where impacted groundwater is discharging to surface water, the PFAS6 concentration detected at sample location SW-1 (66 ppt) is reduced by 60% (to 26 ppt) at SW-4 over a distance of approximately 2,500 feet, presumably through dilution with unimpacted surface water from other joining streams. The Wachusett Reservoir is located approximately 5.5 miles east of SW-4 and there are numerous wetland complexes and other streams that feed into this network before reaching the Wachusett. Accordingly, it can be reasonably assumed that the PFAS concentrations at SW-4 will not reach the Wachusett Reservoir at detectable levels.

Sample location SW-2 had a very low PFAS6 concentration (5 ppt). This water body feeds into Cobb Brook which eventually reaches the Quinapoxet Reservoir, approximately 2.5 miles to the south. Given the number of ponds and streams that join Cobb Brook, it can also be reasonably assumed that the very low PFAS concentrations at SW-2 will not reach the Quinapoxet at detectable levels.

These surface water locations will continue to be monitored to evaluate for any changes in PFAS concentrations seasonally and over time.

3.5 Characterization of Background

MassDEP currently has no published identified background levels for PFAS. PFAS are man-made chemicals and would not be present under natural conditions but may be present under the definition of anthropogenic (human caused) background conditions.

While background PFAS conditions were not specifically evaluated as part of Phase II CSA activities for RTN 2-21072, PFAS may be present in ambient air, soil or other environmental media resulting from atmospheric deposition, fill materials, or other processes. A recent study completed in Massachusetts by Woodard & Curran "indicate the presence of measurable concentrations of nine PFAS compounds in soil across all regions of the state (samples were collected in undeveloped areas), and in many instances at levels exceeding the most stringent of the Massachusetts Method 1 soil standards. PFOS and PFOA were detected most frequently and at the highest concentrations." ⁸

The State of Maine Department of Environmental Protection published a Memorandum in 2022 establishing interim background threshold levels of PFAS in shallow soils for both

⁸<https://www.woodardcurran.com/projects/massachusetts-soils-study-sheds-light-on-background-pfas-concentrations/>

urban and non-urban areas. Notable findings in the Memorandum show background threshold values for PFOA, PFDA (urban), PFNA, and PFOS (urban) above MassDEP's Method 1 S-1/GW-1 Soil Standards.⁹

Environmental media samples collected at the site include soil, groundwater and surface water. While there are private wells where PFAS have not been detected that define the limits of the disposal site, those data do not establish background. While there were several soil samples that had no PFAS detected, most soil samples had PFAS detections. Surface water sampling was limited to areas of known/likely impacts from the 30 Mountain Road runoff so those data do not influence evaluation of background. Taken together, the data from the referenced studies and the results of media sampling at this site support a conclusion that background concentrations for PFAS within the disposal site boundary are above the level of non-detect.

⁹ https://www.maine.gov/dep/spills/topics/pfas/Maine_Background_PFAS_Study_Report.pdf

Section 4

Exposure Assessment and Risk Characterization

4.1 Exposure Assessment

In accordance with the MCP at 310 CMR 40.0835(4)(g), an exposure assessment is required as part of the Phase II Assessment. As described in 310 CMR 40.0900, the exposure assessment includes the identification and characterization of all potential human and environmental receptors that could be impacted by oil and/or hazardous material at or migrating from the Disposal Site, and, as appropriate, the quantification of exposure of oil and/or hazardous material to these receptors, under current and reasonably foreseeable site conditions.

4.1.1 Potential Human Receptors

Based on current and anticipated future site uses, the following human receptor groups are quantitatively included in the Method 3 Risk Characterization:

Residents; Soil samples were collected from several residential properties, so current and anticipated future use at those locations is residential. Residents are assessed for three age groups - child, youth, and adult.

Construction/Utility Workers; The potential for construction or utility worker exposure exists at the residences under current and future uses.

Commercial/Industrial Workers; The residential properties have not been and are not anticipated to be in commercial/industrial use, so commercial/industrial workers were not assessed. Assessment of residents is adequately protective of commercial/industrial workers to account for any future commercial/industrial development.

Recreational Receptors; The THC, Goodnow Park and other properties within the Disposal Site may be used passively for recreational purposes. The assessment of residents conservatively represents potential recreational exposure.

Pedestrians/Trespassers; Pedestrians or trespassers may be exposed to COCs during visitation; however if exposure to soil did occur, it would be limited in frequency and duration. For this reason, trespassers are not explicitly assessed; assessment of residents conservatively represents potential pedestrian/trespasser exposure.

Landscape workers; Landscaping activities are anticipated to potentially occur at all residences assessed and the THC. Direct soil contact is anticipated to be moderate to intense, intermittent, and of a short to moderate, seasonal duration, and is not explicitly assessed. The assessment of construction/utility workers conservatively represents potential landscape worker exposure.

4.1.2 Potential Environmental Receptors

Potential environmental receptors are identified and characterized below. Surface water samples collected from Schoolhouse Pond, Airport Pond and several unnamed tributaries within the Disposal Site Boundary had detectable concentrations of the six regulated PFAS

analytes. There detected concentrations are well below the surface water benchmark values used by MassDEP to develop the Method 1 GW-3 standards.

Plants: Studies show evidence of uptake and accumulation of PFAS by plants in several settings and applications, including both controlled experiments and field investigations. PFAS may be introduced to plants from soil, water, or air by irrigation water, the application of biosolids- or sludge-amended soils, soil and groundwater at PFAS sites or near releases of PFAS, exposure through contact with rainwater and atmospheric deposition.¹

Invertebrates: act as the main component of the food web base and play a key role in the dynamics of biomagnification. Aquatic invertebrates can reside in the water column, as well as on (or in) the sediment substrate. In higher trophic level organisms, PFOS has been documented as the dominant PFAS, with concentrations increasing up the food chain, while PFOA has a lower bioaccumulation potential and concentrations are similar among species of different trophic level animals.¹

Fish: accumulation of PFAS in fish has been documented, particularly for PFOS, longer-chain PFAS (with eight or more carbons), and PFDS. PFOS generally has the highest concentrations in fish due to the historically high use of this chemical and its bioaccumulation potential. PFOS tends to partition to the tissue of highest protein density, including the liver, blood serum, and kidney. This distribution pattern is contrary to other persistent chemicals, which tend to partition to adipose tissue.¹

4.1.3 Current and Foreseeable Site Uses

The current disposal site boundary is comprised of residential properties, undeveloped land, limited commercial properties and government administration buildings. The foreseeable future use of the Site is expected to remain the same or similar to the current use.

4.1.4 Identification of Site COCs

Site COCs are identified in Section 3.1 of this report.

4.1.5 Determination of Method 1 Standards

Groundwater and soil at disposal sites are categorized for risk assessment purposes based upon the location, and uses of the site and the site groundwater. Specific standards have been developed for both soil and groundwater based upon these uses and the potential for human and/or environmental exposure. Within an individual site, several applicable categories may be present, including one or more soil categories and one or more groundwater categories. Groundwater and soil category classification criteria are set forth in 310 CMR 40.0932 and 40.0933, respectively.

Laboratory analytical results for samples collected from the Site were compared to applicable Method 1 soil and groundwater standards. The applicable soil and groundwater standards for the Site include S-1 for soils and GW-1 and GW-3 for groundwater. The justifications for these standards are described below.

4.1.5.1 Method 1 Soil Standards

Based on current and foreseeable Site conditions and exposure scenarios, soil at the Site meets the criteria of soil category S-1, as defined by 310 CMR 40.0933. The determination is supported by the following criteria:

- Adult and child frequency and intensity of use is considered “high” as the majority of the release area is residential where children and adults reside and may result in direct contact with the soil.
- Site soils are considered “accessible” as Site COCs are present in the top 3 feet of soil.

4.1.5.2 Method 1 Groundwater Standards

Based on a review of the MassGIS Priority Resources map (Figure 2 in Appendix A), groundwater at the Site meets the criteria of groundwater categories GW-1 and GW-3. These groundwater categories apply based on the following criteria:

- GW-1 – Applies because the Site is located within an IWPA and the Town campus, area businesses, and residential properties maintain individual drinking water supply wells.
- GW-3 – Applies as all groundwater in Massachusetts is considered to have the potential to discharge to surface water.

Groundwater category GW-2 does not apply as there are no GW-2 standards for Site COCs because they are not volatile.

4.1.6 Selection of Risk Characterization Method

In accordance with 310 CMR 40.0970, Method 1 may be used to characterize the risk of harm to health, public welfare and the environment at disposal sites where assessments conducted in accordance with the MCP have determined that:

- The presence of oil and/or hazardous material (OHM) is limited to soil and/or groundwater.
- Persistent odors in ambient or indoor air resulting from the release are not present.
- OHM that are known to bioaccumulate are not present within 2 feet of the ground surface and downgradient groundwater contamination that remains above applicable MCP GW-1 standards are not likely to impact sensitive environmental receptors that are located south/southwest of the southeastern extent of the disposal site boundary.

Since some PFAS compounds are known to bioaccumulate, a Method 1 Risk Characterization cannot be used to evaluate risk to environmental receptors at the Site. Therefore, a combined Method 1 and Method 3 approach will be used to evaluate potential risks associated with Site soil and groundwater; and Method 3 will be used to evaluate potential risks to the environment (Stage I Environmental Screening). In addition, the published Method 2 soil standards were used to evaluate direct contact risk to Site soils.

4.1.7 Exposure Pathway Evaluation

4.1.7.1 Soil

Soil data indicate that impacts within the disposal site boundary are present in surface soils. Potential exposure to residents could occur through dermal contact, inhalation of soil-derived dust, or the growing of fruits and vegetables. Therefore, impacted soils are considered "accessible."

4.1.7.2 Groundwater

There are four IWPA areas within the disposal site boundary (associated with the THC, and the properties at 2 Mountain Road, 14 Mountain Road, and 23 Hubbardston Road) and all residential properties maintain private drinking water wells. Laboratory analysis indicates that PFAS are present in individual drinking water supply wells. Therefore, exposure to impacted groundwater could occur through ingestion or dermal absorption of contaminated groundwater in the private wells. To mitigate this exposure, all homes with PFAS6 greater than 20 ng/L are equipped with two-vessel POETs and nearly all of the homes with any PFAS6 detection are equipped with single-vessel POETs.

4.1.7.3 Surface Water

PFAS surface water impacts are present at the Site and represent a complete exposure pathway to Site biota, and to a lesser extent, humans. Therefore, exposure to Site COCs from surface water could occur from dermal exposure (swimming, although the affected water bodies are not known to be used recreationally), accidental ingestion (humans) and to aquatic and terrestrial organisms.

4.1.7.4 Sediment

The sediment exposure pathway was not evaluated as part of this Phase II. However, the fact that surface water PFAS concentrations are orders of magnitude below the benchmark values used by MassDEP to evaluate environmental risk makes it unlikely that sediment would be significantly impacted.

4.1.7.5 Air Exposure Pathway

The air exposure pathway was not evaluated as part of the Risk Characterization as complete indoor air exposure pathway from groundwater does not exist at the Site. In addition, MassDEP has no published Method 1 GW-2 Groundwater Standards for PFAS6 due to their non-volatile nature.

4.1.8 Identification of Exposure Point Concentrations

For the purposes of characterizing risk with respect to soil and groundwater at the Site, Exposure Point Concentrations (EPCs) are calculated and compared to the applicable MCP Method 1 Standards. EPCs represent the concentration of OHM in soil and groundwater with which a human or environmental receptor may come in contact. An exposure point may be defined as an area or zone of potential exposure, as well as a single discrete point. Each groundwater monitoring well is considered a separate exposure point but results over time for each well may be averaged to calculate an EPC.

As indicated in the MCP (310 CMR 40.0926), the arithmetic mean concentration, which provides a conservative estimate of the concentration contacted by a receptor at an exposure point over a period of exposure, should be used to represent the EPC. EPCs were

determined by calculating the arithmetic mean concentration of each COC using detected concentrations and one-half the laboratory reporting limit to represent the concentrations of contaminants reported as not detected. The arithmetic mean provides a conservative estimate of the concentration contacted by a receptor at an exposure point over a period of exposure.

EPCs are compared to MCP Method 1, S-1/GW-1 and S-1/GW-3 standards for soil, GW-1 and GW-3 for groundwater, and Upper Concentration Limits (UCLs), to evaluate risks posed by the release.

4.1.8.1 Soil Exposure Point Concentrations

To date, 167 discrete soil samples (including the samples collected by EPA) have been collected and analyzed for PFAS within the disposal site boundary. Soil EPCs were calculated separately for each property and represent current conditions in the top 3 feet of soil. Soil EPCs were not calculated for deeper soil because the data set beyond 3 feet below grade was limited by the presence of shallow bedrock at most sample locations. Soil EPCs were not calculated for the soil samples collected at the Town Campus or 29 Mountain Road due to the low concentrations/non detect results for Site COCs. Method 1 soil Exposure Points are to encompass only continuous areas of contaminated soil and do not include clean soil.

In accordance with MCP requirements, a hot spot is considered a discrete area where the concentrations of OHM are substantially higher (greater than 100 times) than those in the surrounding area. Based on the soil data collected to date, no hot spots exist within the disposal site boundary.

For the purpose of this evaluation, individual properties were considered separate exposure points and their separate data was used rather than the entire Site dataset. In accordance with *WSC/ORS 95-141 Guidance for Disposal Site Risk Characterization*, if an area of contaminated soil is not contiguous, then the discrete areas of contaminated soil which exist at the site are treated as separate Exposure Points. Exposure points also exist in three dimensions. As indicated, soil EPCs were calculated for the top 3 feet of soil due to shallow bedrock and limited data beyond 3 feet below grade. A summary of the EPCs calculated for each exposure point is discussed below:

18 Mountain Road

PFAS6 soil EPCs at 18 Mountain Road are below the applicable Method 1 S-1/GW-1 Soil Standards and therefore do not pose a significant risk to human health.

19 Mountain Road

PFAS6 soil EPCs at 19 Mountain Road are below the applicable Method 1 S-1/GW-1 Soil Standards and therefore do not pose a significant risk to human health.

21 Mountain Road

Soil EPCs for PFOS (4.1 µg/kg) and PFHxS (0.76 µg/kg) at 21 Mountain Road are above the applicable Method 1 S-1/GW-1 Soil Standards of 2 µg/kg and 0.3 µg/kg, respectively and represents a potential risk to human health based only the potential for PFAS to leach from soil to groundwater. The soil EPC does not exceed the Method 2 Direct Contact Standards of 300 µg/kg.

22 Mountain Road

Soil EPCs for PFOA (0.75 µg/kg) and PFHxS (1.03 µg/kg) at 22 Mountain Road are above the applicable Method 1 S-1/GW-1 Soil Standards of 0.72 µg/kg and 0.3 µg/kg, respectively and indicates a potential risk to human health based only the potential for PFAS to leach from soil to groundwater, but do not exceed the Method 2 Direct Contact Standards of 300 µg/kg.

30 Mountain Road

Soil EPCs for PFOS (34.8 µg/kg) and PFHxS (1.6 µg/kg) at 30 Mountain Road are above the applicable Method 1 S-1/GW-1 Soil Standards of 2 µg/kg and 0.3 µg/kg, respectively and represents a potential risk to human health based only the potential for PFAS to leach from soil to groundwater, but with the exception of a single sample do not exceed the Method 2 Direct Contact Standards of 300 µg/kg.

54 Mountain Road

The soil EPC for PFDA of 0.34 µg/kg was the only compound above the applicable Method 1 S-1/GW-1 Soil Standards of 0.3 µg/kg and may represent a potential risk to human health. PFDA had a low rate of detection at the other properties when compared to 54 Mountain Road.

For reference, calculated soil EPCs for these properties are summarized in Table 2, included in Appendix B.

4.1.8.2 Groundwater Exposure Point Concentrations

For the purposes of this Risk Characterization, groundwater EPCs are considered the highest concentration detected at individual monitoring points, as a conservative measure.

Concentrations of PFAS6 detected in the supply wells at each of the homes shown on Figure 3 with a red or purple border exceed the GW-1 standard, indicating a risk, and an Imminent Hazard at the properties with a purple-border. These risks and Imminent Hazards are being addressed through the POETs installed at each of these homes. POET monitoring indicates that the treated water is non-detect for the monitored PFAS compounds. Similarly, groundwater monitoring well data indicate PFAS6 concentrations in overburden and shallow bedrock groundwater at the THC exceed the GW-1 standard.

4.2 Characterization of Risk of Harm to Human Health, Public Welfare, Safety and the Environment**4.2.1 Risk of Harm to Human Health**

With respect to risk of harm to human health from exposure to soil, soil EPCs do not indicate a significant risk to human health from dermal contact and inhalation of soil-derived dust at 21, 22, 30, and 54 Mountain Road.

Due to the complex exposure scenarios associated with Site COCs, a Method 3 Risk Characterization (M3RC) for soil was prepared by Sovereign Consulting, Inc. for RTN 2-21072 and is included in Appendix D. A summary of the M3RC findings is provided below:

- The human health M3RC was conducted for the presence of PFAS6 compounds in soil at several residential properties along Mountain Road. The focused M3RC assessed the risk of harm to human health posed by contact with PFAS6 compounds detected in soil only.
- The human health M3RC assessed potential health risks posed to two human receptor groups: existing residents of the properties and construction/utility workers (to represent landscapers). Both receptor groups were assessed for exposure to PFAS6 compounds through soil ingestion, soil dermal contact, and outdoor inhalation of entrained soil particles. Construction/utility workers were additionally assessed for exposure to PFAS6 compounds through ingestion of inhaled, entrained soil particles.
- Calculated non-carcinogenic hazard indices (HIs) for all receptors and age groups are below the maximum acceptable HI of 1. Therefore, as assessed, the presence of PFAS6 compounds in residential soil poses no significant risk of harm to human health via this exposure pathway.

With respect to groundwater, monitoring wells, and public and private water supplies are considered individual exposure points. Based on private well sampling at 115 residential homes and the monitoring wells at the Town Campus, groundwater represents a potential risk to human health. However, the use of POET systems and bottled water provision, along with continued drinking water and POET system monitoring, have mitigated the risk to humans from exposure to drinking water. Continued drinking water monitoring and maintenance of POETs is required to maintain a condition of No Significant Risk to human health.

4.2.2 Risk of Harm to Public Welfare

The assessment of risk of harm to public welfare for the Site is evaluated by considering the presence of nuisance conditions (i.e., odors) resulting from the release, loss of active or passive property use(s), and any non-pecuniary effects not otherwise considered in the characterization of risk of harm, safety and the environment which may occur due to the degradation of public resources directly attributable to the release. Additionally, the concentrations of contaminants in soil and groundwater must be compared to Method 3 UCLs to evaluate the risk of harm to public welfare.

- There has been no degradation of public resources associated with the release.
- There are no odors or other nuisance conditions present at the site
- UCLs have not been exceeded in any of the soil or groundwater samples.

Based on this evaluation, a condition of No Significant Risk of harm to public welfare exists at the Site.

4.2.3 Risk of Harm to Safety

An evaluation relative to the risk of harm to safety posed by current and foreseeable conditions at the Site has been made in accordance with 310 CMR 40.0960. There are no dangerous structures, explosive vapors, uncontained hazardous materials or other unsafe conditions at the site resulting from the release. As such, there are no conditions considered to represent threats to public safety at the disposal site and current practices

do not indicate the likelihood of a threat to public safety under reasonably foreseeable conditions.

4.2.4 Risk of Harm to the Environment

In accordance with the MCP at 310 CMR 40.0995, four criteria must all be met to demonstrate that a condition of No Significant Risk of harm to the environment exists or has been achieved:

1. There is no physical evidence of a continuing uncontrolled release of oil and/or hazardous material at or from the disposal site to surface waters and/or wetlands which significantly affects environmental receptors;
2. There is no evidence of biologically significant harm known or believed to be associated with current or foreseeable future exposure of wildlife, fish, shellfish or other aquatic biota to oil and/or hazardous material at or from the site;
3. Concentrations of oil and/or hazardous material at or from the disposal site do not and are not likely to exceed Massachusetts Surface Water Quality Standards as promulgated at 314 CMR 4.00 (and as amended) at current and reasonably foreseeable exposure points; and
4. There is no indication of the potential for biologically significant harm to environmental receptors, considering their location and the fate and transport characteristics of the oil and/or hazardous material at or from the site, currently or for any foreseeable period of time.

PFAS were detected in three streams that flow through the disposal site. Concentrations in two of the streams were low (below drinking water standards) while the third, which flows through Schoolhouse Pond, exceeded drinking water standards. Due to these detections, a Stage I Environmental Screening (ERS) is required to evaluate whether a Stage II Ecological Risk Characterization is required.

4.2.4.1 Stage I Environmental Screening

This Stage I Environmental Screening (ERS) was conducted following Chapter 9 (Method 3 Environmental Risk Characterization) of MassDEP's Guidance for Disposal Site Risk Characterization (April 1996). The purpose of the Stage I ERS is to identify pathways which do/do not require quantitative assessment as part of a Stage II Environmental Risk Characterization (ERC). This ERS will:

- Identify potential exposure pathways;
- For complete exposure pathways, determine whether a condition of Readily Apparent Harm exists;
- Determine whether each pathway is or could be a complete exposure pathway, and;
- For the remaining complete exposure pathways, conduct an effects-based screening.

The streams in question are quite small and do not appear to be large enough to support fish. Schoolhouse Pond, the only pond within the central stream (where PFAS6 concentrations of 65 ppt were detected), is shown on the MassDEP Priority Resource map as a "Potential Vernal Pool," but is not a confirmed vernal pool. No other potential or

confirmed vernal pools, NHESP Priority Habitats of Rare Species, Estimated Habitats of Rare Wildlife or Areas of Critical Environmental Concern are identified on this mapping.

As noted elsewhere in this report, there are three unnamed streams that flow to the south through the disposal site boundary. The eastern and western streams had low concentrations of PFAS detected (5 ppt) in the western stream (SW-2), west of Radford and Brooks Station Roads; and 8 ppt in the eastern stream (SW-3), near Airport Pond (Airport Pond had 2 and 4 ppt PFAS6 detected in the shallow/deep samples collected at that location in 2021)). The central stream, which flows through Schoolhouse Pond, had a PFAS6 concentration of 66 ppt, while the pond itself (sampled in October 2021) had 65 ppt, indicating a consistent PFAS level. It should be noted that only Schoolhouse Pond, SW-1 and SW-4 had PFHxS detected. PFBA, PFBS, PFPeA, PFHxA PFHpS, FBSA and PFPeS were also detected in Schoolhouse Pond. Some of these compounds were also detected in the other surface water samples (see Table 4 for the surface water data summary). Background is assumed to be non-detect.

During sample collection at Schoolhouse Pond, evidence of stressed vegetation or dead biota were not observed. It is not known whether fish are present in the pond, but the pond does not appear to be fish habitat, given its small size and the limited flow of the stream through the pond being insufficient to convey fish. No evidence of recreational fishing (litter, abandoned fishing equipment, worm containers, etc.) or swimming was observed. A resident reported that the pond is fed by a spring (this could not be verified), in addition to the stream that flows through it. Sediment samples have not been collected from Schoolhouse Pond due to a lack of sediment risk values for PFAS in sediments. The relatively low concentrations detected in the pond and PFAS' affinity to accumulate at the air/water interface do not support a scenario where sediments are expected to be significantly impacted.

Potentially complete exposure pathways are limited to aquatic and terrestrial organisms. USEPA has proposed Acute Water Column (CMC) and Chronic Water Column (CCC) values for PFOA and PFOS. The CCC values are 94,000 ppt for PFOA and 8,400 ppt for PFOS. These concentrations are two and three orders of magnitude higher than the concentrations detected in Schoolhouse Pond and the stream that flows through it. CMC values are significantly higher than the CCC values (94,000,000 ppt for PFOA and 3,000,000 ppt for PFOS).

When MassDEP developed its Method 1 GW-3 standards for the PFAS6 compounds, Minnesota Surface Water Quality Criteria were used. These values are even higher than the CMC values mentioned above: 1,710,000 ppt for PFDA, PFHpA, PFOA and PFNA, and 19,000 ppt for PFOS and PFHxS. These values are included in Table 4 for comparison.

Since there are no conditions indicative of Readily Apparent Harm and the highest PFAS concentrations detected in surface water are several orders of magnitude below the USEPA and MassDEP surface water criteria discussed above, a conclusion of No Significant Risk to the Environment is concluded and a Stage II ERC is not required.

Surface water will continue to be monitored as part of ongoing response actions. The risk assessment would need to be revisited only if concentrations were to increase to levels that approach the risk criteria discussed here.

4.2.5 Risk Characterization Summary

Based on the exposure assessment and Site Risk Characterization completed for the RTN 2-21072:

- Site soil does not represent a risk to human health from direct exposure. The limits of soil contamination have not been defined to concentrations below the S-1/GW-1 standards but concentrations in unsampled areas are expected to be similar to, or lower than, the concentrations already detected;
- Site groundwater represents a risk to human health and the environment;
- There is no risk of harm to safety;
- There is no risk of harm to public welfare
- The Stage I Environmental Screening does not indicate a need for a Stage II Environmental Risk Characterization

Section 5

Conclusions

5.1 Phase II Completion Statement

Tighe & Bond has prepared this Phase II CSA on behalf of the Town of Princeton, Massachusetts in accordance with the MCP at 310 CMR 40.0835 through 40.0840. This report provides a summary of the Phase II assessment activities performed, the results of soil, groundwater, and surface water analyses, and the findings of an MCP Method 1 risk characterization (along with a focused method 3 Risk Characterization for direct contact to soil and a Stage I Environmental Screening).

Based on the findings of the Phase II CSA, comprehensive remedial actions are necessary at the site to achieve a Permanent or Temporary Solution as described in 310 CMR 40.1000. A Phase III study is necessary for the identification and evaluation of any Comprehensive Remedial Action Alternatives which are reasonably likely to achieve a level of No Significant Risk for RTN 2-21072. Prior to submittal of the Phase III evaluation, additional soil and surface water samples will be collected to further define the extent of PFAS impacts in those media. IRA Activities will continue at the Site, which consist of semi-annual monitoring of private wells and quarterly monitoring of locations with POET systems until a Temporary or Permanent Solution can be achieved.

5.2 Conceptual Site Model

Apart from potential sources of PFAS at residences in the area, such as historical discharge of domestic water that contains PFAS (from common household sources as well as impacted well water prior to POET installation), three potential sources were initially identified for evaluation in the vicinity of upper and lower Mountain Road:

1. The known use of AFFF during the firefighting efforts at 30 Mountain Road in May 2017
2. The report of a fire at 54 Mountain Road in 1967 where it is considered possible a material containing PFAS was used to fight the fire
3. The report of fire training at an accessory building on the Town Campus property several decades ago.

It is assumed that PFAS from the AFFF used at 30 Mountain Road in May 2017 impacting overburden soil on that property (and downhill areas where firefighting water flowed) has leached and percolated with precipitation into the shallow bedrock and deeper bedrock groundwater.

To investigate the potential use of a material containing PFAS during the reported fire training at the brick building on the west side of the property at the Town Campus, four soil samples were collected from the perimeter of the former building. There was one detection of PFOS (several compounds were reported at estimated (J-qualified) in a single sample; there were no other detections. The PFOS concentration detected (0.95 µg/kg) is below the S-1/GW-1 standard of 2 µg/kg. This one very low concentration and the lack of any other PFAS detections supports a conclusion that fire training occurring in this area

of the THC did not involve the use of material containing PFAS. Therefore, this area was removed from consideration as a source of the PFAS that is being detected in the deep bedrock groundwater supplying drinking water and is eliminated from the CSM.

According to a single 1967 local newspaper report, there was a major fire at 54 Mountain Road in April 1967. Although details of the firefighting method utilized on that property (i.e., whether a material containing PFAS was used) are not available, the soil sampling data from 54 Mountain Road show PFAS detections around the perimeter of the building, as would be expected from the use of AFFF in firefighting (although the PFAS around the perimeter of a building also could be associated with use of compost containing PFAS as a soil supplement for plantings near the foundation). Further, the soil data generally agree with the well water data, with PFHxS notably absent from both media.

Groundwater in deep bedrock with PFAS detections extends radially from both the vicinity of 54/58/64 Mountain Road and the vicinity of 30 Mountain Road, but generally groundwater impacted by PFAS appears to have migrated primarily to the south-southwest from both areas, as evidenced by PFAS detections in deep bedrock private water supply wells on properties extending in that direction (primarily toward Radford Road).

- The apparent northern boundary of PFAS impacts in deep bedrock groundwater has migrated north with the detections at 105 Merriam Road and 92 Mountain Road, but PFAS were not detected at 7 Thompson Road. The latest IRA Status Report indicated that 108 Mountain Road would be sampled as well; however, there is no house currently at this location. The nearest private well to the north is 116 Mountain Road which is approximately 1,200 feet to the north (this well will be sampled to confirm the northern extent of PFAS contamination).
- Merriam Road and East Princeton Road appear to be the current easterly limit of PFAS impact in deep bedrock groundwater, as PFAS have not been detected northeast of Merriam Road or beyond 18 and 26 Prospect Street.
- The southerly limits of the PFAS impact in deep bedrock groundwater appear to be limited to 27 Worcester Road, 17 Boylston Ave, and 18 Connor Lane.
- The western limit appears to be the properties identified as 18 and 28 Radford Road.

As reported in previous IRA Status Reports, it appears that two distinct PFAS signatures are present. Potable wells north and west-northwest of 30 Mountain Road ("northern area" -51, 54, 58, 64 Mountain Road, 43 Hubbardston Road and 15 Radford Road) generally have higher concentrations of PFOA (represents an average of 37 percent of PFAS6) and no PFHxS. Potable wells at and to the south of 30 Mountain Road ("southern area" 14, 18, 19, 21, 29 and 30 Mountain, 15 Hubbardston, 12 Boylston and now 11, 13, and 14 Gregory Hill Road) have elevated PFHxS concentrations (54 percent average) and little PFOA (6 percent average). PFOS concentrations are similar in the northern and southern signatures with a 30 to 35 percent average. As mentioned, PFOS and PFHxS are understood to be associated with 3M AFFF. The presence/absence of PFHxS appears to be a good marker analyte to indicate the limits of the AFFF impacts from the 30 Mountain Road firefighting.

A review of the groundwater data from samples collected in the monitoring wells on the THC indicate a high percentage of PFHxS and PFOS, consistent with the concentrations identified in potable wells located within the southern portion of the disposal site and the runoff samples collected from the drain pipe at 30 Mountain Road.

In summary, based on the activities completed to date, the current CSM is that there are two possible sources of PFAS at the Site: (1) the known use of AFFF during firefighting at 30 Mountain Road in 2017, and (2) a report of firefighting at 54 Mountain Road in 1967 with the potential use of a material containing PFAS. While not a discrete source, septic systems are a known secondary source of PFAS contamination due to laundering PFAS-treated clothing, washing of non-stick cookware, and various other consumer sources, as well as discharge of PFAS impacted well water prior to POET installation.

There are subcategories for each of the three potential sources: (a) the impact to soil from the initial surface discharge of water with AFFF at 30 Mountain Road during the fire response in May 2017, (b) runoff of water with AFFF to adjacent downhill locations, (c) infiltration of rainfall through impacted soil to groundwater, (d) surface runoff of stormwater that is in contact with impacted soil, reaching roadway drainage systems and surface water bodies, and (e) groundwater discharge to surface water, including the potential for any surface water bodies to be spring-fed.

The Risk Characterization completed as part of this Phase II Assessment indicates that a condition of no significant risk likely exists at the Site with respect to soil exposure points, public welfare, public safety and the environment. However, a potential risk of harm exists with respect to PFAS leaching from soil to groundwater. The Risk Characterization will be updated as necessary, based on future data.

Based on the findings of this Phase II CSA, a Phase III Remedial Actions Alternative Analysis is required for the Site. Additional soil and surface water sampling are planned to further define the extent of PFAS impacts in those media. IRA Activities will continue at the Site, which consist of semi-annual monitoring of private wells and quarterly monitoring of locations with two-vessel POET systems until a Temporary or Permanent Solution can be achieved.

5.3 Public Involvement

5.3.1 Notification of Phase II Comprehensive Site Assessment

In accordance with the public notification requirements of the MCP at 310 CMR 40.1403 and 1406(3)(e), the Chief Municipal Officer (Town Administrator) and the Board of Health have been notified of the findings and conclusions of this Phase II submittal. A copy of the public notification letter is provided in Appendix E.

5.3.2 Notification to Owners within the Boundaries of a Disposal Site

In accordance with the public notification requirements of the MCP at 310 CMR 40.1406 current owners within the established Disposal Site Boundary will be notified that their property is within the limits of a disposal site; be provided a copy of the Disposal Site Map and informed of the public involvement opportunities available to them. These letters will be submitted to MassDEP under separate cover.

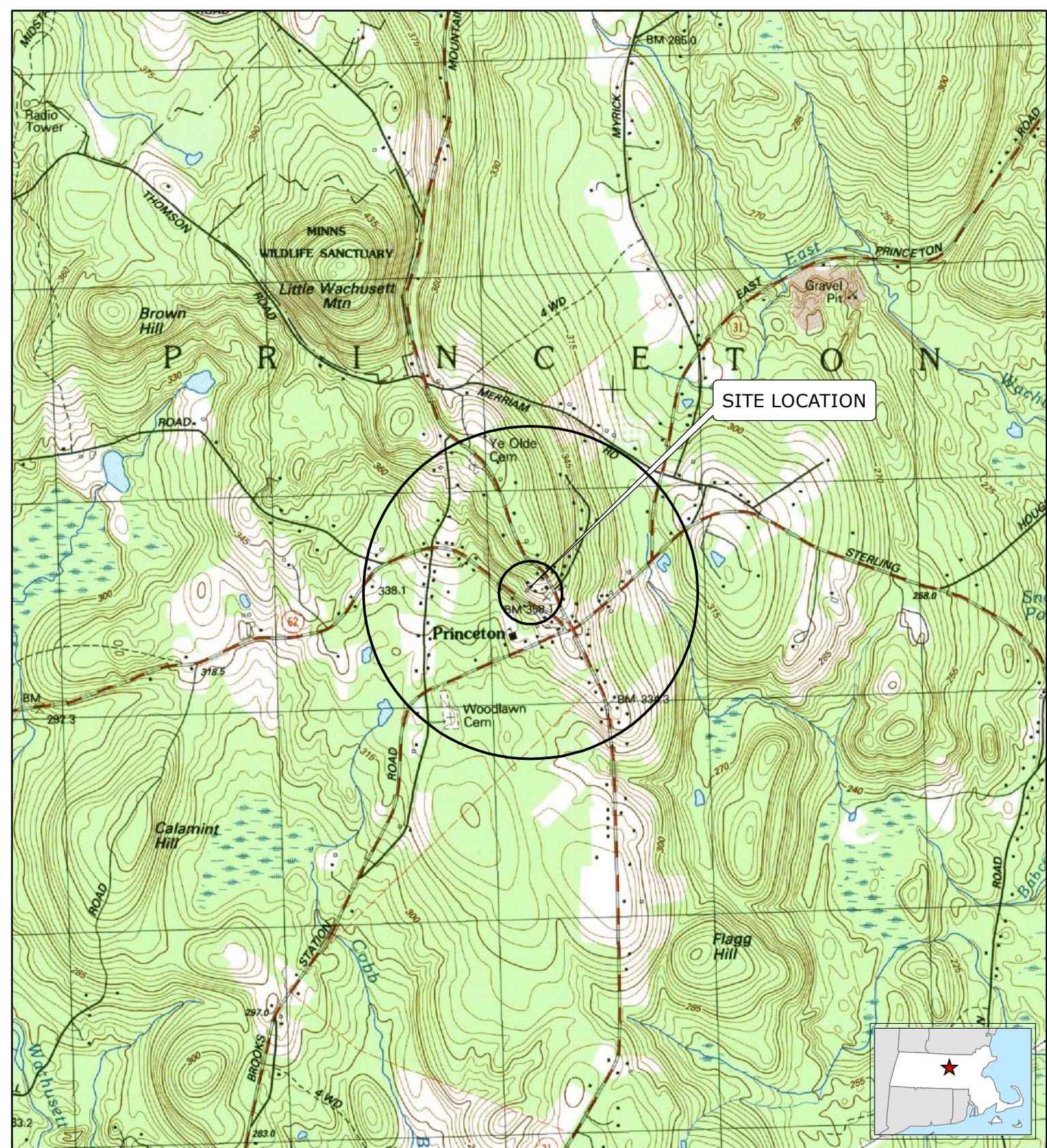
5.3.3 Notification of Environmental Sampling

Notification of private well sampling results, POET monitoring, and soil sampling are provided to individual property owners within 30 days of receipt of the laboratory results. A spreadsheet showing the locations sampled, the dates the samples were collected, the date of receipt from the laboratory, and the dates that the notifications were sent is included in Appendix G. The individual notification letters for the private well sampling are submitted with concurrent IRA Status Reports.

Notification letters for the soil sampling conducted in July 2023 at 18, 19, 21, and 22 Mountain Road are included in Appendix G.

Tighe&Bond

APPENDIX A

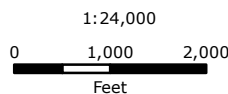


Tighe & Bond

Map based on USGS Topographic Map for:
 Wachusett Mountain, MA Revised 1988. [Site Quad]
 Contour Interval Equals 3 Meters

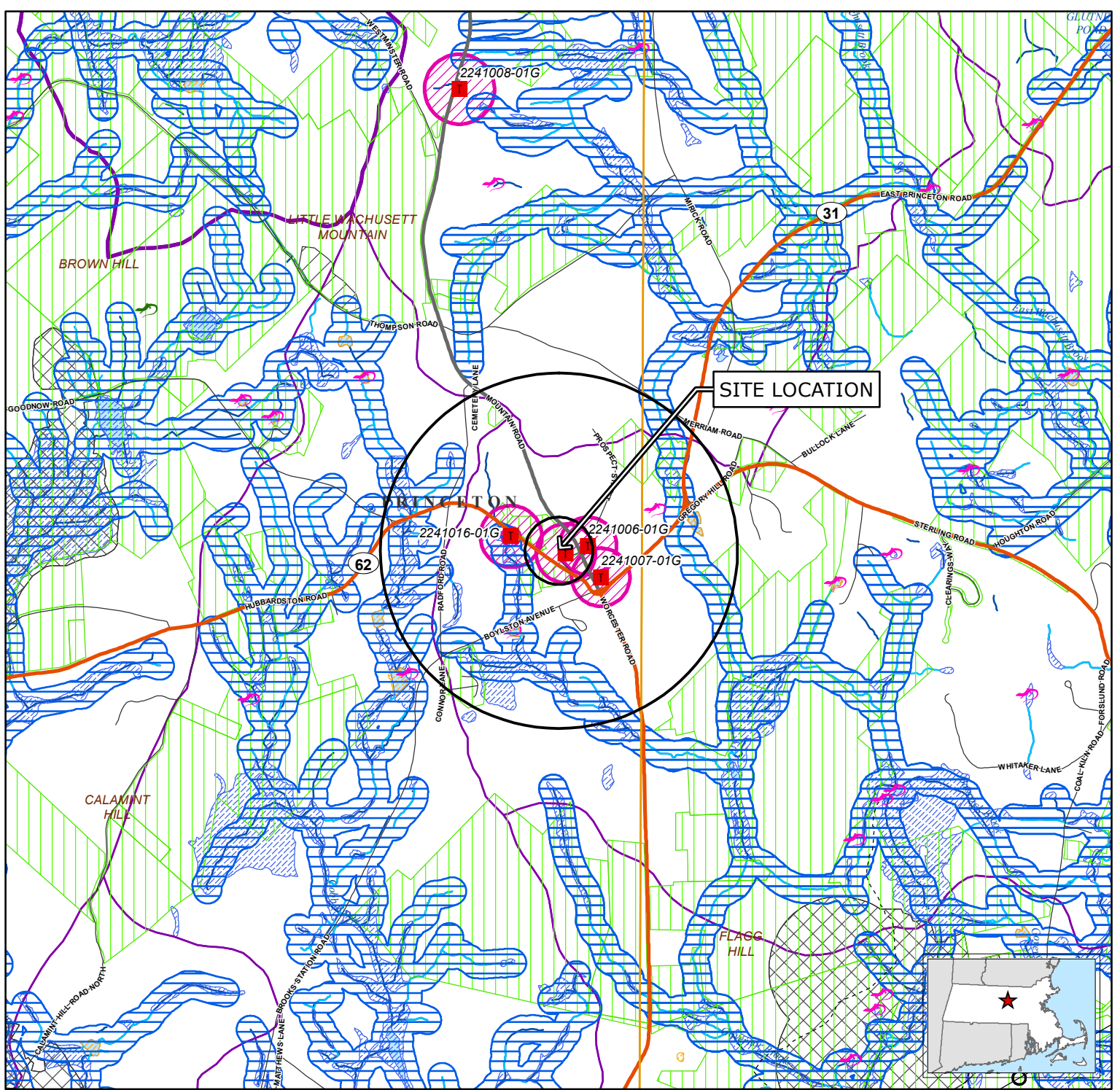
Sterling, MA Revised 1988
 Contour Interval Equals 3 Meters

NOTE: Circles indicate 500-foot and half-mile radius



**FIGURE 1
 TOPOGRAPHIC LOCATION MAP**

TOWN OF PRINCETON
 6 TOWN HALL DRIVE
 PRINCETON, MASSACHUSETTS
 RTN 2-21072



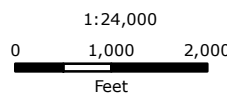
Legend

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> NHESP Certified Vernal Pools NHESP Potential Vernal Pools Non-Landfill Solid Waste Sites Proposed Well Emergency Surface Water Community Public Water Supply - Surface Water Community Public Water Supply - Groundwater Non-Community Non-Transient Public Water Supply Non-Community Transient Public Water Supply Limited Access Highway Multi-Lane Highway, NOT Limited Access Other Numbered Route Major Road - Arterials and Collectors Minor Street or Road | <ul style="list-style-type: none"> Aqueducts Hydrologic Connections Stream/Intermittent Stream Powerline Pipeline Track or Trail Trains Public Surface Water Supply Protection Area (Zone A) DEP Approved Wellhead Protection Area (Zone I) DEP Approved Wellhead Protection Area (Zone II) DEP Interim Wellhead Protection Area (IWPA) Protected and Recreational Open Space Solid Waste Landfill Area of Critical Environmental Concern (ACEC) NHESP Priority Habitats for Rare Species NHESP Estimated Habitats for Rare Wildlife EPA Designated Sole Source Aquifer Major Drainage Basin Sub Drainage Basin | <ul style="list-style-type: none"> MassDEP Open Water MassDEP Inland Wetlands MassDEP Coastal Wetlands MassDEP Not Interpreted Wetlands Public Surface Water Supply (PSWS) Water Bodies Non-Potential Drinking Water Source Area - High Yield Non-Potential Drinking Water Source Area - Medium Yield Potentially Productive Medium Yield Aquifer Potentially Productive High Yield Aquifer County Boundary Municipal Boundary USGS Quadrangle Sheet Boundary |
|---|---|---|

FIGURE 2 PRIORITY RESOURCE MAP

TOWN OF PRINCETON
6 TOWN HALL DRIVE
PRINCETON, MASSACHUSETTS
RTN 2-21072

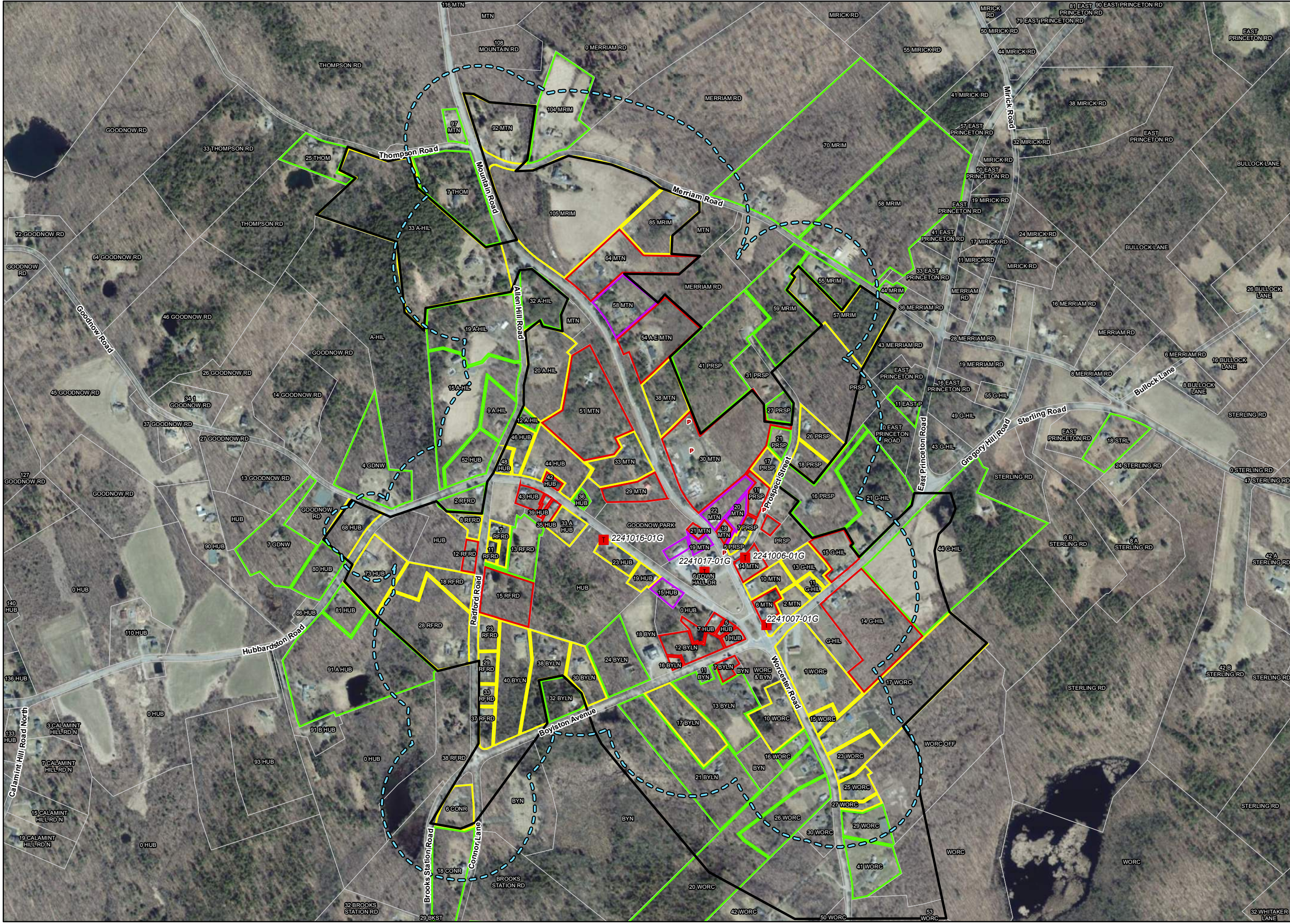
Data source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology
Circles indicate 500-foot and half-mile radii.
Data valid as of August 2023.



August 2023

Tighe & Bond

FIGURE 3
AERIAL RADIUS MAP
AND DISPOSAL SITE
BOUNDARY



LEGEND

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

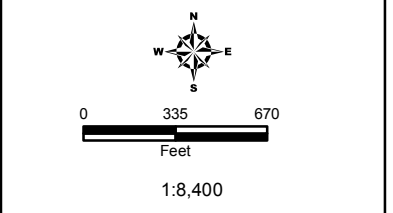
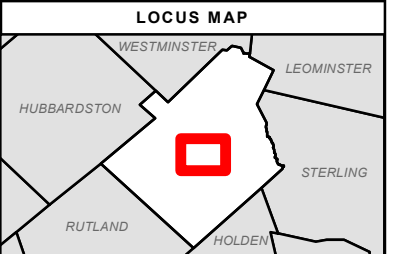
- Greater Than 100
- Greater Than 20 But Less Than 100
- Greater Than 2 But Less Than 20
- Non Detect (<2)
- Non-Community Transient Public Water Supply

500' Radius (2023/08/25)

Disposal Site Boundary RTN 2-21072

Affected Property Labels:

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








- 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": "HUB"
 "EAST PRINCETON RD": "EAST P"
 "MOUNTAIN RD": "MTN"
 "PROSPECT ST": "PRSP"
 "RADFORD RD": "RFRD"
 "WORCESTER RD": "WORC"
 "MERRIAM RD": "MRIM"
 "GOODNOW RD": "GDNW"
 "CONOR LN": "CONR"
 "GREGORY RD": "GRGY"
 "STERLING RD": "STRL"
 "RALPH RD": "RLPH"
 "THOMPSON RD": "THOM"
 "TOWN HALL DRIVE": "T-HALL"

RTN 2-21072
 PRINCETON, MASSACHUSETTS
 October 2023

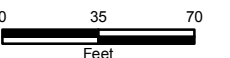
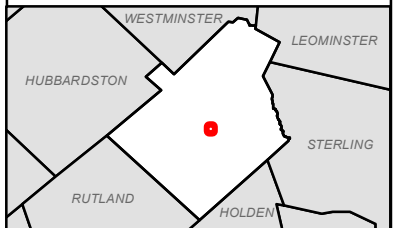


FIGURE 4A SOIL SAMPLE LOCATION MAP

LEGEND

-  Surface Water Sample
-  Soil Boring Location
-  EPA Soil Boring Program April
-  Non-Community Transient Public Water Supply
-  Princeton Parcels

LOCUS MAP



1:840

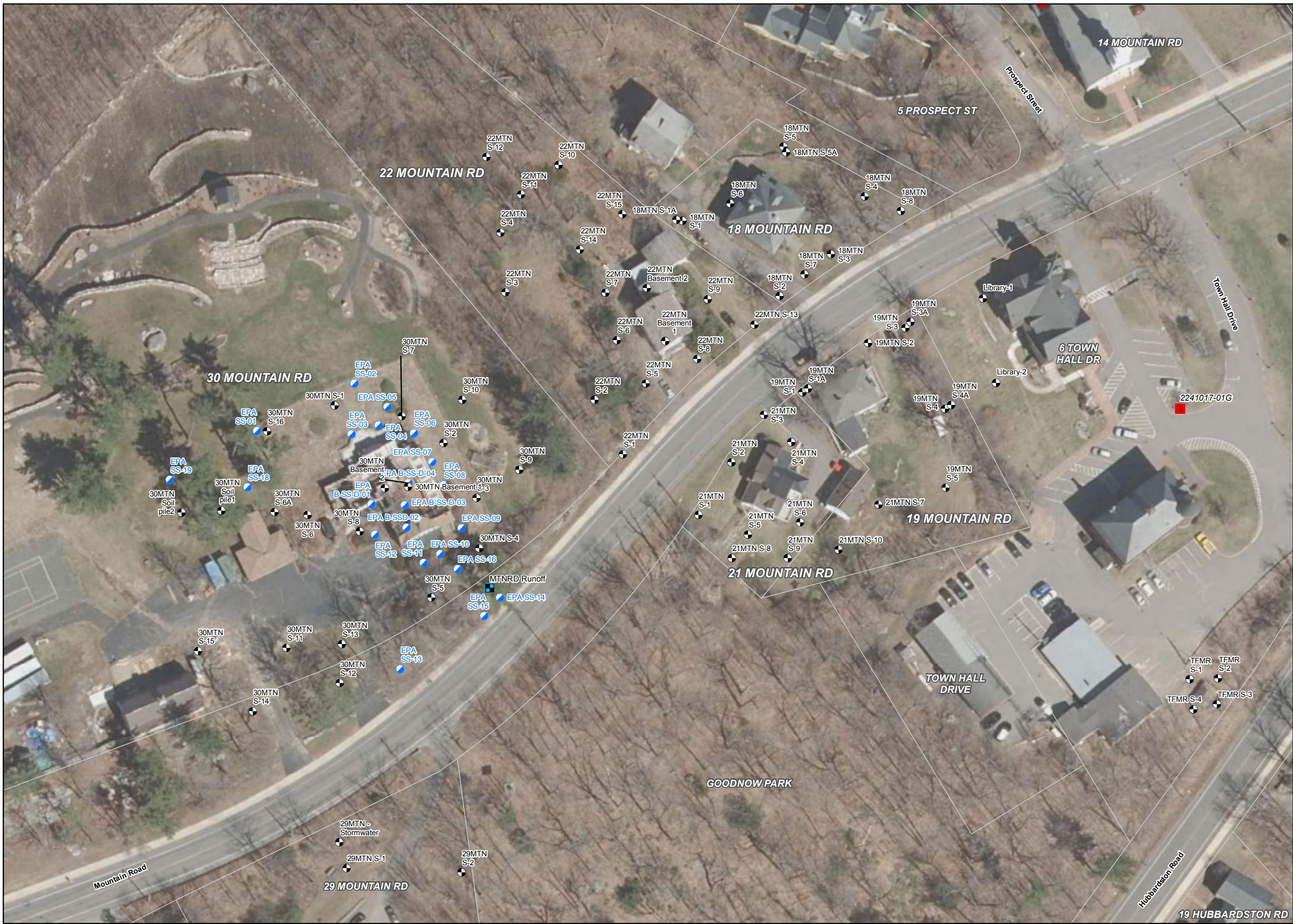
NOTES

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

RTN 2-21072
PRINCETON, MASSACHUSETTS






November 2023

Tighe & Bond





Legend

-  Soil Boring Locations
-  Non-Community Transient Public Water Supply
-  Site Parcel
-  Approximate Parcel Boundary
-  Municipal Boundary



Based on MassGIS Color Orthophotography (2019) and Approximate Parcels from MassGIS, by the town of Princeton (FY2020)

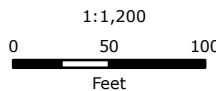


FIGURE 4B





























SOIL SAMPLE LOCATION MAP

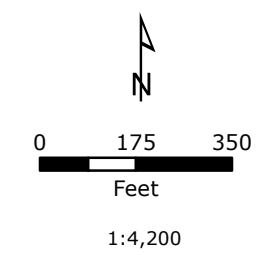
54 MOUNTAIN ROAD
PRINCETON, MASSACHUSETTS

December 2021

FIGURE 5
PRIORITY RESOURCE SURFACE
WATER SAMPLE LOCATION MAP

LEGEND

-  Surface Water Sample
-  NHESP Certified Vernal Pools
-  NHESP Potential Vernal Pools
-  Community Public Water Supply - Surface Water
-  Community Public Water Supply - Groundwater
-  Non-Community Non-Transient Public Water Supply
-  Non-Community Transient Public Water Supply
-  Aqueducts
-  Hydrologic Connections
-  Powerline
-  Pipeline
-  Track or Trail
-  Trains
-  Stream/Intermittent Stream
-  Major Drainage Basin
-  Sub Drainage Basin
-  Public Surface Water Supply (PSWS)
-  Water Bodies
-  MassDEP Open Water
-  MassDEP Inland Wetlands
-  MassDEP Coastal Wetlands
-  MassDEP Not Interpreted Wetlands
-  Non-Potential Drinking Water Source Area - High Yield
-  Non-Potential Drinking Water Source Area - Medium Yield
-  Potentially Productive Medium Yield Aquifer
-  Potentially Productive High Yield Aquifer
-  County Boundary
-  Town Boundary



1. Data source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, MassIT) Executive Office of Environmental Affairs. Data valid as of September 2023.
 2. Based on MassGIS Color Orthophotography (2021)

RTN 2-21072
PRINCETON, MASSACHUSETTS

September 2023



**FIGURE 6A
PFAS DISTRIBUTION
MAP**

LEGEND

■ Non-Community Treated Public Water Supply

PFAS LEVEL 2023

- Green: Not Detect (<2)
- Yellow: Greater than 2 But Less than 10
- Red: Greater than 10 But Less than 100
- Purple: Greater than 100

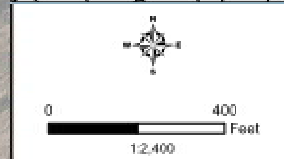
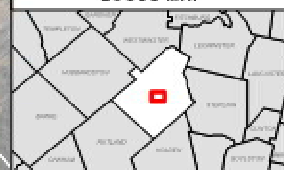
— Approximate Boundary of North and South Service Areas

PFDA Compound Name
4.6 Concentration in PPT
53% % Composition of Total PFAS

Compound Color Code

Color	Compound Name
Blue	Perfluorooctanoic acid (PFOS)
Orange	Perfluorodecanoic acid (PFDA)
Green	Perfluorododecanoic acid (PFDDA)
Yellow	Perfluorotetradecanoic acid (PFTDA)
Red	Perfluorohexadecanoic acid (PFHxS)
Purple	Perfluorooctyl sulfonic acid (PFOS)
Light Blue	Perfluorododecyl sulfonic acid (PFDS)
Light Green	Perfluorotetradecyl sulfonic acid (PFHxS)
Light Orange	Perfluorohexadecyl sulfonic acid (PFHxS)
Light Purple	Perfluorooctyl sulfonic acid (PFOS)
Light Yellow	Perfluorodecyl sulfonic acid (PFDS)

LOCUS MAP



NOTES

- Based on MaxGIS Aerial Imagery (2019)
- 500' Buffer based on a 50' buffer of building structures. Well locations are assumed to be within 50' of each house.
- Abbreviation Dictionary:
"ALLEN HILL RD" - "AHIL"
"BOYLSTON AVE" - "BYML"
"GREGORY HILL RD" - "GHIL"
"HUBBARDSTON RD" - "HUBS"
"MOUNTAIN RD" - "MTR"
"PROSPECT ST" - "PRSP"
"RADFORD RD" - "RRFD"
"WORCESTER RD" - "WROR"
"WORLDWIDE" - "WRIL"

Princeton, Massachusetts
November 2023

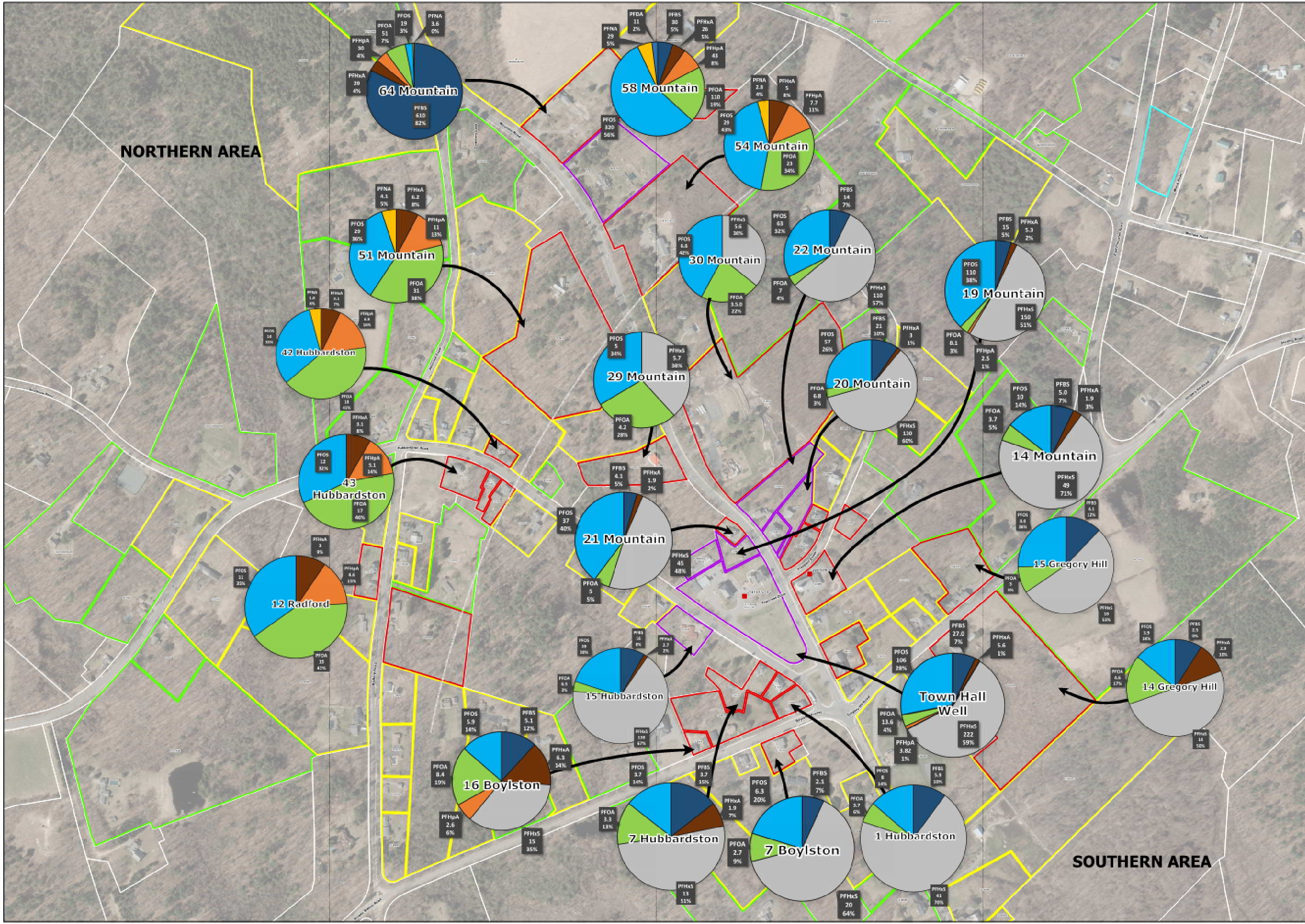
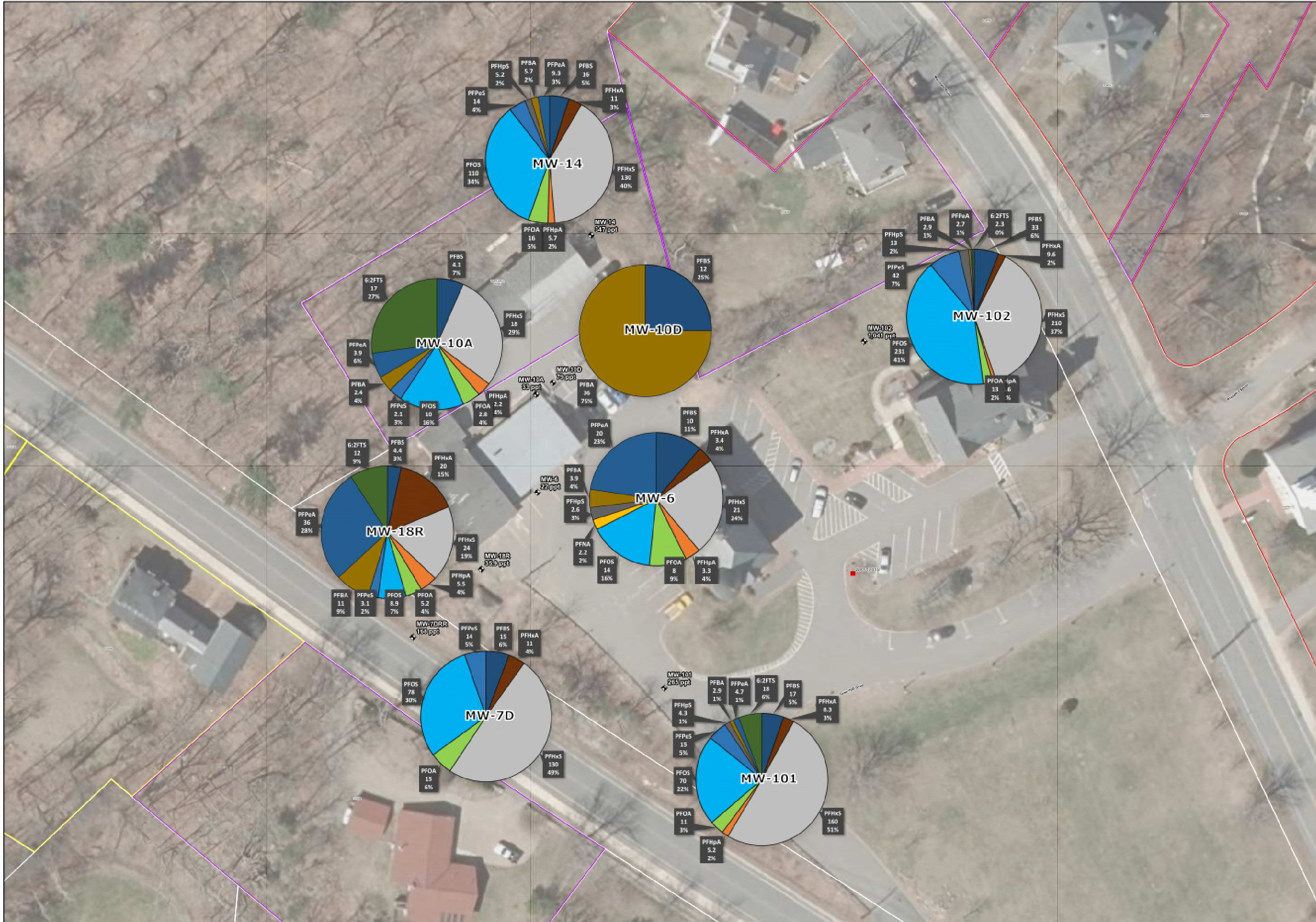


FIGURE 6B PFAS SOURCES ORTHOPHOTOGRAPH



- LEGEND**
- Non-Community Treated Public Water Supply
 - Monitoring Well
 - PFAS LEVEL_2023**
 - Not Detect (<2)
 - Greater Than 2 But Less Than 20
 - Greater Than 20 But Less Than 100
 - Greater Than 100

PFOS Compound Name
4.6 Concentration in PPT
53% % Composition of Total PFAS

Compound Color Code

Color	Compound Name
Blue	Perfluorobutanoic acid (PFBA)
Green	Perfluorooctanoic acid (PFOS)
Yellow	Perfluorodecanoic acid (PFDA)
Orange	Perfluorododecanoic acid (PFDDA)
Red	Perfluorooctane sulfonic acid (PFOS)
Light Blue	Perfluorohexanoic acid (PFHxA)
Light Green	Perfluorohexane sulfonic acid (PFHxS)
Light Yellow	Perfluorooctane sulfonic acid (PFOS)
Light Orange	Perfluorooctanoic acid (PFOS)
Light Red	Perfluorodecanoic acid (PFDA)
Light Blue-Gray	Perfluorooctane sulfonic acid (PFOS)
Light Green-Gray	Perfluorooctane sulfonic acid (PFOS)
Light Yellow-Gray	Perfluorooctane sulfonic acid (PFOS)
Light Orange-Gray	Perfluorooctane sulfonic acid (PFOS)
Light Red-Gray	Perfluorooctane sulfonic acid (PFOS)
Light Blue-Gray	Perfluorooctane sulfonic acid (PFOS)
Light Green-Gray	Perfluorooctane sulfonic acid (PFOS)
Light Yellow-Gray	Perfluorooctane sulfonic acid (PFOS)
Light Orange-Gray	Perfluorooctane sulfonic acid (PFOS)
Light Red-Gray	Perfluorooctane sulfonic acid (PFOS)

LOCUS MAP



0 24 Feet
1:300

- NOTES**
- Based on MassGIS Aerial Imagery (2019)
 - 500' Buffer based on a 50' buffer of building structures. Well locations are assumed to be within 50' of each home.
 - Abbreviation Dictionary:
- WILLEN HILL RD - "WHL"
 BOSTON AVE - "BOL"
 GREGORY HILL RD - "GHL"
 HUBBARDSTON RD - "HUB"
 MOUNTAIN RD - "MTR"
 PRINCETON ST - "PRP"
 RADFORD RD - "RAD"
 WORCESTER RD - "WOR"
 WILSTAMP - "WIL"

Princeton, Massachusetts

November 2023



Tighe&Bond

APPENDIX B

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	Old Town Hall Well
Well Depth (feet)		UNKNOWN
Sampling Date		1/19/2021
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		38
Perfluorohexanoic acid (PFHxA)		11
Perfluorohexanesulfonic acid (PFHxS)		250
Perfluoroheptanoic acid (PFHpA)		4.8
Perfluorooctanoic acid (PFOA)		17
Perfluorooctanesulfonic acid (PFOS)		150
Perfluorononanoic acid (PFNA)		ND(1.82)
Perfluorodecanoic acid (PFDA)		ND(1.82)
N-EtFOSAA		ND(1.82)
Perfluoroundecanoic acid (PFUnA)		ND(1.82)
N-MeFOSAA		ND(1.82)
Perfluorododecanoic acid (PFDoA)		ND(1.82)
Perfluorotridecanoic acid (PFTrDA)		ND(1.82)
Perfluorotetradecanoic acid (PFTA)		ND(1.82)
Total (All Compounds)		470.8
Regulated Total	20	421.8

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Containment Level

Values reported with a (J) qualifier are estimated values. If the reported J value is greater

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	Town Well (WELL-01G)												
		340 (DEP Log)												
		9/5/2019	9/27/2019	1/8/2020	6/23/2020	9/29/2020	9/29/2020	12/22/2020	2/17/2021	6/15/2021	8/10/2021	10/18/2021	1/11/2022	3/9/2022
							RERUN							POET INSTALLED
<i>EPA 537.1 (ng/L)</i>														
Perfluorobutanesulfonic acid (PFBS)		26.9	17	31.9	16.1	39.5	42.9	48.6	41.6	34.5	14.0	40.1	38.3	
Perfluorohexanoic acid (PFHxA)		ND (1.82)	ND (1.87)	2.86	1.48 (J)	2.92	4.51	5.1	5.45	4.14	1.72 (J)	4.62	6.78	
Perfluorohexanesulfonic acid (PFHxS)		94.4	78.1	168	81.7	234	225	329	305	224	90.9	249	301	
Perfluoroheptanoic acid (PFHpA)		ND (1.82)	ND (1.87)	2.47	1.25 (J)	1.30 (J)	1.9	4.27	4.67	2.09	1.15 (J)	3.56	5.14	
Perfluorooctanoic acid (PFOA)		3.92	3.18	9.52	4.48	8.4	12.3	15.9	14.6	10.8	5.32	13.1	16	
Perfluorooctanesulfonic acid (PFOS)		26.4	18.9	52.6	23.5	56.4	67.4	94.2	86.2	71	30	99.9	113	
Perfluorononanoic acid (PFNA)		ND (1.82)	ND (1.87)	ND (1.84)	ND (1.90)	0.555 (J)	0.985 (J)	0.904 (J)	1.17 (J)	0.769 (J)	ND (1.80)	0.91 (J)	0.98 (J)	
Perfluorodecanoic acid (PFDA)		ND (1.82)	ND (1.87)	ND (1.84)	ND (1.90)	ND (1.85)	ND (1.90)	ND (1.81)	ND (1.77)	ND (1.83)	ND (1.80)	ND (1.80)	ND (2.0)	
N-EtFOSAA		ND (1.82)	ND (1.87)	ND (1.84)	ND (1.90)	ND (1.85)	ND (1.90)	ND (1.81)	ND (1.77)	ND (1.83)	ND (1.80)	ND (1.80)	ND (2.0)	
Perfluoroundecanoic acid (PFUnA)		ND (1.82)	ND (1.87)	ND (1.84)	ND (1.90)	ND (1.85)	ND (1.90)	ND (1.81)	ND (1.77)	ND (1.83)	ND (1.80)	ND (1.80)	ND (2.0)	
N-MeFOSAA		ND (1.82)	ND (1.87)	ND (1.84)	ND (1.90)	ND (1.85)	ND (1.90)	ND (1.81)	ND (1.77)	ND (1.83)	ND (1.80)	ND (1.80)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)		ND (1.82)	ND (1.87)	ND (1.84)	ND (1.90)	ND (1.85)	ND (1.90)	ND (1.81)	ND (1.77)	ND (1.83)	ND (1.80)	ND (1.80)	ND (2.0)	
Perfluorotridecanoic acid (PFTrDA)		ND (1.82)	ND (1.87)	ND (1.84)	ND (1.90)	ND (1.85)	ND (1.90)	ND (1.81)	ND (1.77)	ND (1.83)	ND (1.80)	ND (1.80)	ND (2.0)	
Perfluorotetradecanoic acid (PFTA)		ND (1.82)	ND (1.87)	ND (1.84)	ND (1.90)	ND (1.85)	ND (1.90)	ND (1.81)	ND (1.77)	ND (1.83)	ND (1.80)	ND (1.80)	ND (2.0)	
Total (All Compounds)		151.6	117.2	264.9	127.1	341.9	354.5	497.5	458.1	346.9	141.7	410.7	480.7	
Regulated Total	20	124.7	100.2	230.1	110.3	299.5	307.1	443.8	411.1	308.3	126.8	366.0	435.6	2-6cf Vessels

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	Town Well (WELL-01G)				
		340 (DEP Log)				
		4/6/2022	5/4/2022		7/18/2023	
		INF	MID	EFF	MID	EFF
<i>EPA 537.1 (ng/L)</i>						
Perfluorobutanesulfonic acid (PFBS)		27.0	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		5.6	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		222	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		3.82	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		13.6	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		106	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		1.04 (J)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		378.0	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Regulated Total	20	345.4	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Containment Level
 Values reported with a (J) qualifier are estimated values. If the reported J value is greater than or equal to 1/3 the MRL and < MRL*one-half the MRL is used for the concentration of that compound in the summation

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	9 Allen Hill Rd							
		2/12/2020	7/23/2020	1/19/2021	4/27/2021	4/27/2021	12/2/2021	4/12/2022	10/28/2022
Well Depth (feet): 200									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.8	2.4	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.8	2.4	ND (1.8)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	12 Allen Hill Rd								
		2/14/2020	7/27/2020	1/19/2021	10/14/2021	4/11/2022	10/24/2022	2/15/2023	4/25/2023	
Well Depth (feet): 220 (DEP Log)								POET INSTALLED	INF	EFF
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)		ND (2.2)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)		ND (2.2)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)		ND (2.2)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		2.2	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)		ND (2.2)	ND (1.9)
Perfluorooctanoic acid (PFOA)		5.8	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	1-2cf Vessel	ND (2.2)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		4.2	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)		ND (2.2)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)		ND (2.2)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)		ND (2.2)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)		ND (2.2)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)		ND (2.2)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorotetradecanoic acid (PFTTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Total (All Compounds)		12.2	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)		ND (2.2)	ND (1.9)
Regulated Total	20	12.2	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)		ND (2.2)	ND (1.9)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	15 Allen Hill Road							
		4/28/2020	10/1/2020	1/19/2021	4/23/2021	10/14/2021	4/21/2022	10/31/2022	4/25/2023
Well Depth (feet): UNKNOWN									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	19 Allen Hill Road							
		4/28/2020	10/1/2020	1/19/2021	4/21/2021	10/29/2021	4/15/2022	10/27/2022	4/21/2023
Well Depth (feet): UNKNOWN									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	20 Allen Hill Road									
		5/8/2020	10/2/2020	1/18/2021	4/20/2021	10/19/2021	4/13/2022	10/28/2022	11/7/2022	11/30/2022	4/25/2023
Well Depth (feet): 400									POET INSTALLED	EFF	INF
EPA 537.1 (ng/l)											
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)		ND (1.9)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		3	ND (2.0)	2.5	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)		ND (1.9)	2.4
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)		ND (1.9)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		2.3	ND (2.0)	2.5	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)		ND (1.9)	3.5
Perfluorooctanoic acid (PFOA)		3	ND (2.0)	2.4	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)	1-2cf Vessel	ND (1.9)	1.8
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)		ND (1.9)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)		ND (1.9)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)		ND (1.9)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)		ND (1.9)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)		ND (1.9)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	
Total (All Compounds)		8.3	ND (2.0)	7.4	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)		ND (1.9)	7.7
Regulated Total	20	5.3	ND (2.0)	4.9	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)		ND (1.9)	5.3

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	32 Allen Hill Rd							
		2/2/2020	7/22/2020	1/22/2021	4/20/2021	11/4/2021	4/12/2022	10/27/2022	4/20/2023
Well Depth (feet): UNKNOWN									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	33 Allen Hill Rd										
		10/30/2020	12/16/2020	4/20/2021	10/18/2021	4/12/2022	10/26/2022	11/2/2022	12/8/2022	4/25/2023		
Well Depth (feet): UNKNOWN			DUPLICATE							POET INSTALLED	EFF	INF
EPA 537.1 (ng/l)												
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.8	2.4	2.1		1-2cf Vessel	ND (1.8)	2.2
Perfluorooctanesulfonic acid (PFOS)		47	8	2.3	ND (2.0)	ND (2.0)	ND (1.9)	2			ND (1.8)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)			ND (1.8)	ND (1.8)
Total (All Compounds)		47	8	2.3	ND (2.0)	2.8	2.4	2.4			ND (1.8)	2.2
Regulated Total	20	47	8	2.3	ND (2.0)	2.8	2.4	2.4			ND (1.8)	2.2

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	12 Boylston Ave													
		4,939			9,900			13,469			24,535				
		1/10/2020	3/20/2020	5/1/2020	6/23/2020	7/31/2020	11/6/2020								
Flow Meter Reading (gallons)		-	-				9,900			24,535					
Sampling Date							6/23/2020			7/31/2020					
Well Depth (feet): UNKNOWN			POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF
EPA 537.1 (ng/L)															
Perfluorobutanesulfonic acid (PFBS)		9.1	7.5	ND (2.0)	ND (2.0)	8.9	ND (2.0)	ND (2.0)	7.7	ND (2.0)	ND (2.0)	7.5	ND (2.0)	ND (2.0)	
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.1	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorohexanesulfonic acid (PFHxS)		14	14	ND (2.0)	ND (2.0)	38	ND (2.0)	ND (2.0)	17	ND (2.0)	ND (2.0)	18	ND (2.0)	ND (2.0)	
Perfluorooctanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorooctanesulfonic acid (PFOS)		5.7	5.9	ND (2.0)	ND (2.0)	6.8	ND (2.0)	ND (2.0)	4.7	ND (2.0)	ND (2.0)	6	ND (2.0)	ND (2.0)	
Perfluorodecanoic acid (PFDA)		6.4	5.7	ND (2.0)	ND (2.0)	6.4	ND (2.0)	ND (2.0)	5.9	ND (2.0)	ND (2.0)	6.6	ND (2.0)	ND (2.0)	
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotridecanoic acid (PFTyDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Total (All Compounds)		35.2	33.1	ND (2.0)	ND (2.0)	42.2	ND (2.0)	ND (2.0)	35.3	ND (2.0)	ND (2.0)	38.1	ND (2.0)	ND (2.0)	
Regulated Total	20	26.1	25.6	ND (2.0)	ND (2.0)	31.2	ND (2.0)	ND (2.0)	27.6	ND (2.0)	ND (2.0)	30.6	ND (2.0)	ND (2.0)	

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	12 Boylston Ave (Continued)																	
		33,116			50,561			68,267			78,450			88,277			98,400		
		1/29/2021	7/22/2021	4/14/2022	7/28/2022	10/26/2022	1/19/2023												
Flow Meter Reading (gallons)		33,116			50,561			68,267			78,450			88,277			98,400		
Sampling Date		1/29/2021			7/22/2021			4/14/2022			7/28/2022			10/26/2022			1/19/2023		
Well Depth (feet): UNKNOWN		INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	MID	EFF	MID	EFF	MID	EFF	MID	EFF	
EPA 537.1 (ng/L)																			
Perfluorobutanesulfonic acid (PFBS)		8.7	ND (2.0)	ND (2.0)	9.9	ND (2.0)	ND (2.0)	7.3	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	3.6	ND (2.0)	ND (2.0)	6.4	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluorohexanesulfonic acid (PFHxS)		18	ND (2.0)	ND (2.0)	27	ND (2.0)	ND (2.0)	26	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluorooctanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluorooctanesulfonic acid (PFOS)		5.5	ND (2.0)	ND (2.0)	7.6	ND (2.0)	ND (2.0)	7.5	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluorodecanoic acid (PFDA)		6.2	ND (2.0)	ND (2.0)	8.7	ND (2.0)	ND (2.0)	7.6	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluorotridecanoic acid (PFTyDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
Total (All Compounds)		38.4	ND (2.0)	ND (2.0)	56.8	ND (2.0)	ND (2.0)	54.8	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	
Regulated Total	20	29.7	ND (2.0)	ND (2.0)	43.3	ND (2.0)	ND (2.0)	41.1	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.1)	ND (1.8)	ND (1.9)	

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	12 Boylston Ave (Continued)					
		108,920			120,382		
		5/5/2023	8/4/2023				
Flow Meter Reading (gallons)		108,920			120,382		
Sampling Date		5/5/2023			8/4/2023		
Well Depth (feet): UNKNOWN		INF	MID	EFF	MID	EFF	
EPA 537.1 (ng/L)							
Perfluorobutanesulfonic acid (PFBS)		6.4	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
Perfluorohexanoic acid (PFHxA)		14	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
Perfluorohexanesulfonic acid (PFHxS)		38	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
Perfluorooctanoic acid (PFHxA)		3.7	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
Perfluorooctanesulfonic acid (PFOS)		9.3	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
Perfluorodecanoic acid (PFDA)		8.8	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
N-EtFOSAA		ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
N-MeFOSAA		ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
Perfluorododecanoic acid (PFDoA)		ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
Perfluorotridecanoic acid (PFTyDA)		ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
Perfluorotetradecanoic acid (PFTA)		ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
Total (All Compounds)		80.2	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	
Regulated Total	20	59.8	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	13 Boylston Ave												
		1/8/2020	5/28/2020	10/7/2020	1/22/2021	4/26/2021	5/18/2021	11/11/2021	11/16/2022	11/23/2022		12/29/2022		4/26/2023
Well Depth (feet): ~100							RESAMPLE		POETS INSTALLED	ADMIN EFF	BUILDING AB EFF	BUILDING CD EFF	BUILDING CD EFF RESAMPLE	INF
EPA 537.1 (ng/L)														
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	1.9	ND (2.0)	3.1
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.8	ND (2.0)	2.4	1-2cf Vessels per building	ND (1.9)	ND (2.2)	2.3	ND (2.0)	2.4
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.2)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.8	ND (2.0)	2.4		ND (1.9)	ND (2.2)	4.2	ND (2.0)	5.5
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.8	ND (2.0)	2.4		ND (1.9)	ND (2.2)	4.2	ND (2.0)	5.5

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Totz
 ND = Not detected above the lab reporting limits shown in parentheses
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	16 Boylston Ave														
		NA				0	260			10,997			Not Recorded		17,633	
		1/9/2020	5/28/2020	10/7/2020	1/20/2021	3/23/2021	5/27/2021			10/25/2022			12/6/2022	7/31/2023		
Well Depth (feet): ~100					POET INSTALLED	INF	MID	EFF	INF	MID	EFF	MID RESAMPLE	MID	EFF		
<i>EPA 537.1 (ng/L)</i>																
Perfluorobutanesulfonic acid (PFBS)		5.3	6.2	5	6.6		5.5	ND (2.0)	ND (2.0)	5.1	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Perfluorohexanoic acid (PFHxA)		3.7	3.9	3.3	3.6		6.2	ND (2.0)	ND (2.0)	6.3	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Perfluorohexanesulfonic acid (PFHxS)		4.7	5.2	6	9.4		9.4	ND (2.0)	ND (2.0)	15	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		2.6	ND (2.0)	ND (2.0)	2.6	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Perfluorooctanoic acid (PFOA)		8	8.9	8.2	8.9	2-2cf Vessels	11	ND (2.0)	ND (2.0)	8.4	2.8	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Perfluorooctanesulfonic acid (PFOS)		7.2	5.5	4.2	5		4.6	ND (2.0)	ND (2.0)	5.9	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Total (All Compounds)		28.9	29.7	26.7	33.5		39.3	ND (2.0)	ND (2.0)	43.3	2.8	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	
Regulated Total	20	19.9	19.6	18.4	23.3		27.6	ND (2.0)	ND (2.0)	31.9	2.8	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	17 Boylston Ave								
		1/8/2020	5/28/2020	10/7/2020	1/18/2021	4/27/2021	11/11/2021	4/18/2022	10/26/2022	4/21/2023
Sampling Date										
Well Depth (feet): UNKNOWN										
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2	ND (1.8)	2.5
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	2.1	2.3	4.7	5.6	6.3	8.1
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.8)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	2.1	2.3	4.7	7.6	6.3	10.6
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	2.1	2.3	4.7	5.6	6.3	8.1

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	21 Boylston Ave							
		UNKNOWN							
		2/19/2020	7/22/2020	1/19/2021	4/26/2021	10/14/2021	4/12/2022	10/24/2022	4/20/2023
Well Depth (feet)									
Sampling Date									
Well Depth (feet): UNKNOWN									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	24 Boylston Ave								
		1/9/2020	5/29/2020	10/2/2020	1/19/2021	4/27/2021	10/18/2021	4/12/2022	10/26/2022	4/25/2023
Sampling Date										
Well Depth (feet): ±200										
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	30 Boylston Ave							
		5/6/2021	10/14/2021	11/3/2021	4/21/2022	10/25/2022	11/10/2022	11/30/2022	4/27/2023
Well Depth (feet): UNKNOWN							POET INSTALLED	EFF	INF
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
Perfluorooctanoic acid (PFOA)		2.1	2.7	2.8	1.9	2.1	1-2cf Vessel	ND (1.8)	3.2
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	3.1	3.2	2.6	2.9		ND (1.8)	3.7
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.8)	ND (1.8)
Total (All Compounds)		2.1	5.8	6.0	4.5	5.0		ND (1.8)	6.9
Regulated Total	20	2.1	5.8	6.0	4.5	5.0		ND (1.8)	6.9

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	32 Boylston Ave									
		5/28/2020	10/7/2020	1/21/2021	4/27/2021	11/3/2021	4/14/2022	10/25/2022	12/2/2022	1/18/2023	4/20/2023
Well Depth (feet): UNKNOWN									POET INSTALLED	EFF	INF
EPA 537.1 (ng/l)											
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		3.7	3.3	ND (2.0)	ND (2.0)	2.5	2.1	3	1-2cf Vessel	ND (2.0)	2.6
Perfluorooctanesulfonic acid (PFOS)		2.9	2.3	ND (2.0)	ND (2.0)	2.2	2.1	2.4		ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)		ND (2.0)	ND (2.0)
Total (All Compounds)		6.6	5.6	ND (2.0)	ND (2.0)	4.7	4.2	5.4		ND (2.0)	2.6
Regulated Total	20	6.6	5.6	ND (2.0)	ND (2.0)	4.7	4.2	5.4		ND (2.0)	2.6

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	38 Boylston Ave					
		8/31/2021	4/14/2022	10/28/2022	4/21/2023		
Well Depth (feet): UNKNOWN		POET INSTALLED	INF	INF	INF	INF	EFF
<i>EPA 537.1 (ng/L)</i>							
Perfluorobutanesulfonic acid (PFBS)			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)			4.7	5.8	5.4	5	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)			3.8	4.7	13	5.9	ND (1.9)
Perfluorononanoic acid (PFNA)			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
N-EtFOSAA			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
N-MeFOSAA			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)			ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Total (All Compounds)			8.5	10.5	18.4	10.9	ND (1.9)
Regulated Total	20		8.5	10.5	18.4	10.9	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	40 Boylston Ave											
		4/28/2020	10/1/2020	1/20/2021	4/20/2021	10/14/2021	4/11/2022	10/26/2022	12/7/2022	1/19/2023	4/25/2023		
Well Depth (feet): UNKNOWN										POET INSTALLED	EFF	INF	
EPA 537.1 (ng/l)										1-2cf Vessel			
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.1)	ND (2.1)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.1)	ND (2.1)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.1)	ND (2.1)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	2.1	ND (2.0)	ND (2.0)	2.2				ND (2.1)	1.9
Perfluorooctanoic acid (PFOA)		5.3	4.6	6	7.5	6.5	7.4	8.4				ND (2.1)	6.0
Perfluorooctanesulfonic acid (PFOS)		3.9	3.8	4.3	5.3	5.6	4.9	6.2				ND (2.1)	5.6
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.1)	ND (2.1)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.1)	ND (2.1)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.1)	ND (2.1)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.1)	ND (2.1)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.1)	ND (2.1)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.1)	ND (2.1)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.1)	ND (2.1)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.1)	ND (2.1)	
Total (All Compounds)		9.2	8.4	10.3	14.9	12.1	12.3	16.8			ND (2.1)	13.5	
Regulated Total	20	9.2	8.4	10.3	14.9	12.1	12.3	16.8			ND (2.1)	13.5	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	29 Brooks Station
Sampling Date		7/29/2021
Well Depth (feet): UNKNOWN		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)
N-EtFOSAA		ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)
N-MeFOSAA		ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)
Total (All Compounds)		ND (2.0)
Regulated Total	20	ND (2.0)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	6 Connor Lane								
		8/31/2020	1/21/2021	4/20/2021	10/14/2021	4/13/2022	7/1/2022	8/25/2022	10/25/2022	4/20/2023
Sampling Date										
Well Depth (feet): UNKNOWN							POET INSTALLED	EFF	INF	INF
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	3.3	2.9	5	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	2.3	2.9	3.7	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	1-2cf Vessel	ND (1.8)	ND (2.2)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Perfluorotetradecanoic acid (PFTTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Total (All Compounds)		ND (2.0)	5.6	5.8	8.7	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)
Regulated Total	20	ND (2.0)	2.3	2.9	3.7	ND (2.1)		ND (1.8)	ND (2.2)	ND (1.9)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	18 Connor Lane						
		9/23/2021		4/13/2022		10/25/2022	4/27/2023	
Well Depth (feet): UNKNOWN			POET INSTALLED	INF	EFF	INF	INF	EFF
EPA 537.1 (ng/L)								
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	1-2cf Vessel	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
N-EtFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	
Total (All Compounds)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Regulated Total	20	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan	11 E Princeton Road
Sampling Date	GW-1 Standard & MMCL	8/17/2023
Well Depth (feet): UNKNOWN		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (1.8)
Perfluorononanoic acid (PFNA)		ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (1.8)
N-EtFOSAA		ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (1.8)
N-MeFOSAA		ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (1.8)
Perfluorotridecanoic acid (PFTrDA)		ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (1.8)
Total (All Compounds)		ND (1.8)
Regulated Total	20	ND (1.8)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	4 Goodnow Road							
		4/28/2020	10/1/2020	1/21/2021	4/20/2021	10/14/2021	4/11/2022	10/26/2022	5/5/2023
Well Depth (feet): UNKNOWN									
<i>EPA 537.1 (ng/L)</i>									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	7 Goodnow Road	
		1/18/2022	4/18/2022
Sampling Date		1/18/2022	4/18/2022
Well Depth (feet): UNKNOWN			
EPA 537.1 (ng/L)			
Perfluorobutanesulfonic acid (PFBS)		ND (1.8)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (1.8)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.8)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (1.8)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (1.8)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (1.8)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (1.8)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (1.8)	ND (1.9)
N-EtFOSAA		ND (1.8)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (1.8)	ND (1.9)
N-MeFOSAA		ND (1.8)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (1.8)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (1.8)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (1.8)	ND (1.9)
Total (All Compounds)		ND (1.8)	ND (1.9)
Regulated Total	20	ND (1.8)	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	11 Gregory Hill Rd												
		1/22/2020	5/29/2020	10/1/2020	1/19/2021	4/21/2021	10/14/2021	11/11/2021	4/11/2022	10/26/2022	12/14/2022	1/19/2023	4/26/2023	
Well Depth (feet): UNKNOWN								sample to confirm detection				POET INSTALLED	EFF	INF
EPA 537.1 (ng/L)														
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	1.9	2.5	2.9	ND (1.9)		ND (1.8)	2.6	
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	1-2cf Vessel	ND (1.8)	ND (1.9)	
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)		ND (1.8)	ND (1.9)	
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	1.9	2.5	2.9	ND (1.9)		ND (1.8)	2.6	
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	1.9	2.5	2.9	ND (1.9)		ND (1.8)	2.6	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	13 Gregory Hill Road										
		1/22/2020	5/29/2020		10/1/2020	1/19/2021	4/21/2021	10/14/2021	4/15/2022	10/26/2022	12/2/2022	1/18/2023
Well Depth (feet): UNKNOWN				DUPLICATE							POET INSTALLED	EFF
EPA 537.1 (ng/L)												
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	1.9	2.3	2.6	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.2	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	4.1	2.3	2.6		ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	4.1	2.3	2.6		ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	14 Gregory Hill Rd												
									2/4/2022		29,584		-	
		1/9/2020	5/29/2020	10/1/2020	1/20/2021	4/20/2021	10/14/2021	12/21/2021	MID	EFF	MID	EFF	4/25/2023	
Flow Meter Reading (gallons)								POET INSTALLED						
Sampling Date								2- 2cf Vessels						
Well Depth (feet): UNKNOWN														
EPA 537.1 (ng/L)														
Perfluorobutanesulfonic acid (PFBS)		2.6	2.9	3.6	2.7	3.9	3.7			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	2.5
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	2.7	2.7	2.2	3.4			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	2.9
Perfluorohexanesulfonic acid (PFHxS)		3.7	5.2	11	4.4	7.6	14			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	14
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorooctanoic acid (PFOA)		3.2	3.4	3.6	2.2	3.4	6			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	4.6
Perfluorooctanesulfonic acid (PFOS)		2.5	2.7	3.7	ND (2.0)	2.7	4.8			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	3.9
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (1.9)
Total (All Compounds)		12	14.2	21.9	9.3	17.6	31.9			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	27.9
Regulated Total	20	9.4	11.3	18.3	6.6	13.7	24.8			ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	22.5

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Flow Meter Reading (gallons) Sampling Date	Well Depth (feet): UNKNOWN	Massachusetts Contingency Plan GW-1 Standard & MMCL	15 Gregory Hill Rd												
			5,368			68,471			104,009			189,140			
			1/13/2020	2/26/2020	3/11/2020	6/23/2020	7/31/2020	11/3/2020							
			POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF
EPA 537.1 (ng/L)															
Perfluorobutanesulfonic acid (PFBS)	2.7			3.6	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	5.1	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)	2.9			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	12	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)	5.2			6.5	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorheptanoic acid (PFHpA)	4.7			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)	5.1		2-2ct Vessels	2.2	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.4	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)	5.4			5.4	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	6.5	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTrDA)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTaA)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)	26			17.8	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	26.0	ND (2.0)	ND (2.0)
Regulated Total	20.4			14.2	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	20.9	ND (2.0)	ND (2.0)

Flow Meter Reading (gallons) Sampling Date	Well Depth (feet): UNKNOWN	Massachusetts Contingency Plan GW-1 Standard & MMCL	15 Gregory Hill Rd (Continued)														
			199,350			200,005			Not Recorded		200,005		200,005			425,390 est	
			1/29/2021	4/11/2021	4/11/2022	7/26/2022	10/26/2022	1/20/2023									
			INF	MID	EFF	INF	MID	EFF	MID	EFF	MID	EFF	INF	MID	EFF	MID	EFF
EPA 537.1 (ng/L)																	
Perfluorobutanesulfonic acid (PFBS)	5	ND (2.0)	ND (2.0)	ND (2.0)	4.6	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	2.8	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)	11	ND (2.0)	ND (2.0)	12	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	18	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorheptanoic acid (PFHpA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)	2.4	ND (2.0)	ND (2.0)	3.0	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	2.8	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)	6.1	ND (2.0)	ND (2.0)	6.5	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	7.9	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTrDA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTaA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)	25.5	ND (2.0)	ND (2.0)	26.1	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	31.5	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Regulated Total	20.5	ND (2.0)	ND (2.0)	21.5	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	28.7	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)

Flow Meter Reading (gallons) Sampling Date	Well Depth (feet): UNKNOWN	Massachusetts Contingency Plan GW-1 Standard & MMCL	15 Gregory Hill Rd (Continued)				
			440,335 est		222576 (475,685 est)		
			4/25/2023	8/4/2023			
			INF	MID	EFF	MID	EFF
EPA 537.1 (ng/L)							
Perfluorobutanesulfonic acid (PFBS)	4.1	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Perfluorohexanoic acid (PFHxA)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Perfluorohexanesulfonic acid (PFHxS)	18	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Perfluorheptanoic acid (PFHpA)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Perfluorooctanoic acid (PFOA)	3	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Perfluorooctanesulfonic acid (PFOS)	8.6	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Perfluorononanoic acid (PFNA)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Perfluorodecanoic acid (PFDA)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
N-EtFOSAA	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Perfluoroundecanoic acid (PFUnA)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
N-MeFOSAA	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Perfluorododecanoic acid (PFDoA)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Perfluorotridecanoic acid (PFTrDA)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Perfluorotetradecanoic acid (PFTaA)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Total (All Compounds)	33.7	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		
Regulated Total	29.6	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)		

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	21 Gregory Hill Rd					
		2/28/2020	9/18/2020	1/21/2021	4/26/2021	11/11/2021	10/24/2022
Sampling Date							
Well Depth (feet): UNKNOWN							
EPA 537.1 (ng/L)							
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	44 Gregory Hill Rd					
		2/5/2020	7/22/2020	1/20/2021	4/26/2021	10/19/2021	10/24/2022
Well Depth (feet): UNKNOWN							
EPA 537.1 (ng/L)							
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

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TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	Gregory Spring
Well Depth (feet)		NA
Sampling Date		10/18/2021
Well Depth (feet): NA		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)
N-EtFOSAA		ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)
N-MeFOSAA		ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)
Total (All Compounds)		ND (2.0)
Regulated Total	20	ND (2.0)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

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TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	1 Hubbardston Rd												
		865			1,311			3,896			6,577			
		1/8/2020	2/26/2020	3/11/2020	5/1/2020	5/1/2020	6/18/2020	7/29/2020						
Flow Meter Reading (gallons)		-	-	-	-	-	-	-	-	-	-	-	-	
Well Depth (feet): 175-200		POET INSTALLED												
EPA 537.1 (ng/L)														
Perfluorobutanesulfonic acid (PFBS)		7	5.7	ND (2.0)	ND (2.0)	6.4	ND (2.0)	ND (2.0)	6.5	ND (2.0)	ND (2.0)	6.4	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		22	19	ND (2.0)	ND (2.0)	21	ND (2.0)	ND (2.0)	24	ND (2.0)	ND (2.0)	23	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		3.4	3	ND (2.0)	ND (2.0)	3.1	ND (2.0)	ND (2.0)	2.9	ND (2.0)	ND (2.0)	2.9	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		6.1	5.6	ND (2.0)	ND (2.0)	5.7	ND (2.0)	ND (2.0)	6.2	ND (2.0)	ND (2.0)	5.6	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		38.5	33.3	ND (2.0)	ND (2.0)	36.2	ND (2.0)	ND (2.0)	39.6	ND (2.0)	ND (2.0)	37.9	ND (2.0)	ND (2.0)
Regulated Total	20	31.5	27.6	ND (2.0)	ND (2.0)	29.8	ND (2.0)	ND (2.0)	33.1	ND (2.0)	ND (2.0)	31.5	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	1 Hubbardston Rd													
		13,221			14,674			15,179			20,711			-	
		11/13/2020	1/29/2021	4/23/2021	4/15/2022	10/28/2022									
Flow Meter Reading (gallons)		-	-	-	-	-	-	-	-	-	-	-	-	-	
Well Depth (feet): 175-200															
EPA 537.1 (ng/L)															
Perfluorobutanesulfonic acid (PFBS)		8.5	ND (2.0)	ND (2.0)	9.5	ND (2.0)	ND (2.0)	7.5	ND (2.0)	ND (2.0)	5.9	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	2.1	ND (2.0)	ND (2.0)	2.1	ND (2.0)	ND (2.0)	2.1	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		31	ND (2.0)	ND (2.0)	37	ND (2.0)	ND (2.0)	36	ND (2.0)	ND (2.0)	41	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	3.7	ND (2.0)	ND (2.0)	5.3	ND (2.0)	ND (2.0)	3.7	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		3	ND (2.0)	ND (2.0)	3.7	ND (2.0)	ND (2.0)	5.3	ND (2.0)	ND (2.0)	3.7	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		5.7	ND (2.0)	ND (2.0)	8.2	ND (2.0)	ND (2.0)	9.5	ND (2.0)	ND (2.0)	8	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Total (All Compounds)		48.2	ND (2.0)	ND (2.0)	60.5	ND (2.0)	ND (2.0)	60.4	ND (2.0)	ND (2.0)	60.7	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Regulated Total	20	39.7	ND (2.0)	ND (2.0)	48.9	ND (2.0)	ND (2.0)	50.8	ND (2.0)	ND (2.0)	52.7	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	1 Hubbardston Rd	
		Not Recorded	
		7/31/2023	
Flow Meter Reading (gallons)		-	-
Well Depth (feet): 175-200			
EPA 537.1 (ng/L)			
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (1.9)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (1.9)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (1.9)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (1.9)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (1.9)	ND (1.8)
N-EFOSAA		ND (1.9)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (1.9)	ND (1.8)
N-MeFOSAA		ND (1.9)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (1.9)	ND (1.8)
Perfluorotridecanoic acid (PFTDA)		ND (1.9)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (1.9)	ND (1.8)
Total (All Compounds)		ND (1.9)	ND (1.8)
Regulated Total	20	ND (1.9)	ND (1.8)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
POET System Monitoring
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	5 Hubbardston Road													
		1,131			5,143			11,960			22,710				
		12/5/2019	1/28/2020	2/5/2020	3/5/2020	5/1/2020	6/30/2020								
Flow Meter Reading (gallons):	-	-	1,131			5,143			11,960			22,710			
Sampling Date			2/5/2020			3/5/2020			5/1/2020			6/30/2020			
Well Depth (feet): UNKNOWN		POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	
EPA 537.1 (ng/L)															
Perfluorobutanesulfonic acid (PFBS)		8.4		6.3	ND (2.0)	ND (2.0)	4.3	ND (2.0)	ND (2.0)	4.6	ND (2.0)	ND (2.0)	4.6	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		29		25	ND (2.0)	ND (2.0)	11	ND (2.0)	ND (2.0)	15	ND (2.0)	ND (2.0)	17	ND (2.0)	ND (2.0)
Perfluorheptanoic acid (PFHpA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		2.5		2.5	ND (2.0)	ND (2.0)	2.7	ND (2.0)	ND (2.0)	2.9	ND (2.0)	ND (2.0)	2.6	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		7.3		6.9	ND (2.0)	ND (2.0)	4.9	ND (2.0)	ND (2.0)	4.8	ND (2.0)	ND (2.0)	5.5	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTTA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		47.6		40.7	ND (2.0)	ND (2.0)	22.9	ND (2.0)	ND (2.0)	27.3	ND (2.0)	ND (2.0)	29.7	ND (2.0)	ND (2.0)
Regulated Total	20	39.2		34.4	ND (2.0)	ND (2.0)	18.6	ND (2.0)	ND (2.0)	22.7	ND (2.0)	ND (2.0)	25.1	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	5 Hubbardston Road														
		27,069			39,213			47,979			58,197			121,323		
		8/5/2020			11/18/2020			2/5/2021			4/27/2021			4/13/2022		
Flow Meter Reading (gallons):																
Sampling Date																
Well Depth (feet): UNKNOWN		INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	MID	EFF	
EPA 537.1 (ng/L)																
Perfluorobutanesulfonic acid (PFBS)		7	ND (2.0)	ND (2.0)	7	ND (2.0)	ND (2.0)	4.1	ND (2.0)	ND (2.0)	6.4	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorohexanesulfonic acid (PFHxS)		27	ND (2.0)	ND (2.0)	28	ND (2.0)	ND (2.0)	16	ND (2.0)	ND (2.0)	30	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorooctanoic acid (PFOA)		2.5	ND (2.0)	ND (2.0)	2.7	ND (2.0)	ND (2.0)	3.3	ND (2.0)	ND (2.0)	3.3	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorooctanesulfonic acid (PFOS)		6.7	ND (2.0)	ND (2.0)	6.3	ND (2.0)	ND (2.0)	3.9	ND (2.0)	ND (2.0)	7.3	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotetradecanoic acid (PFTTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Total (All Compounds)		43.2	ND (2.0)	ND (2.0)	44.0	ND (2.0)	ND (2.0)	24.0	ND (2.0)	ND (2.0)	47.0	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Regulated Total	20	36.2	ND (2.0)	ND (2.0)	37.0	ND (2.0)	ND (2.0)	19.9	ND (2.0)	ND (2.0)	40.6	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	5 Hubbardston Road									
		144,946		156,404		167,106		179,106		Not Recorded	
		7/26/2022		10/27/2022		1/18/2022		4/21/2023		7/31/2023	
Flow Meter Reading (gallons):											
Sampling Date											
Well Depth (feet): UNKNOWN		MID	EFF	MID	EFF	MID	EFF	INF	MID	EFF	
EPA 537.1 (ng/L)											
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	6.1	ND (1.9)	ND (1.9)	
Perfluorohexanoic acid (PFHxA)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	2.5	ND (1.9)	ND (1.9)	
Perfluorohexanesulfonic acid (PFHxS)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	45	ND (1.9)	ND (1.9)	
Perfluorheptanoic acid (PFHpA)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
Perfluorooctanoic acid (PFOA)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	4.2	ND (1.9)	ND (1.9)	
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	10	ND (1.9)	ND (1.9)	
Perfluorononanoic acid (PFNA)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
Perfluorodecanoic acid (PFDA)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
N-EtFOSAA		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
Perfluoroundecanoic acid (PFUnA)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
N-MeFOSAA		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
Perfluorotridecanoic acid (PFTriDA)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
Perfluorotetradecanoic acid (PFTTA)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
Total (All Compounds)		ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	67.8	ND (1.9)	ND (1.9)	
Regulated Total	20	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	59.2	ND (1.9)	ND (1.9)	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Tot
 ND = Not detected above the lab reporting limits shown in parentheses
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	7 Hubbardston Rd															
		NA						0	6,851		39,024		47,433				
		12/5/2019	6/5/2020	10/1/2020	1/29/2021	4/21/2021	10/14/2021	12/21/2021	2/18/2022		1/20/2023		4/27/2023				
								POET INSTALLED	MID	EFF	MID	EFF	INF	MID	EFF		
<i>EPA 537.1 (ng/L)</i>																	
Perfluorobutanesulfonic acid (PFBS)		2.3	3.1	3.4	4.9	4.2	4.3		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	3.7	ND (1.8)	ND (1.8)		
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	1.9	ND (1.8)	ND (1.8)		
Perfluorohexanesulfonic acid (PFHxS)		3.5	5.8	7.1	8.7	8.6	12		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	13	ND (1.8)	ND (1.8)		
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)		
Perfluorooctanoic acid (PFOA)		2.9	2.4	2.1	3.4	3.1	3.6		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	3.3	ND (1.8)	ND (1.8)		
Perfluorooctanesulfonic acid (PFOS)		3.3	3.5	3.2	3.6	3.7	4.5		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	3.7	ND (1.8)	ND (1.8)		
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)		
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)		
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2- 2cf Vessels	ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)		
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)		
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)		
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)		
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)		
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)		
Total (All Compounds)		12	14.8	15.8	20.6	19.6	24.4		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	25.6	ND (1.8)	ND (1.8)		
Regulated Total	20	9.7	11.7	12.4	15.7	15.4	20.1		ND (1.8)	ND (1.8)	ND (2.1)	ND (2.0)	20.0	ND (1.8)	ND (1.8)		

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	19 Hubbardston Rd											
		-											
		12/5/2019	2/1/2020	2/26/2020	6/5/2020			11/21/2020	1/23/2021	4/30/2021	11/6/2021	4/16/2022	1/28/2023
Well Depth (feet): UNKNOWN		POET INSTALLED	EFF	INF	MID	EFF	INF	INF	INF	INF	INF	INF	INF
EPA 537.1 (ng/L)													
Perfluorobutanesulfonic acid (PFBS)	2.9		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	3.1	2.7	2.2	2.7	2.7	2	
Perfluorohexanoic acid (PFHxA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorohexanesulfonic acid (PFHxS)	9.7		ND (2.0)	5.8	ND (2.0)	ND (2.0)	13	9.3	6.7	11	13	14	
Perfluoroheptanoic acid (PFHpA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorooctanoic acid (PFOA)	ND (2.0)	2- 2cf Vessels	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorooctanesulfonic acid (PFOS)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.2	
Perfluorononanoic acid (PFNA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorodecanoic acid (PFDA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
N-EtFOSAA	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluoroundecanoic acid (PFUnA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
N-MeFOSAA	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotridecanoic acid (PFTDA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotetradecanoic acid (PFTA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Total (All Compounds)	12.6		ND (2.0)	5.8	ND (2.0)	ND (2.0)	16.1	12	8.9	13.7	15.7	18.2	
Regulated Total	20		ND (2.0)	5.8	ND (2.0)	ND (2.0)	13	9.3	6.7	11	13.0	16.2	

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	23 Hubbardston Rd									
		1/10/2020	1/27/2020	5/29/2020	10/2/2020	1/18/2021	4/22/2021	10/14/2021	4/11/2022	10/25/2022	4/26/2023
Sampling Date											
Well Depth (feet): UNKNOWN											
EPA 537.1 (ng/L)											
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	2.5
Perfluorooctanoic acid (PFOA)		4.9	5.0	4.1	2.6	3.9	4.7	5.5	4.0	2.2	6.7
Perfluorooctanesulfonic acid (PFOS)		4.1	3.7	3.3	2.3	2.7	3.2	4.5	3.2	2.6	6.4
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTa)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Total (All Compounds)		9.0	8.7	7.4	4.9	6.6	7.9	10	7.2	4.8	15.6
Regulated Total	20	9.0	8.7	7.4	4.9	6.6	7.9	10	7.2	4.8	15.6

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	33 Hubbardston Rd										
		2/5/2020	7/23/2020	1/21/2021	4/26/2021	10/18/2021	4/12/2022	10/27/2022	11/7/2022	12/6/2022	4/27/2023	
Well Depth (feet): 305 (DEP Log)									POET INSTALLED	EFF	INF	
EPA 537.1 (ng/l)									1- 2cf Vessel			
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.1)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.1)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.1)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.1)
Perfluorooctanoic acid (PFOA)		ND (2.0)	2.1	ND (2.0)	2.1	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	2.6
Perfluorooctanesulfonic acid (PFOS)		2.5	2.1	ND (2.0)	2.4	2.8	2.5	2.2		ND (2.0)	ND (2.0)	3.5
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.1)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.1)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.1)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.1)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.1)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.1)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.1)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	
Total (All Compounds)		2.5	4.2	ND (2.0)	4.5	2.8	2.5	2.2		ND (2.0)	6.1	
Regulated Total	20	2.5	4.2	ND (2.0)	4.5	2.8	2.5	2.2		ND (2.0)	6.1	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	35 Hubbardston Rd											
						0	6,656		20,646		50,700		
		11/11/2020	4/26/2021	10/18/2021	4/12/2022	6/28/2022	7/27/2022	7/27/2022	10/28/2022	5/5/2023			
Flow Meter Reading (gallons)		-	-	-	-	0	6,656		20,646		50,700		
Sampling Date		11/11/2020	4/26/2021	10/18/2021	4/12/2022	6/28/2022	7/27/2022	7/27/2022	10/28/2022	5/5/2023			
Well Depth (feet): UNKNOWN						POET INSTALLED	MID	EFF	EFF	INF	MID	EFF	
EPA 537.1 (ng/L)													
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)	ND (1.9)	
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	2.6	2.8		ND (2.1)	ND (2.0)	ND (1.9)	3.2	ND (1.8)	ND (1.9)	
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.1)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	4.9	5		ND (2.1)	ND (2.0)	ND (1.9)	9.3	ND (1.8)	ND (1.9)	
Perfluorooctanoic acid (PFOA)		7.5	8.9	17	16	2- 2cf Vessels	ND (2.1)	ND (2.0)	ND (1.9)	25	ND (1.8)	ND (1.9)	
Perfluorooctanesulfonic acid (PFOS)		8.4	8.2	16	14		ND (2.1)	ND (2.0)	ND (1.9)	22	ND (1.8)	ND (1.9)	
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.1)	ND (2.0)	ND (1.9)	3.9	ND (1.8)	ND (1.9)	
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.1)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.1)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.1)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.1)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.1)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.1)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorotetradecanoic acid (PFTTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.1)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Total (All Compounds)		15.9	17.1	40.5	37.8		ND (2.1)	ND (2.0)	ND (1.9)	63.4	ND (1.8)	ND (1.9)	
Regulated Total	20	15.9	17.1	37.9	35.0		ND (2.1)	ND (2.0)	ND (1.9)	60.2	ND (1.8)	ND (1.9)	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	36 Hubbardston Rd							
		2/6/2020	7/22/2020	1/21/2021	4/27/2021	10/18/2021	4/14/2022	10/25/2022	4/21/2023
Sampling Date									
Well Depth (feet): UNKNOWN									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	5.4	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	5.0	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Total (All Compounds)		ND (2.0)	10.4	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)
Regulated Total	20	ND (2.0)	10.4	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	39 Hubbardston Rd													
		540			1,566			2,417			26,418				
		1/22/2021	3/12/2021	3/25/2021			5/3/2021			5/27/2021			4/25/2023		
Well Depth (feet): 205 (DEP Log)		POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	
<i>EPA 537.1 (ng/L)</i>															
Perfluorobutanesulfonic acid (PFBS)		3.1		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		2.4		2.2	ND (2.0)	ND (2.0)	2.1	ND (2.0)	ND (2.0)	2.1	ND (2.0)	ND (2.0)	3.5	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)		9.6	ND (2.0)	ND (2.0)	9.1	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		3.4		8.3	ND (2.0)	ND (2.0)	7.6	ND (2.0)	ND (2.0)	3.4	ND (2.0)	ND (2.0)	6.1	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		10.4	2- 2cf Vessels	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	14	ND (2.0)	ND (2.0)	19	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		11		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	9.4	ND (2.0)	ND (2.0)	19	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Total (All Compounds)		30.3		20.1	ND (2.0)	ND (2.0)	18.8	ND (2.0)	ND (2.0)	28.9	ND (2.0)	ND (2.0)	47.6	ND (1.9)	ND (1.9)
Regulated Total	20	24.8		17.9	ND (2.0)	ND (2.0)	16.7	ND (2.0)	ND (2.0)	26.8	ND (2.0)	ND (2.0)	44.1	ND (1.9)	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	42 Hubbardston Rd														
		-			3,096			7,975			13,767					
		2/10/2020	7/23/2020		1/19/2021	3/2/2021	3/25/2021		4/26/2021		6/3/2021					
Flow Meter Reading (gallons)																
Well Depth (feet): 370 (DEP Log)			DUPLICATE			POET INSTALLED		INF	MID	EFF	INF	MID	EFF	INF	MID	EFF
EPA 537.1 (ng/L)																
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	2.1			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	4.1			2.3	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.3	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	6			3.1	ND (2.0)	ND (2.0)	2.7	ND (2.0)	ND (2.0)	2.9	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	7.8	7.2	20			14	ND (2.0)	ND (2.0)	11	ND (2.0)	ND (2.0)	12	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	7.9	8.5	17			13	ND (2.0)	ND (2.0)	9.2	ND (2.0)	ND (2.0)	10	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		ND (2.0)	15.7	15.7	44.2			32.4	ND (2.0)	ND (2.0)	22.9	ND (2.0)	ND (2.0)	27.2	ND (2.0)	ND (2.0)
Regulated Total	20	ND (2.0)	15.7	15.7	38.0			30.1	ND (2.0)	ND (2.0)	22.9	ND (2.0)	ND (2.0)	24.9	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	42 Hubbardston Rd											
		78,280				104,499				Not Recorded			
		10/31/2022		5/5/2023		7/31/2023							
Flow Meter Reading (gallons)													
Well Depth (feet): 370 (DEP Log)													
EPA 537.1 (ng/L)													
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (1.9)	2.8	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (1.9)	6.2	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (1.9)	17	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (1.9)	15	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (1.9)	1.9	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
N-EFOSAA		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
N-MeFOSAA		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Total (All Compounds)		ND (2.0)	ND (1.9)	42.9	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					
Regulated Total	20	ND (2.0)	ND (1.9)	40.1	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)					

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MML	43 Hubbardston													
		2,655			4,953			7,349			11,146				
		12/12/2019	3/20/2020	5/8/2020	6/23/2020	7/31/2020	11/11/2020								
Flow Meter Reading (gallons)		-	-	2,655			4,953			7,349			11,146		
Sampling Date				5/8/2020			6/23/2020			7/31/2020			11/11/2020		
Well Depth (feet): 215 (DEP Log)			POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF
EPA 537.1 (ng/L)															
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		3.5		3.1	ND (2.0)	ND (2.0)	3.1	ND (2.0)	ND (2.0)	2.9	ND (2.0)	ND (2.0)	2.8	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		4.4		4.4	ND (2.0)	ND (2.0)	4.6	ND (2.0)	ND (2.0)	4.5	ND (2.0)	ND (2.0)	3.4	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		15		15	ND (2.0)	ND (2.0)	15	ND (2.0)	ND (2.0)	14	ND (2.0)	ND (2.0)	11	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		10		10	ND (2.0)	ND (2.0)	12	ND (2.0)	ND (2.0)	9.9	ND (2.0)	ND (2.0)	9.3	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUNA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		33		32.5	ND (2.0)	ND (2.0)	34.7	ND (2.0)	ND (2.0)	31.3	ND (2.0)	ND (2.0)	26.5	ND (2.0)	ND (2.0)
Regulated Total	20	29		29.4	ND (2.0)	ND (2.0)	31.6	ND (2.0)	ND (2.0)	28.4	ND (2.0)	ND (2.0)	23.7	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MML	43 Hubbardston													
		15,057			18,056			32,195			45,529				
		2/5/2021	4/27/2021	4/12/2022	7/27/2022	10/28/2022	1/20/2023								
Flow Meter Reading (gallons)				15,057			18,056			32,195			45,529		
Sampling Date				4/27/2021			4/12/2022			7/27/2022			10/28/2022		
Well Depth (feet): 215 (DEP Log)				INF	MID	EFF	INF	MID	EFF	MID	EFF	MID	EFF	MID	EFF
EPA 537.1 (ng/L)															
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		3.2	ND (2.0)	ND (2.0)	3.1	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		5.3	ND (2.0)	ND (2.0)	5.1	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		15	ND (2.0)	ND (2.0)	17	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		13	ND (2.0)	ND (2.0)	12	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Total (All Compounds)		36.5	ND (2.0)	ND (2.0)	37.2	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)
Regulated Total	20	33.3	ND (2.0)	ND (2.0)	34.1	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MML	43 Hubbardston		
		-		
		4/21/2023		
Flow Meter Reading (gallons)				
Sampling Date				
Well Depth (feet): 215 (DEP Log)				
EPA 537.1 (ng/L)				
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)	ND (1.9)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		2.8	ND (1.9)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.9)	ND (1.9)	ND (2.0)
Perfluorooctanoic acid (PFOA)		3.3	ND (1.9)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		9.1	ND (1.9)	ND (2.0)
Perfluorononanoic acid (PFNA)		9.0	ND (1.9)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (1.9)	ND (1.9)	ND (2.0)
N-EtFOSAA		ND (1.9)	ND (1.9)	ND (2.0)
Perfluoroundecanoic acid (PFUNA)		ND (1.9)	ND (1.9)	ND (2.0)
N-MeFOSAA		ND (1.9)	ND (1.9)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (1.9)	ND (1.9)	ND (2.0)
Perfluorotridecanoic acid (PFTDA)		ND (1.9)	ND (1.9)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (1.9)	ND (1.9)	ND (2.0)
Total (All Compounds)		24.2	ND (1.9)	ND (2.0)
Regulated Total	20	21.4	ND (1.9)	ND (2.0)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MML is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	44 Hubbardston Rd								
		2/10/2020	7/23/2020	1/19/2021	4/26/2021	10/18/2021	4/11/2022	10/25/2022	11/7/2022	11/30/2022
Well Depth (feet): UNKNOWN									POET INSTALLED	EFF
EPA 537.1 (ng/L)									1- 2cf Vessel	
Perfluorobutanesulfonic acid (PFBS)		ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (4.0)	2.2	ND (2.0)	ND (2.0)	1.8	ND (2.0)	ND (2.0)		ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (4.0)	2.1	ND (2.0)	ND (2.0)	2.4	ND (2.0)	ND (2.0)		ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (4.0)	7.1	3.3	2.8	9.1	3.9	6.7		ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (4.0)	5.6	3.3	2.7	7.9	4	4.8		ND (1.8)
Perfluorononanoic acid (PFNA)		ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)
N-EtFOSAA		ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)
N-MeFOSAA		ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)
Perfluorotridecanoic acid (PFTrDA)		ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	
Total (All Compounds)		ND (4.0)	17	6.6	5.5	21.2	7.9	11.5	ND (1.8)	
Regulated Total	20	ND (4.0)	14.8	6.6	5.5	19.4	7.9	11.5	ND (1.8)	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	46 Hubbardston Rd								
		2/12/2020	7/23/2020	1/22/2021	4/26/2021	12/2/2021	4/15/2022	10/27/2022	4/26/2023	
			POET INSTALLED	INF	INF	INF	INF	INF	INF	INF
Well Depth (feet): 205 (DEP Log)										
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	2.6	ND (2.0)	2.2	ND (1.9)	ND (1.9)	2.3	ND (1.9)
Perfluorohexanoic acid (PFHx)		ND (2.0)	2.2	2.4	ND (2.0)	ND (2.0)	ND (1.9)	2	1.9	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	2.4	2.4	ND (2.0)	ND (2.0)	ND (1.9)	2.1	ND (1.8)	ND (1.9)
Perfluorooctanoic acid (PFOA)		6.2	8.8	6	6.1	5.1	6.4	6.8	4.0	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		6	6.2	5.7	4.9	4.3	4.5	6.1	3.7	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Total (All Compounds)		12.2	19.6	19.1	11	11.6	10.9	17	11.9	ND (1.9)
Regulated Total	20	12.2	17.4	14.1	11	9.4	10.9	15	7.7	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	48 Hubbardston Rd										
		2/12/2020	7/23/2020	1/22/2021	3/3/2021	4/19/2021	10/18/2021	4/11/2022	10/25/2022	10/26/2022	11/30/2022	
Well Depth (feet): UNKNOWN											POET INSTALLED	EFF
EPA 537.1 (ng/l)												
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	2.4	ND (2.0)	ND (2.0)	3	2.1	3.5			ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)			ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)			ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)			ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	3.7	1.9		1-2cf Vessel	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2	1.9	ND (1.9)			ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)			ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)			ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)			ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)			ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)			ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)			ND (1.8)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)			ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)			ND (1.8)
Total (All Compounds)		ND (2.0)	ND (2.0)	2.4	ND (2.0)	ND (2.0)	5	7.7	5.4			ND (1.8)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2	5.6	1.9			ND (1.8)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	52 Hubbardston Rd					
		2/12/2020	9/18/2020	1/29/2021	4/26/2021	11/8/2021	10/26/2022
Well Depth (feet): 15							
EPA 537.1 (ng/L)							
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	68 Hubbardston Rd			
		11/17/2021	4/15/2022	10/26/2022	5/9/2023
Sampling Date					
Well Depth (feet): UNKNOWN					
EPA 537.1 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)		2.6	ND (2.4)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		2.2	4.6	ND (1.9)	3.6
Perfluorohexanesulfonic acid (PFHxS)		2.1	ND (2.4)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.4)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		3.8	5	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.4)	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.4)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.4)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.4)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.4)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.4)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.4)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.4)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.4)	ND (1.9)	ND (1.9)
Total (All Compounds)		10.7	9.6	ND (1.9)	3.6
Regulated Total	20	5.9	5	ND (1.9)	3.6

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	73 Hubbardston Rd								
		6/11/2020	10/2/2020	5/3/2021	10/19/2021	4/15/2022	10/25/2022	1/18/2023	4/27/2023	
Well Depth (feet): UNKNOWN								POET INSTALLED	INF	EFF
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)		ND (1.8)	ND(1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)		ND (1.8)	ND(1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)		ND (1.8)	ND(1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)		ND (1.8)	ND(1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	2.6	1-2cf Vessel	ND (1.8)	ND(1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)		ND (1.8)	ND(1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)		ND (1.8)	ND(1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)		ND (1.8)	ND(1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)		ND (1.8)	ND(1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)		ND (1.8)	ND(1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND(1.9)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND(1.9)	
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND(1.9)	
Perfluorotetradecanoic acid (PFTTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND(1.9)	
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	2.6		ND (1.8)	ND(1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	2.6		ND (1.8)	ND(1.9)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	80 Hubbardston Rd			
		12/16/2021	4/13/2022	10/28/2022	4/25/2023
Sampling Date					
Well Depth (feet): 132					
EPA 537.1 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
N-EtFOSAA		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
N-MeFOSAA		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Total (All Compounds)		ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)
Regulated Total	20	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	81 Hubbardston Rd						
		4/28/2020	10/2/2020	5/3/2021	10/19/2021	4/19/2022	10/26/2022	4/26/2023
Well Depth (feet): 500								
EPA 537.1 (ng/L)								
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	91A Hubbardston Rd
Sampling Date		8/28/2023
Well Depth (feet): UNKNOWN		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)
Perfluorononanoic acid (PFNA)		ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (1.9)
N-EtFOSAA		ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (1.9)
N-MeFOSAA		ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (1.9)
Total (All Compounds)		ND (1.9)
Regulated Total	20	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	44 Merriam Road
Sampling Date		8/28/2023
Well Depth (feet): UNKNOWN		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)
Perfluorononanoic acid (PFNA)		ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (1.9)
N-EtFOSAA		ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (1.9)
N-MeFOSAA		ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (1.9)
Total (All Compounds)		ND (1.9)
Regulated Total	20	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	55 Merriam Road						
		2/5/2021	4/26/2021	11/11/2021	5/4/2022	10/26/2022	1/18/2023	4/27/2023
Well Depth (feet): UNKNOWN								
EPA 537.1 (ng/L)								
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	11	ND (1.9)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	11	ND (1.9)	ND (2.0)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	57 Merriam Road																		
		-	4/28/2020		10/1/2020		1/21/2021		2/24/2021		4/26/2021		10/18/2021		4/11/2022		10/24/2022		4/27/2023	
		POET INSTALLED	EFF	INF	EFF	INF	EFF	INF	EFF	INF	EFF	INF	EFF	INF	EFF	INF	EFF	INF	EFF	
Well Depth (feet): UNKNOWN																				
EPA 537.1 (ng/L)																				
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	-	2.3	-	3.4*	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		2.5	ND (2.0)	ND (2.0)	-	6.7	-	5.1	ND (2.0)	4.6	5.5	2.6	ND (2.0)	ND (2.0)	5.1	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		4.3	ND (2.0)	ND (2.0)	-	8.7	-	7.2	ND (2.0)	6.6	8.5	4.8	ND (2.0)	3.0	2.6	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)
Total (All Compounds)		6.8	ND (2.0)	ND (2.0)	-	17.7	-	12.3	ND (2.0)	11.2	14	7.4	ND (2.0)	3.0	7.7	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Regulated Total	20	6.8	ND (2.0)	ND (2.0)	-	17.7	-	12.3	ND (2.0)	11.2	14	7.4	ND (2.0)	3.0	7.7	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level
 * PFHpA also detected in both the field blank and trip blank, therefore the reported result is considered invalid. Confirmed as laboratory contaminant. Result is not included in total. Reference lab reports 21B0096_2 and 21B0997.

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	58 Merriam Rd	
		10/6/2020	1/21/2021
Sampling Date		10/6/2020	1/21/2021
Well Depth (feet): UNKNOWN			
EPA 537.1 (ng/L)			
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)
Total (All Compounds)		ND (2.0)	ND (2.0)
Regulated Total	20	ND (2.0)	ND (2.0)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	59 Merriam Rd						
		4/28/2020	10/1/2020	4/26/2021	10/19/2021	4/15/2022	10/27/2022	4/25/2023
Well Depth (feet): 50								
EPA 537.1 (ng/L)								
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	70 Merriam Rd								
		4/28/2020	10/8/2020	1/22/2021	4/30/2021	11/4/2021	4/15/2022	10/26/2022	11/23/2022	4/20/2023
Sampling Date										
Well Depth (feet): 167									RESAMPLE	
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	2.9	ND (1.9)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	5.6	ND (1.9)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	5.6	ND (1.9)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	ND (1.9)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	ND (1.9)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	ND (1.9)	ND (2.0)
Perfluorotetradecanoic acid (PFTa)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (2.0)	ND (1.9)	ND (2.0)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	14.1	ND (1.9)	ND (2.0)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	14.1	ND (1.9)	ND (2.0)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	85 Merriam Rd														
							4/12/2022			10/24/2022		12/2/2022		77,985		-
		2/26/2020	7/22/2020	1/21/2021	4/19/2021	10/19/2021		INF	EFF	INF	2nd GAC VESSEL INSTALLED	MID	EFF	INF	5/9/2023	
Flow Meter Reading (gallons)																
Sampling Date																
Well Depth (feet): 485							POET INSTALLED				2nd GAC VESSEL INSTALLED					
<i>EPA 537.1 (ng/L)</i>																
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (2.1)	2.2		ND (2.0)	ND (2.0)	3.5		
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.1		2.2	ND (2.1)	3.1		ND (2.0)	ND (2.0)	3.1		
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (2.1)	ND (2.1)		ND (2.0)	ND (2.0)	ND (1.8)		
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	2	2	2.4		2.6	ND (2.1)	3.8		ND (2.0)	ND (2.0)	3.2		
Perfluorooctanoic acid (PFOA)		4.1	5.1	4.8	5.9	7.3		8.0	ND (2.1)	11		ND (2.0)	ND (2.0)	10		
Perfluorooctanesulfonic acid (PFOS)		2.7	2.9	3	3.2	5.1	1-2cf Vessel	5.7	ND (2.1)	8.0	2-2cf Vessels	ND (2.0)	ND (2.0)	6.0		
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (2.1)	ND (2.1)		ND (2.0)	ND (2.0)	ND (1.8)		
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (2.1)	ND (2.1)		ND (2.0)	ND (2.0)	ND (1.8)		
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (2.1)	ND (2.1)		ND (2.0)	ND (2.0)	ND (1.8)		
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (2.1)	ND (2.1)		ND (2.0)	ND (2.0)	ND (1.8)		
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (2.1)	ND (2.1)		ND (2.0)	ND (2.0)	ND (1.8)		
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (2.1)	ND (2.1)		ND (2.0)	ND (2.0)	ND (1.8)		
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (2.1)	ND (2.1)		ND (2.0)	ND (2.0)	ND (1.8)		
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (2.1)	ND (2.1)		ND (2.0)	ND (2.0)	ND (1.8)		
Total (All Compounds)		6.8	8.0	9.8	11.1	16.9		18.5	ND (2.1)	28.1		ND (2.0)	ND (2.0)	25.8		
Regulated Total	20	6.8	8.0	9.8	11.1	14.8		16.3	ND (2.1)	22.8		ND (2.0)	ND (2.0)	19.2		

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan	104 Merriam Road
Sampling Date	GW-1 Standard & MMCL	7/31/2023
Well Depth (feet): UNKNOWN		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)
N-EtFOSAA		ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)
N-MeFOSAA		ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)
Total (All Compounds)		ND (2.0)
Regulated Total	20	ND (2.0)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	105 Merriam Rd							
		2/28/2020	7/21/2020	1/20/2021	4/26/2021	10/18/2021	4/13/2022	10/24/2022	4/21/2023
Sampling Date									
Well Depth (feet): UNKNOWN									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.3
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.3
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.3

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	2 Mountain Rd										
		1/7/2020	6/5/2020	10/7/2020	1/22/2021	4/26/2021	10/18/2021	4/6/2022	10/26/2022	10/26/2022	11/30/2022	
Well Depth (feet): UNKNOWN											POET INSTALLED	EFF
EPA 537.1 (ng/l)												
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	2	ND (2.0)	ND (2.0)	ND 1.9)	ND 1.9)			ND 1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND 1.9)	ND 1.9)			ND 1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	2.1	ND (2.0)	3.2	3.8	3.2	6.1	3.3			ND 1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND 1.9)	ND 1.9)			ND 1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2	2	1-2cf Vessel		ND 1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2	2.2	ND 1.9)			ND 1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND 1.9)	ND 1.9)			ND 1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND 1.9)	ND 1.9)			ND 1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND 1.9)	ND 1.9)			ND 1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND 1.9)	ND 1.9)			ND 1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND 1.9)	ND 1.9)			ND 1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND 1.9)	ND 1.9)			ND 1.9)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND 1.9)	ND 1.9)			ND 1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND 1.9)	ND 1.9)			ND 1.9)
Total (All Compounds)		ND (2.0)	2.1	ND (2.0)	5.2	3.8	5.2	10.3	3.3			ND 1.9)
Regulated Total	20	ND (2.0)	2.1	ND (2.0)	3.2	3.8	5.2	10.3	3.3			ND 1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 POET System Monitoring
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	6 Mountain Road														
		1,557			Not Recorded			20,718			25,830					
Flow Meter Reading (gallons):		-			-			-			-					
Sampling Date		12/5/2019			1/28/2020			2/5/2020			5/8/2020			6/23/2020		
Well Depth (feet): UNKNOWN		POET INSTALLED														
EPA 537.1 (ng/L)																
Perfluorobutanesulfonic acid (PFBS)		8.4		3.7	ND (2.0)	ND (2.0)	5.8	ND (2.0)	ND (2.0)	4.3	ND (2.0)	ND (2.0)	4.1	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.5	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		23		12	ND (2.0)	ND (2.0)	17	ND (2.0)	ND (2.0)	14	ND (2.0)	ND (2.0)	16	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorheptanoic acid (PFHpA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		2.4	2-scf Vessels	2.1	ND (2.0)	ND (2.0)	2.5	ND (2.0)	ND (2.0)	2.5	ND (2.0)	ND (2.0)	8.2	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		4.7			4.1	ND (2.0)	ND (2.0)	5	ND (2.0)	ND (2.0)	4	ND (2.0)	ND (2.0)	11	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	3.2	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		38.5		21.9	ND (2.0)	ND (2.0)	30.3	ND (2.0)	ND (2.0)	24.8	ND (2.0)	ND (2.0)	45.0	ND (2.0)	ND (2.0)	ND (2.0)
Regulated Total	20	30.1		18.2	ND (2.0)	ND (2.0)	24.5	ND (2.0)	ND (2.0)	20.5	ND (2.0)	ND (2.0)	38.4	ND (2.0)	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	6 Mountain Road														
		31,079			Not Recorded			71,731			84,195			138,784		
Flow Meter Reading (gallons):		-			-			-			-			-		
Sampling Date		7/29/2020			11/6/2020			2/5/2021			4/19/2021			4/12/2022		
Well Depth (feet): UNKNOWN		INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	MID	EFF	
EPA 537.1 (ng/L)																
Perfluorobutanesulfonic acid (PFBS)		3.7	ND (2.0)	ND (2.0)	5.5	ND (2.0)	ND (2.0)	6.6	ND (2.0)	ND (2.0)	6.4	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorohexanesulfonic acid (PFHxS)		13	ND (2.0)	ND (2.0)	21	ND (2.0)	ND (2.0)	28	ND (2.0)	ND (2.0)	29	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	2.2	ND (2.0)	ND (2.0)	2.7	ND (2.0)	ND (2.0)	2.6	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorooctanesulfonic acid (PFOS)		3.5	ND (2.0)	ND (2.0)	5.1	ND (2.0)	ND (2.0)	5.7	ND (2.0)	ND (2.0)	5.8	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Total (All Compounds)		20.2	ND (2.0)	ND (2.0)	33.8	ND (2.0)	ND (2.0)	43.0	ND (2.0)	ND (2.0)	43.8	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	
Regulated Total	20	16.5	ND (2.0)	ND (2.0)	28.3	ND (2.0)	ND (2.0)	36.4	ND (2.0)	ND (2.0)	37.4	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	6 Mountain Road							
		Not Recorded		168,245		180,336		209,298	
Flow Meter Reading (gallons):		-		-		-		-	
Sampling Date		7/28/2022		10/26/2022		1/19/2023		8/1/2023	
Well Depth (feet): UNKNOWN		MID	EFF	MID	EFF	MID	EFF	MID	EFF
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorheptanoic acid (PFHpA)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTriDA)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Total (All Compounds)		ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)
Regulated Total	20	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Tot;
 ND = Not detected above the lab reporting limits shown in parentheses;
 Bolded values exceed the proposed Method 1 Standard;
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	10 Mountain Rd										
		12/5/2019	6/11/2020	10/7/2020	1/21/2021	2/1/2021	2/15/2021	4/19/2021	10/19/2021	4/15/2022	10/27/2022	4/26/2023
Well Depth (feet): 415 (DEP Log)						POET INSTALLED	EFF	INF	INF	INF	INF	INF
<i>EPA 537.1 (ng/L)</i>												
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	2.5	ND (2.0)	2.2		ND (2.0)	2.6	2.3	2.6	ND (2.1)	2.4
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.1)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	4.5	3.2	3.8		ND (2.0)	5.5	7.8	8.7	5.8	11
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.1)
Perfluorooctanoic acid (PFOA)		ND (2.0)	3.4	ND (2.0)	2.3		ND (2.0)	2.7	2.8	2.6	ND (2.1)	2.6
Perfluorooctanesulfonic acid (PFOS)		2.0	3.0	ND (2.0)	2.1	2-2cf Vessels	ND (2.0)	3.3	3	2.4	2.7	3.1
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.1)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.1)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.1)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.1)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.1)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.1)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.1)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.1)
Total (All Compounds)		2.0	13.4	3.2	10.4		ND (2.0)	14.1	15.9	16.3	8.5	19.1
Regulated Total	20	2.0	10.9	3.2	8.2		ND (2.0)	11.5	13.6	13.7	8.5	16.7

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	14 Mountain Rd								
		1/9/2020	1/22/2020	5/29/2020	11/11/2020	1/22/2021	4/20/2021	10/19/2021	4/15/2022	10/26/2022
Sampling Date										
Well Depth (feet): 500										
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		7.4	8.7	7.8	7.7	10	8.5	7.9	7.4	5
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.1	1.9
Perfluorohexanesulfonic acid (PFHxS)		30	35	33	34	46	42	58	51	49
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)
Perfluorooctanoic acid (PFOA)		2.6	2.3	3.3	2.5	3.6	3.3	3.1	3.4	3.7
Perfluorooctanesulfonic acid (PFOS)		6.1	7.8	7	5.1	9.3	8	11	11	10
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)
Total (All Compounds)		46.1	53.8	51.1	49.3	68.9	61.8	80.0	74.9	69.6
Regulated Total	20	38.7	45.1	43.3	41.6	58.9	53.3	72.1	65.4	62.7

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
POET System Monitoring
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	20 Mountain Road														
		295			-			13,640			16,740					
		1/10/2020	2/11/2020	2/14/2020	3/17/2020	3/17/2020	3/17/2020	6/18/2020	6/18/2020	6/18/2020	7/29/2020	7/29/2020	7/29/2020			
Well Depth (feet): UNKNOWN			POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	
<i>EPA 537.1 (ng/L)</i>																
Perfluorobutanesulfonic acid (PFBS)		12		14	ND (2.0)	ND (2.0)	15	ND (2.0)	ND (2.0)	19	ND (2.0)	ND (2.0)	18	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)		2.1	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.7	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		60		74	ND (2.0)	ND (2.0)	78	ND (2.0)	ND (2.0)	120	ND (2.0)	ND (2.0)	110	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorheptanoic acid (PFHpA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		3.5		4.1	ND (2.0)	ND (2.0)	4.2	ND (2.0)	ND (2.0)	5.2	ND (2.0)	ND (2.0)	4.3	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		22		28	ND (2.0)	ND (2.0)	30	ND (2.0)	ND (2.0)	44	ND (2.0)	ND (2.0)	44	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFUnA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTTA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		97.5		122.2	ND (2.0)	ND (2.0)	127.2	ND (2.0)	ND (2.0)	190.9	ND (2.0)	ND (2.0)	176.3	ND (2.0)	ND (2.0)	ND (2.0)
Regulated Total	20	86		106.1	ND (2.0)	ND (2.0)	112.2	ND (2.0)	ND (2.0)	169.2	ND (2.0)	ND (2.0)	158.3	ND (2.0)	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	20 Mountain Road															
		25,895			31,955			39,074			-			75,335			
		11/18/2020	11/18/2020	11/18/2020	1/29/2021	1/29/2021	1/29/2021	4/26/2021	4/26/2021	4/26/2021	4/15/2022	4/15/2022	4/15/2022	7/27/2022	7/27/2022	7/27/2022	
Well Depth (feet): UNKNOWN			INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	MID	EFF	
<i>EPA 537.1 (ng/L)</i>																	
Perfluorobutanesulfonic acid (PFBS)		18	ND (2.0)	ND (2.0)	22	ND (2.0)	ND (2.0)	ND (2.0)	17	ND (2.0)	ND (2.0)	17	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorohexanoic acid (PFHxA)		2.9	ND (2.0)	ND (2.0)	3.1	ND (2.0)	ND (2.0)	ND (2.0)	3.1	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorohexanesulfonic acid (PFHxS)		110	ND (2.0)	ND (2.0)	130	ND (2.0)	ND (2.0)	ND (2.0)	97	ND (2.0)	ND (2.0)	120	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorooctanoic acid (PFOA)		6.1	ND (2.0)	ND (2.0)	6.4	ND (2.0)	ND (2.0)	ND (2.0)	4.9	ND (2.0)	ND (2.0)	5.1	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorooctanesulfonic acid (PFOS)		43	ND (2.0)	ND (2.0)	51	ND (2.0)	ND (2.0)	ND (2.0)	38	ND (2.0)	ND (2.0)	38	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	38	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorodecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorotetradecanoic acid (PFTTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Total (All Compounds)		180.0	ND (2.0)	ND (2.0)	212.5	ND (2.0)	ND (2.0)	ND (2.0)	160.0	ND (2.0)	ND (2.0)	180.1	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	
Regulated Total	20	159.1	ND (2.0)	ND (2.0)	187.4	ND (2.0)	ND (2.0)	ND (2.0)	139.9	ND (2.0)	ND (2.0)	163.1	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.0)	

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	20 Mountain Road						
		93,135		104,157		-		
		1/10/2023	1/10/2023	3/21/2023	3/21/2023	Not Recorded	Not Recorded	
Well Depth (feet): UNKNOWN			INF*	MID	EFF	MID	EFF	MID
<i>EPA 537.1 (ng/L)</i>								
Perfluorobutanesulfonic acid (PFBS)		22	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		3.1	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		170	ND (2.0)	ND (1.8)	2.0	ND (1.9)	ND (1.9)	4.9
Perfluorheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		7.7	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		68	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTTA)		ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Total (All Compounds)		270.8	ND (2.0)	ND (1.8)	2.0	ND (1.9)	ND (1.9)	4.9
Regulated Total	20	245.7	ND (2.0)	ND (1.8)	2.0	ND (1.9)	ND (1.9)	4.9

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Tot:
 ND = Not detected above the lab reporting limits shown in parentheses:
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level
 Note: sample marked as effluent in error on laboratory report 23A217C

TABLE 1
 POET System Monitoring
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	21 Mountain Rd														
		NA			161			3,726			5,410			14,256		
		12/5/2020	1/21/2020	1/24/2020	1/31/2020	2/7/2020	3/17/2020									
Well Depth (feet): 300	POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF			
EPA 537.1 (ng/L)																
Perfluorobutanesulfonic acid (PFBS)		8.2		7.5	ND (2.0)	ND (2.0)	5.5	ND (2.0)	ND (2.0)	4.3	ND (2.0)	ND (2.0)	7.4	ND (2.0)	ND (2.0)	
Perfluorohexanoic acid (PFHxA)		2.4		2.0	ND (2.0)	ND (2.0)	2.2	ND (2.0)	ND (2.0)	3.2	ND (2.0)	ND (2.0)	3	ND (2.0)	ND (2.0)	
Perfluorohexanesulfonic acid (PFHxS)		53		47	ND (2.0)	ND (2.0)	37	ND (2.0)	ND (2.0)	28	ND (2.0)	ND (2.0)	46	ND (2.0)	ND (2.0)	
Perfluoroheptanoic acid (PFHpA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.1	ND (2.0)	ND (2.0)	3.2	ND (2.0)	ND (2.0)	
Perfluorooctanoic acid (PFOA)		5.4	2-2cf Vessels	4.6	ND (2.0)	ND (2.0)	5.7	ND (2.0)	ND (2.0)	5.4	ND (2.0)	ND (2.0)	4.7	ND (2.0)	ND (2.0)	
Perfluorooctanesulfonic acid (PFOS)		44		37	ND (2.0)	ND (2.0)	35	ND (2.0)	ND (2.0)	26	ND (2.0)	ND (2.0)	35	ND (2.0)	ND (2.0)	
Perfluorononanoic acid (PFNA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorodecanoic acid (PFDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
N-EtFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
N-MeFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Total (All Compounds)		113		98.1	ND (2.0)	ND (2.0)	85.4	ND (2.0)	ND (2.0)	69.0	ND (2.0)	ND (2.0)	99.3	ND (2.0)	ND (2.0)	
Regulated Total	20	102.4		88.6	ND (2.0)	ND (2.0)	77.7	ND (2.0)	ND (2.0)	61.5	ND (2.0)	ND (2.0)	88.9	ND (2.0)	ND (2.0)	

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	21 Mountain Rd														
		28,173			63,830			78,724			112,079			135,525		
		5/8/2020	6/30/2020	7/31/2020	11/6/2020	2/5/2021										
Well Depth (feet): 300	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	
EPA 537.1 (ng/L)																
Perfluorobutanesulfonic acid (PFBS)		4	ND (2.0)	ND (2.0)	4.5	ND (2.0)	ND (2.0)	5.6	ND (2.0)	ND (2.0)	3.1	ND (2.0)	ND (2.0)	4.6	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		2.4	ND (2.0)	ND (2.0)	2.2	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.7	ND (2.0)	ND (2.0)	
Perfluorohexanesulfonic acid (PFHxS)		25	ND (2.0)	ND (2.0)	29	ND (2.0)	ND (2.0)	37	ND (2.0)	ND (2.0)	19	ND (2.0)	ND (2.0)	27	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2	ND (2.0)	ND (2.0)	
Perfluorooctanoic acid (PFOA)		5.4	ND (2.0)	ND (2.0)	5.0	ND (2.0)	ND (2.0)	4.5	ND (2.0)	ND (2.0)	4.1	ND (2.0)	ND (2.0)	5.4	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		21	ND (2.0)	ND (2.0)	24	ND (2.0)	ND (2.0)	25	ND (2.0)	ND (2.0)	16	ND (2.0)	ND (2.0)	21	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Total (All Compounds)		57.8	ND (2.0)	ND (2.0)	64.7	ND (2.0)	ND (2.0)	72.1	ND (2.0)	ND (2.0)	42.2	ND (2.0)	ND (2.0)	62.7	ND (2.0)	ND (2.0)
Regulated Total	20	51.4	ND (2.0)	ND (2.0)	58	ND (2.0)	ND (2.0)	66.5	ND (2.0)	ND (2.0)	39.1	ND (2.0)	ND (2.0)	55.4	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	21 Mountain Rd																	
		156,974			230,318			268,126			-			309,744			340,894		
		4/19/2021			11/3/2021			4/12/2022			6/9/2022			7/27/2022			10/25/2022		
Well Depth (feet): 300	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	GAC CHANGE	MID	EFF	INF	MID	EFF				
EPA 537.1 (ng/L)																			
Perfluorobutanesulfonic acid (PFBS)		3.2	ND (2.0)	ND (2.0)	3.4	ND (1.8)	ND (1.9)	4.4	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	3.9	ND (2.0)	ND (1.9)			
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.9)	2.2	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)			
Perfluorohexanesulfonic acid (PFHxS)		23	ND (2.0)	ND (2.0)	26	ND (1.8)	ND (1.9)	34	9.1	ND (2.0)		ND (2.0)	ND (1.9)	43	ND (2.0)	ND (1.9)			
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)			
Perfluorooctanoic acid (PFOA)		4.5	ND (2.0)	ND (2.0)	3.9	ND (1.8)	ND (1.9)	5.4	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	4.2	ND (2.0)	ND (1.9)			
Perfluorooctanesulfonic acid (PFOS)		18	ND (2.0)	ND (2.0)	25	ND (1.8)	ND (1.9)	26	6.3	ND (2.0)		ND (2.0)	ND (1.9)	29	ND (2.0)	ND (1.9)			
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)			
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)			
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)			
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)			
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)			
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)			
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)			
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)			
Total (All Compounds)		48.7	ND (2.0)	ND (2.0)	58.3	ND (1.8)	ND (1.9)	72	15.4	ND (2.0)		ND (2.0)	ND (1.9)	80.1	ND (2.0)	ND (1.9)			
Regulated Total	20	45.5	ND (2.0)	ND (2.0)	54.9	ND (1.8)	ND (1.9)	65.4	15.4	ND (2.0)		ND (2.0)	ND (1.9)	76.2	ND (2.0)	ND (1.9)			

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	21 Mountain Rd				
		378,529			400,703	
		5/9/2023			8/1/2023	
Well Depth (feet): 300	INF	MID	EFF	MID	EFF	
EPA 537.1 (ng/L)						
Perfluorobutanesulfonic acid (PFBS)		4.1	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		1.9	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		45	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		5	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		37	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (1.8)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (1.8)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTDA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Total (All Compounds)		93	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)
Regulated Total	20	87	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	22 Mountain Rd												
		544			1,009			1,131			1,156			
		9/3/2020	9/10/2020		11/18/2020			2/5/2021			4/19/2021			
Flow Meter Reading (gallons)	-	-												
Sampling Date	7/31/2020	9/3/2020												
Well Depth (feet): UNKNOWN		POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF
EPA 537.1 (ng/L)														
Perfluorobutanesulfonic acid (PFBS)	86		85	ND (2.0)	ND (2.0)	29	ND (2.0)	ND (2.0)	85	ND (2.0)	ND (2.0)	85	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)	8.7		15	ND (2.0)	ND (2.0)	4.1	ND (2.0)	ND (2.0)	15	ND (2.0)	ND (2.0)	13	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)	490		570	ND (2.0)	ND (2.0)	160	ND (2.0)	ND (2.0)	570	ND (2.0)	ND (2.0)	530	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)	3.7		5.8	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	5.8	ND (2.0)	ND (2.0)	5.6	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)	16	2-2cf Vessels	18	ND (2.0)	ND (2.0)	7.9	ND (2.0)	ND (2.0)	18	ND (2.0)	ND (2.0)	23	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)	180		170	ND (2.0)	ND (2.0)	79	ND (2.0)	ND (2.0)	170	ND (2.0)	ND (2.0)	220	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EFOSAA	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTriDA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)	784.4		863.8	ND (2.0)	ND (2.0)	280	ND (2.0)	ND (2.0)	863.8	ND (2.0)	ND (2.0)	876.6	ND (2.0)	ND (2.0)
Regulated Total	20	689.7	763.8	ND (2.0)	ND (2.0)	246.9	ND (2.0)	ND (2.0)	763.8	ND (2.0)	ND (2.0)	778.6	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	22 Mountain Rd														
		9,310			27,543			38,464			49,149			66,436		
		4/14/2022	7/26/2022		10/27/2022			1/19/2023			8/4/2023			8/28/2023		
Flow Meter Reading (gallons)	9,310	27,543														
Sampling Date	4/14/2022	7/26/2022														
Well Depth (feet): UNKNOWN		INF	MID	EFF	MID	EFF	INF	MID	EFF	MID	EFF	MID	EFF	INF		
EPA 537.1 (ng/L)																
Perfluorobutanesulfonic acid (PFBS)	16	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	7.9	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	14		
Perfluorohexanoic acid (PFHxA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)		
Perfluorohexanesulfonic acid (PFHxS)	110	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	100	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	110		
Perfluoroheptanoic acid (PFHpA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)		
Perfluorooctanoic acid (PFOA)	5.8	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	6.1	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	7		
Perfluorooctanesulfonic acid (PFOS)	44	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	57	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	63		
Perfluorononanoic acid (PFNA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)		
Perfluorodecanoic acid (PFDA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)		
N-EFOSAA	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)		
Perfluoroundecanoic acid (PFUnA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)		
N-MeFOSAA	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)		
Perfluorododecanoic acid (PFDoA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)		
Perfluorotridecanoic acid (PFTriDA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)		
Perfluorotetradecanoic acid (PFTA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)		
Total (All Compounds)	175.8	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	171	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	194		
Regulated Total	20	159.8	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	163.1	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	180		

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	29 Mountain Rd																	
		1/8/2020		2/24/2020		3/11/2020				5/8/2020			6/3/2020			3,090		6/30/2020	7/14/2020
		POET INSTALLED		INF	MID	EFF	INF	MID	EFF	EFF DUPLICATE	EFF	INF	MID	EFF	EFF				
Well Depth (feet): 570 (DEP Log)																			
EPA 537.1 (ng/l)																			
Perfluorobutanesulfonic acid (PFBS)		9.6	6.7	ND (2.0)	ND (2.0)	4	ND (2.0)	2.9	2	ND (2.0)	4.9	ND (2.0)	4.2	ND (2.0)					
Perfluorohexanoic acid (PFHxA)		2.5	2	ND (2.0)	ND (2.0)	2	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.1	ND (2.0)					
Perfluorohexanesulfonic acid (PFHxS)		59	41	ND (2.0)	ND (2.0)	21	ND (2.0)	16	10	ND (2.0)	25	ND (2.0)	23	ND (2.0)					
Perfluorooheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)					
Perfluorooctanoic acid (PFOA)		5.3	5.1	ND (2.0)	ND (2.0)	4.4	ND (2.0)	3.5	2.2	ND (2.0)	4.7	ND (2.0)	4.5	ND (2.0)					
Perfluorooctanesulfonic acid (PFOS)		53	38	ND (2.0)	ND (2.0)	27	ND (2.0)	21	13	ND (2.0)	21	ND (2.0)	22	ND (2.0)					
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)					
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)					
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)					
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)					
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)					
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)					
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)					
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)					
Total (All Compounds)		129.4	92.8	ND (2.0)	ND (2.0)	58.4	ND (2.0)	43.4	27.2	ND (2.0)	55.6	ND (2.0)	55.8	ND (2.0)					
Regulated Total	20	117.3	84.1	ND (2.0)	ND (2.0)	52.4	ND (2.0)	40.5	25.2	ND (2.0)	50.7	ND (2.0)	49.5	ND (2.0)					

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	29 Mountain Rd														
		5,301			25,532			32,996			46,921		Not Recorded			
		7/29/2020			1/29/2021			4/20/2021			4/12/2022		7/26/2022			
Well Depth (feet): 570 (DEP Log)																
EPA 537.1 (ng/l)																
Perfluorobutanesulfonic acid (PFBS)		5.2	ND (2.0)	ND (2.0)	3.8	ND (2.0)	ND (2.0)	4	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	21	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Perfluorohexanesulfonic acid (PFHxS)		30	ND (2.0)	ND (2.0)	21	ND (2.0)	ND (2.0)	22	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Perfluorooheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Perfluorooctanoic acid (PFOA)		3.8	ND (2.0)	ND (2.0)	3.9	ND (2.0)	ND (2.0)	4.7	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Perfluorooctanesulfonic acid (PFOS)		22	ND (2.0)	ND (2.0)	16	ND (2.0)	ND (2.0)	18	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Total (All Compounds)		61.0	ND (2.0)	ND (2.0)	44.7	ND (2.0)	ND (2.0)	48.7	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		
Regulated Total	20	55.8	ND (2.0)	ND (2.0)	40.9	ND (2.0)	ND (2.0)	44.7	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)		

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	29 Mountain Rd											
		46,921			46,921			56,179			Not Recorded		
		10/27/2022			1/19/2023			4/25/2023			8/1/2023		
Well Depth (feet): 570 (DEP Log)													
EPA 537.1 (ng/l)													
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Perfluorohexanesulfonic acid (PFHxS)		7.1	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Perfluorooheptanoic acid (PFHpA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Perfluorooctanoic acid (PFOA)		5.3	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Perfluorooctanesulfonic acid (PFOS)		7.8	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
N-EFOSAA		ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
N-MeFOSAA		ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Total (All Compounds)		20.2	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	14.9	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		
Regulated Total	20	20.2	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	14.9	ND (1.9)	ND (1.9)	ND (1.8)	ND (2.0)		

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	30 Mountain Rd												
		-				37			170			5,312		
		1/27/2020	6/5/2020	10/13/2020	2/15/2021	2/22/2021			4/26/2021			5/16/2022		
Flow Meter Reading (gallons)		-	-	-	-									
Sampling Date														
Well Depth (feet): 600					POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF
EPA 537.1 (ng/L)														
Perfluorobutanesulfonic acid (PFBS)		<2.0	<2.0	3.2		2.2	ND (2.0)	ND (2.0)	2.2	ND (2.0)	ND (2.0)	2.7	ND (1.8)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		<2.0	<2.0	2.9		2.1	ND (2.0)	ND (2.0)	2.1	ND (2.0)	ND (2.0)	2.4	ND (1.8)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		4.4	3.9	22		16	ND (2.0)	ND (2.0)	13	ND (2.0)	ND (2.0)	21	ND (1.8)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	2.3		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)
Perfluorooctanoic acid (PFOA)		6.1	4.6	8.6	2-2cf Vessels	8.1	ND (2.0)	ND (2.0)	6.9	ND (2.0)	ND (2.0)	6	ND (1.8)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		5.4	4.1	16		13	ND (2.0)	ND (2.0)	12	ND (2.0)	ND (2.0)	16	ND (1.8)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.8)
Total (All Compounds)		15.9	12.6	52.7		41.4	ND (2.0)	ND (2.0)	36.2	ND (2.0)	ND (2.0)	48.1	ND (1.8)	ND (1.8)
Regulated Total	20	15.9	12.6	46.6		37.1	ND (2.0)	ND (2.0)	31.9	ND (2.0)	ND (2.0)	43.0	ND (1.8)	ND (1.8)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	30 Mountain Rd		
		-		
		5/15/2023		
Flow Meter Reading (gallons)				
Sampling Date				
Well Depth (feet): 600		INF	MID	EFF
EPA 537.1 (ng/L)				
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)	ND (2.0)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (1.9)	ND (2.0)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		5.6	ND (2.0)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (1.9)	ND (2.0)	ND (1.9)
Perfluorooctanoic acid (PFOA)		3.5	ND (2.0)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		6.6	ND (2.0)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (1.9)	ND (2.0)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (1.9)	ND (2.0)	ND (1.9)
N-EtFOSAA		ND (1.9)	ND (2.0)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (1.9)	ND (2.0)	ND (1.9)
N-MeFOSAA		ND (1.9)	ND (2.0)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (1.9)	ND (2.0)	ND (1.9)
Perfluorotridecanoic acid (PFTriDA)		ND (1.9)	ND (2.0)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (1.9)	ND (2.0)	ND (1.9)
Total (All Compounds)		15.7	ND (2.0)	ND (1.9)
Regulated Total	20	15.7	ND (2.0)	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan	30 Mountain Rd (Inn Well)
Sampling Date	GW-1 Standard & MMCL	5/25/2021
Well Depth (feet): 1,000		
SOP-454 PFAS (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		<2.0
Perfluorohexanoic acid (PFHxA)		<2.0
Perfluorohexanesulfonic acid (PFHxS)		3.9
Perfluoroheptanoic acid (PFHpA)		ND (2.0)
Perfluorooctanoic acid (PFOA)		13
Perfluorooctanesulfonic acid (PFOS)		110
Perfluorononanoic acid (PFNA)		7.5
Perfluorodecanoic acid (PFDA)		ND (2.0)
N-EtFOSAA		ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)
N-MeFOSAA		ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)
Perfluorobutanoic acid (PFBA)		3.9
Perfluoropentanoic acid (PFPeA)		3.4
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		ND (2.0)
Hexafluoropropylene oxide dimer acid (HFPO-DA)		ND (2.0)
8:2 Fluorotelomersulfonic acid (8:2FTS A)		ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)		ND (2.0)
Perfluoroheptanesulfonic acid (PFHpS)		ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)
4:2 Fluorotelomersulfonic acid (4:2FTS A)		ND (2.0)
Perfluorodecanesulfonic acid (PFDS)		ND (2.0)
Perfluorooctanesulfonamide (FOSA)		ND (2.0)
Perfluorononanesulfonic acid (PFNS)		ND (2.0)
Perfluoro-1-hexanesulfonamide (FHxSA)		ND (2.0)
Perfluoro-1-butanesulfonamide (FBSA)		ND (2.0)
Perfluoro-5-oxahexanoic acid (PFMBA)		ND (2.0)
6:2 Fluorotelomersulfonic acid (6:2FTS A)		ND (2.0)
Perfluoropetanesulfonic acid (PFPeS)		ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)		ND (2.0)
Total (All Compounds)		141.7
Regulated Total	20	134.4

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	33 Mountain Rd								
		UNKNOWN								
		2/7/2020	7/22/2020	1/21/2021	4/16/2021	10/18/2021	4/15/2022	2/15/2023	7/31/2023	
Well Depth (feet): UNKNOWN								POET INSTALLED	INF	EFF
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.0)	ND (2.2)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.0)	ND (2.2)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.0)	ND (2.2)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.0)	ND (2.2)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	2.5	2.2	ND (2.0)	ND (1.9)	1-2cf Vessel	2.1	ND (2.2)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.0)	ND (2.2)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.0)	ND (2.2)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.0)	ND (2.2)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.0)	ND (2.2)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (2.0)	ND (2.2)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.2)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.2)	
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.2)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.2)	
Total (All Compounds)		ND (2.0)	ND (2.0)	2.5	2.2	ND (2.0)	ND (1.9)		2.1	ND (2.2)
Regulated Total	20	ND (2.0)	ND (2.0)	2.5	2.2	ND (2.0)	ND (1.9)		2.1	ND (2.2)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	38 Mountain Rd								
		2/14/2020	7/21/2020	1/20/2021	4/27/2021	11/11/2021	4/15/2022	12/14/2022	1/17/2023	4/20/2023
Well Depth (feet)										
Sampling Date										
Well Depth (feet): UNKNOWN								POET INSTALLED	EFF	INF
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	3	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	1-2cf Vessel	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		2.2	2.4	2.1	ND (2.0)	ND (1.8)	ND (1.9)		ND (2.0)	2.0
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)		ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)		ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)		ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	
Total (All Compounds)		2.2	5.4	2.1	ND (2.0)	ND (1.8)	ND (1.9)		ND (2.0)	2.0
Regulated Total	20	2.2	5.4	2.1	ND (2.0)	ND (1.8)	ND (1.9)		ND (2.0)	2.0

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	51 Mountain Rd														
		211					1,080			3,312			11,491			
		2/12/2020	5/1/2020	5/28/2020			6/23/2020			7/31/2020			11/11/2020			
Well Depth (feet): 250	POET INSTALLED	INF	MID	EFF	EFF DUPLICATE	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF		
EPA 537.1 (ng/L)																
Perfluorobutanesulfonic acid (PFBS)	ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorohexanoic acid (PFHxA)	6.9	6.1	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	5.1	ND (2.0)	ND (2.0)	ND (2.0)	6.8	ND (2.0)	ND (2.0)	6.6	ND (2.0)	
Perfluorohexanesulfonic acid (PFHxS)	ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorooheptanoic acid (PFHpA)	9.5	9.4	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	9.0	ND (2.0)	ND (2.0)	ND (2.0)	11	ND (2.0)	ND (2.0)	9.2	ND (2.0)	
Perfluorooctanoic acid (PFOA)	29	29	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	28	ND (2.0)	ND (2.0)	ND (2.0)	30	ND (2.0)	ND (2.0)	30	ND (2.0)	
Perfluorooctanesulfonic acid (PFOS)	24	23	ND (2.0)	2.9	ND (2.0)	ND (2.0)	21	ND (2.0)	ND (2.0)	ND (2.0)	24	ND (2.0)	ND (2.0)	26	ND (2.0)	
Perfluorononanoic acid (PFNA)	ND (4.0)	3	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.6	ND (2.0)	ND (2.0)	ND (2.0)	3.2	ND (2.0)	ND (2.0)	3.1	ND (2.0)	
Perfluorodecanoic acid (PFDA)	ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
N-EtFOSAA	ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluoroundecanoic acid (PFUnA)	ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
N-MeFOSAA	ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)	ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotridecanoic acid (PFTriDA)	ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Perfluorotetradecanoic acid (PFTA)	ND (4.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	
Total (All Compounds)	69.4	70.5	ND (2.0)	2.9	ND (2.0)	ND (2.0)	65.7	ND (2.0)	ND (2.0)	ND (2.0)	75.0	ND (2.0)	ND (2.0)	74.9	ND (2.0)	
Regulated Total	20	62.5	64.4	ND (2.0)	2.9	ND (2.0)	60.6	ND (2.0)	ND (2.0)	ND (2.0)	68.2	ND (2.0)	ND (2.0)	68.3	ND (2.0)	

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	51 Mountain Rd																	
		18,344			49,090			Not Recorded			65,577			71,550			78,875		
		2/5/2021			4/14/2022			7/26/2022			10/27/2022			1/20/2023			5/5/2023		
Well Depth (feet): 250	INF	MID	EFF	MID	EFF	MID	EFF	MID	EFF	MID	EFF	INF	MID	EFF					
EPA 537.1 (ng/L)																			
Perfluorobutanesulfonic acid (PFBS)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorohexanoic acid (PFHxA)	4.1	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	ND (2.0)	6.2	ND (1.8)					
Perfluorohexanesulfonic acid (PFHxS)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorooheptanoic acid (PFHpA)	7.8	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	11	ND (1.8)	ND (1.9)					
Perfluorooctanoic acid (PFOA)	25	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	31	ND (1.8)	ND (1.9)					
Perfluorooctanesulfonic acid (PFOS)	18	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	29	ND (1.8)	ND (1.9)					
Perfluorononanoic acid (PFNA)	2.2	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	4.1	ND (1.8)	ND (1.9)					
Perfluorodecanoic acid (PFDA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.9)					
N-EtFOSAA	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluoroundecanoic acid (PFUnA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.9)					
N-MeFOSAA	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorododecanoic acid (PFDoA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorotridecanoic acid (PFTriDA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.9)					
Perfluorotetradecanoic acid (PFTA)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	ND (2.0)	ND (1.8)	ND (1.9)					
Total (All Compounds)	57.1	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	81.3	ND (1.8)	ND (1.9)					
Regulated Total	20	53.0	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)	75.1	ND (1.8)	ND (1.9)					

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	51 Mountain Rd	
		86,574	
		8/1/2023	
Well Depth (feet): 250	MID	EFF	
EPA 537.1 (ng/L)			
Perfluorobutanesulfonic acid (PFBS)	ND (1.9)	ND (1.9)	
Perfluorohexanoic acid (PFHxA)	ND (1.9)	ND (1.9)	
Perfluorohexanesulfonic acid (PFHxS)	ND (1.9)	ND (1.9)	
Perfluorooheptanoic acid (PFHpA)	ND (1.9)	ND (1.9)	
Perfluorooctanoic acid (PFOA)	ND (1.9)	ND (1.9)	
Perfluorooctanesulfonic acid (PFOS)	ND (1.9)	ND (1.9)	
Perfluorononanoic acid (PFNA)	ND (1.9)	ND (1.9)	
Perfluorodecanoic acid (PFDA)	ND (1.9)	ND (1.9)	
N-EtFOSAA	ND (1.9)	ND (1.9)	
Perfluoroundecanoic acid (PFUnA)	ND (1.9)	ND (1.9)	
N-MeFOSAA	ND (1.9)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)	ND (1.9)	ND (1.9)	
Perfluorotridecanoic acid (PFTriDA)	ND (1.9)	ND (1.9)	
Perfluorotetradecanoic acid (PFTA)	ND (1.9)	ND (1.9)	
Total (All Compounds)	ND (1.9)	ND (1.9)	
Regulated Total	20	ND (1.9)	

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	54 Mountain Rd											
		15,502			42,195			59,957			108,792		
		2/26/2020	6/2/2020	6/22/2020	8/5/2020	9/2/2020	11/18/2020						
Flow Meter Reading (gallons)		-	-										
Well Depth (feet): UNKNOWN		POET INSTALLED			INF	MID	EFF	INF	MID	EFF	INF	MID	EFF
EPA 537.1 (ng/L)													
Perfluorobutanesulfonic acid (PFBS)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		5.2		5.0	ND (2.0)	ND (2.0)	4.2	ND (2.0)	ND (2.0)	4.3	ND (2.0)	ND (2.0)	5.7
Perfluorohexanesulfonic acid (PFHxS)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		7.6		7.9	ND (2.0)	ND (2.0)	6.7	ND (2.0)	ND (2.0)	7.4	ND (2.0)	ND (2.0)	9.6
Perfluorooctanoic acid (PFOA)		20		24	ND (2.0)	ND (2.0)	23	ND (2.0)	ND (2.0)	24	ND (2.0)	ND (2.0)	27
Perfluorooctanesulfonic acid (PFOS)		18		24	ND (2.0)	ND (2.0)	22	ND (2.0)	ND (2.0)	21	ND (2.0)	ND (2.0)	22
Perfluorononanoic acid (PFNA)		ND (4.0)		2.5	ND (2.0)	ND (2.0)	2.2	ND (2.0)	ND (2.0)	2.9	ND (2.0)	ND (2.0)	2.6
Perfluorodecanoic acid (PFDA)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EFOSAA		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTDA)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		50.8		63.4	ND (2.0)	ND (2.0)	58.1	ND (2.0)	ND (2.0)	59.6	ND (2.0)	ND (2.0)	66.9
Regulated Total	20	45.6		58.4	ND (2.0)	ND (2.0)	53.9	ND (2.0)	ND (2.0)	55.3	ND (2.0)	ND (2.0)	61.2

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	54 Mountain Rd																							
		159,296				191,908				300,348				463,871				517,999				552,674			
		2/15/2021		4/23/2021		10/28/2021		7/26/2022		11/2/2022		1/19/2023													
Flow Meter Reading (gallons)																									
Well Depth (feet): UNKNOWN		INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	MID	EFF	MID	EFF	MID	EFF									
EPA 537.1 (ng/L)																									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	6.8	ND (2.0)	ND (2.0)	ND (2.0)	5.1	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)									
Perfluorohexanoic acid (PFHxA)		4.7	ND (2.0)	ND (2.0)	ND (2.0)	10	ND (2.0)	ND (2.0)	ND (2.0)	8.6	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)									
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	10	ND (2.0)	ND (2.0)	ND (2.0)	8.6	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)									
Perfluoroheptanoic acid (PFHpA)		8	ND (2.0)	ND (2.0)	ND (2.0)	32	ND (2.0)	ND (2.0)	ND (2.0)	24	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)									
Perfluorooctanoic acid (PFOA)		23	ND (2.0)	ND (2.0)	ND (2.0)	30	ND (2.0)	ND (2.0)	ND (2.0)	25	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)									
Perfluorooctanesulfonic acid (PFOS)		23	ND (2.0)	ND (2.0)	ND (2.0)	30	ND (2.0)	ND (2.0)	ND (2.0)	25	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)									
Perfluorononanoic acid (PFNA)		2.5	ND (2.0)	ND (2.0)	ND (2.0)	3.3	ND (2.0)	ND (2.0)	ND (2.0)	2.9	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)									
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)										
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)										
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)										
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)										
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)										
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)										
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)										
Total (All Compounds)		61.2	ND (2.0)	ND (2.0)	82.1	ND (2.0)	ND (2.0)	65.6	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)										
Regulated Total	20	56.5	ND (2.0)	ND (2.0)	75.3	ND (2.0)	ND (2.0)	60.5	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.1)										

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	54 Mountain Rd					
		599,739			Not Recorded		
		4/27/2023			7/31/2023		
Flow Meter Reading (gallons)							
Well Depth (feet): UNKNOWN		INF	MID	EFF	MID	EFF	
EPA 537.1 (ng/L)							
Perfluorobutanesulfonic acid (PFBS)		ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorohexanoic acid (PFHxA)		5.0	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorohexanesulfonic acid (PFHxS)		ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluoroheptanoic acid (PFHpA)		7.7	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorooctanoic acid (PFOA)		23	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorooctanesulfonic acid (PFOS)		29	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorononanoic acid (PFNA)		2.8	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorodecanoic acid (PFDA)		ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
N-EFOSAA		ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluoroundecanoic acid (PFUnA)		ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
N-MeFOSAA		ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorotridecanoic acid (PFTDA)		ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Perfluorotetradecanoic acid (PFTA)		ND (1.8)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Total (All Compounds)		67.5	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	
Regulated Total	20	62.5	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	58 Mountain Rd											
		2,131			8,428			22,138			50,278		
		2/26/2020	7/7/2020	7/14/2020	7/31/2020	7/31/2020	8/31/2020	8/31/2020	8/31/2020	11/6/2020	11/6/2020	11/6/2020	
Flow Meter Reading (gallons)													
Well Depth (feet): UNKNOWN		POET INSTALLED			INF	MID	EFF	INF	MID	EFF	INF	MID	EFF
EPA 537.1 (ng/L)													
Perfluorobutanesulfonic acid (PFBS)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		19		19	ND (2.0)	ND (2.0)	3.6	ND (2.0)	ND (2.0)	ND (2.0)	15	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	28	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		29		31	ND (2.0)	ND (2.0)	6	ND (2.0)	ND (2.0)	94	ND (2.0)	ND (2.0)	18
Perfluorooctanoic acid (PFOA)		89		95	ND (2.0)	ND (2.0)	18	ND (2.0)	ND (2.0)	270	ND (2.0)	ND (2.0)	67
Perfluorooctanesulfonic acid (PFOS)		210		230	ND (2.0)	ND (2.0)	35	ND (2.0)	ND (2.0)	19	ND (2.0)	ND (2.0)	130
Perfluorononanoic acid (PFNA)		20		20	ND (2.0)	ND (2.0)	3.5	ND (2.0)	ND (2.0)	5.7	ND (2.0)	ND (2.0)	14
Perfluorodecanoic acid (PFDA)		6.2		6.9	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	4.2
N-EFOSAA		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTDA)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (4.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		373.2		401.9	ND (2.0)	ND (2.0)	66.1	ND (2.0)	ND (2.0)	431.7	ND (2.0)	ND (2.0)	244.2
Regulated Total	20	354.2		382.9	ND (2.0)	ND (2.0)	62.5	ND (2.0)	ND (2.0)	416.7	ND (2.0)	ND (2.0)	233.2

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	58 Mountain Rd														
		66,979			81,707			133,473			216,558			241,041		
		2/5/2021	4/21/2021	4/21/2021	10/18/2021	10/18/2021	7/26/2022	7/26/2022	10/27/2022	10/27/2022	10/27/2022	10/27/2022				
Flow Meter Reading (gallons)																
Well Depth (feet): UNKNOWN		INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	MID	EFF	INF	MID	EFF	
EPA 537.1 (ng/L)																
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	4.7	ND (1.8)	ND (2.2)	
Perfluorohexanoic acid (PFHxA)		5	ND (2.0)	ND (2.0)	15	ND (2.0)	ND (2.0)	22	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	19	ND (1.8)	ND (2.2)	
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.0)	ND (1.8)	ND (2.2)	
Perfluoroheptanoic acid (PFHpA)		9	ND (2.0)	ND (2.0)	26	ND (2.0)	ND (2.0)	36	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	40	ND (1.8)	ND (2.2)	
Perfluorooctanoic acid (PFOA)		23	ND (2.0)	ND (2.0)	83	ND (2.0)	ND (2.0)	120	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	100	ND (1.8)	ND (2.2)	
Perfluorooctanesulfonic acid (PFOS)		44	ND (2.0)	ND (2.0)	180	ND (2.0)	ND (2.0)	290	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	240	ND (1.8)	ND (2.2)	
Perfluorononanoic acid (PFNA)		6.3	ND (2.0)	ND (2.0)	16	ND (2.0)	ND (2.0)	25	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	23	ND (1.8)	ND (2.2)	
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	4.4	ND (2.0)	ND (2.0)	8.2	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	7.5	ND (1.8)	ND (2.2)	
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.0)	ND (1.8)	ND (2.2)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.0)	ND (1.8)	ND (2.2)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.0)	ND (1.8)	ND (2.2)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.0)	ND (1.8)	ND (2.2)	
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.0)	ND (1.8)	ND (2.2)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.0)	ND (1.8)	ND (2.2)	
Total (All Compounds)		87.7	ND (2.0)	ND (2.0)	324.4	ND (2.0)	ND (2.0)	501.2	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	434.2	ND (1.8)	ND (2.2)	
Regulated Total	20	82.7	ND (2.0)	ND (2.0)	309.4	ND (2.0)	ND (2.0)	479.2	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	410.5	ND (1.8)	ND (2.2)	

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	58 Mountain Rd							
		257,905		277,017			297,317		
		1/18/2023	4/25/2023	4/25/2023	7/31/2023	7/31/2023	7/31/2023		
Flow Meter Reading (gallons)									
Well Depth (feet): UNKNOWN		MID	EFF	INF	MID	EFF	MID	EFF	
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)	ND (1.8)	30.0	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorohexanoic acid (PFHxA)		ND (1.9)	ND (1.8)	26	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorohexanesulfonic acid (PFHxS)		ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluoroheptanoic acid (PFHpA)		ND (1.9)	ND (1.8)	43	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorooctanoic acid (PFOA)		ND (1.9)	ND (1.8)	110	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)	ND (1.8)	320	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorononanoic acid (PFNA)		ND (1.9)	ND (1.8)	29	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorodecanoic acid (PFDA)		ND (1.9)	ND (1.8)	11	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
N-EFOSAA		ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluoroundecanoic acid (PFUnA)		ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
N-MeFOSAA		ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorotridecanoic acid (PFTDA)		ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Perfluorotetradecanoic acid (PFTA)		ND (1.9)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Total (All Compounds)		ND (1.9)	ND (1.8)	569.0	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	
Regulated Total	20	ND (1.9)	ND (1.8)	513.0	ND (1.9)	ND (2.0)	ND (2.2)	ND (1.9)	

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	64 Mountain Rd															
		-			Not Recorded			11,667			27,440			38,902			
		1/30/2020			2/18/2020			3/3/2020			5/8/2020			6/18/2020			7/29/2020
Well Depth (feet): UNKNOWN		POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF			
EPA 537.1 (ng/L)																	
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		
Perfluorohexanoic acid (PFHxA)		14	20	ND (2.0)	ND (2.0)	15	ND (2.0)	ND (2.0)	ND (2.0)	18	ND (2.0)	ND (2.0)	2	ND (2.0)	ND (2.0)		
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		
Perfluoroheptanoic acid (PFHpA)		19	23	ND (2.0)	ND (2.0)	18	ND (2.0)	ND (2.0)	ND (2.0)	22	ND (2.0)	ND (2.0)	2.6	ND (2.0)	ND (2.0)		
Perfluorooctanoic acid (PFOA)		34	44	ND (2.0)	ND (2.0)	34	ND (2.0)	ND (2.0)	43	ND (2.0)	ND (2.0)	5.3	ND (2.0)	ND (2.0)			
Perfluorooctanesulfonic acid (PFOS)		22	20	ND (2.0)	ND (2.0)	15	ND (2.0)	ND (2.0)	20	ND (2.0)	ND (2.0)	2.4	ND (2.0)	ND (2.0)			
Perfluorononanoic acid (PFNA)		ND (2.0)	2.5	ND (2.0)	ND (2.0)	2.2	ND (2.0)	ND (2.0)	2.3	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)			
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		
Total (All Compounds)		89	109.5	ND (2.0)	ND (2.0)	84.2	ND (2.0)	ND (2.0)	105.3	ND (2.0)	ND (2.0)	12.4	ND (2.0)	ND (2.0)	ND (2.0)		
Regulated Total	20	75	89.5	ND (2.0)	ND (2.0)	69.2	ND (2.0)	ND (2.0)	87.3	ND (2.0)	ND (2.0)	10.3	ND (2.0)	ND (2.0)	ND (2.0)		

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	64 Mountain Rd														
		75,168			86,631			97,368			-			152,651		
		11/6/2020			1/29/2021			4/21/2021			10/19/2021			4/21/2022		
Well Depth (feet): UNKNOWN		INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	EFF	
EPA 537.1 (ng/L)																
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	2.4	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	28	ND (1.9)	ND (2.1)	72	ND (1.9)	
Perfluorohexanoic acid (PFHxA)		14	ND (2.0)	ND (2.0)	18	ND (2.0)	ND (2.0)	11	ND (2.0)	ND (2.0)	25	ND (1.9)	ND (2.1)	10	ND (1.9)	
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluoroheptanoic acid (PFHpA)		18	ND (2.0)	ND (2.0)	24	ND (2.0)	ND (2.0)	12	ND (2.0)	ND (2.0)	25	ND (1.9)	ND (2.1)	11	ND (1.9)	
Perfluorooctanoic acid (PFOA)		43	ND (2.0)	ND (2.0)	53	ND (2.0)	ND (2.0)	19	ND (2.0)	ND (2.0)	44	ND (1.9)	ND (2.1)	23	ND (1.9)	
Perfluorooctanesulfonic acid (PFOS)		16	ND (2.0)	ND (2.0)	22	ND (2.0)	ND (2.0)	12	ND (2.0)	ND (2.0)	21	ND (1.9)	ND (2.1)	18	ND (1.9)	
Perfluorononanoic acid (PFNA)		3.1	ND (2.0)	ND (2.0)	5.1	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	3.4	ND (1.9)	ND (2.1)	3.2	ND (1.9)	
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.8)	ND (1.9)		
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.8)	ND (1.9)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.8)	ND (1.9)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (2.1)	ND (1.8)	ND (1.9)	
Total (All Compounds)		94.1	ND (2.0)	ND (2.0)	124.5	ND (2.0)	ND (2.0)	54.0	ND (2.0)	ND (2.0)	146.4	ND (1.9)	ND (2.1)	137.2	ND (1.9)	
Regulated Total	20	80.1	ND (2.0)	ND (2.0)	104.1	ND (2.0)	ND (2.0)	43.0	ND (2.0)	ND (2.0)	93.4	ND (1.9)	ND (2.1)	55.2	ND (1.9)	

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	64 Mountain Rd							
		169,251		-				198,473	
		7/26/2022		10/31/2022				1/18/2023	
Well Depth (feet): UNKNOWN		MID	EFF	INF	MID	EFF	MID	EFF	
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (1.8)	ND (2.0)	610	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorohexanoic acid (PFHxA)		ND (1.8)	ND (2.0)	29	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorohexanesulfonic acid (PFHxS)		ND (1.8)	ND (2.0)	ND (2.0)	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluoroheptanoic acid (PFHpA)		ND (1.8)	ND (2.0)	30	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorooctanoic acid (PFOA)		ND (1.8)	ND (2.0)	51	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorooctanesulfonic acid (PFOS)		ND (1.8)	ND (2.0)	19	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorononanoic acid (PFNA)		ND (1.8)	ND (2.0)	3.6	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorodecanoic acid (PFDA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
N-EFOSAA		ND (1.8)	ND (2.0)	ND (2.0)	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluoroundecanoic acid (PFUnA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
N-MeFOSAA		ND (1.8)	ND (2.0)	ND (2.0)	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorotridecanoic acid (PFTDA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorotetradecanoic acid (PFTA)		ND (1.8)	ND (2.0)	ND (2.0)	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Total (All Compounds)		ND (1.8)	ND (2.0)	742.6	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	
Regulated Total	20	ND (1.8)	ND (2.0)	103.6	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.0)	

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	92 Mountain
Sampling Date		8/1/2023
Well Depth (feet): 255		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		2.6
Perfluorononanoic acid (PFNA)		ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)
N-EtFOSAA		ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)
N-MeFOSAA		ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)
Total (All Compounds)		2.6
Regulated Total	20	2.6

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	97 Mountain
Sampling Date		8/1/2023
Well Depth (feet): 255		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (1.8)
Perfluorononanoic acid (PFNA)		ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (1.8)
N-EtFOSAA		ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (1.8)
N-MeFOSAA		ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (1.8)
Perfluorotridecanoic acid (PFTrDA)		ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (1.8)
Total (All Compounds)		ND (1.8)
Regulated Total	20	ND (1.8)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 POET System Monitoring
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	5 Prospect Street													
		127			182			188			47,737				
		NA	NA	127	182	188	47,737								
Flow Meter Reading (gallons):		NA	NA	127	182	188	47,737								
Sampling Date		1/13/2020	1/21/2020	1/24/2020	1/31/2020	2/7/2020	6/18/2020								
Well Depth (feet): UNKNOWN			POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF
EPA 537.1 (ng/L)															
Perfluorobutanesulfonic acid (PFBS)		9.4		2.4	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.4	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		32		6.6	ND (2.0)	ND (2.0)	2.5	ND (2.0)	2.4	ND (2.0)	ND (2.0)	7	ND (2.0)	ND (2.0)	
Perfluorooctanoic acid (PFOA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecane sulfonic acid (PFDA)		6.2		3	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.8	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		47.6		12.0	ND (2.0)	ND (2.0)	2.5	ND (2.0)	2.4	ND (2.0)	ND (2.0)	12.2	ND (2.0)	ND (2.0)	ND (2.0)
Regulated Total	20	38.2		9.6	ND (2.0)	ND (2.0)	2.5	ND (2.0)	2.4	ND (2.0)	ND (2.0)	9.8	ND (2.0)	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	5 Prospect Street														
		47,737			70,000			156,306			174,265			188,495		
		INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF
Flow Meter Reading (gallons):		47,737		70,000		156,306		174,265		188,495						
Sampling Date		6/18/2020		7/27/2020		11/6/2020		1/29/2021		4/19/2021						
Well Depth (feet): UNKNOWN																
EPA 537.1 (ng/L)																
Perfluorobutanesulfonic acid (PFBS)		2.4	ND (2.0)	ND (2.0)	2.2	ND (2.0)	ND (2.0)	2.3	ND (2.0)	ND (2.0)	4.6	ND (2.0)	ND (2.0)	4.2	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		7	ND (2.0)	ND (2.0)	5.6	ND (2.0)	ND (2.0)	6	ND (2.0)	ND (2.0)	14	ND (2.0)	ND (2.0)	17	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecane sulfonic acid (PFDA)		2.8	ND (2.0)	ND (2.0)	2.6	ND (2.0)	ND (2.0)	2.4	ND (2.0)	ND (2.0)	2.2	ND (2.0)	ND (2.0)	2.2	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		12.2	ND (2.0)	ND (2.0)	10.4	ND (2.0)	ND (2.0)	10.7	ND (2.0)	ND (2.0)	24.9	ND (2.0)	ND (2.0)	27.5	ND (2.0)	ND (2.0)
Regulated Total	20	9.8	ND (2.0)	ND (2.0)	8.2	ND (2.0)	ND (2.0)	8.4	ND (2.0)	ND (2.0)	20.3	ND (2.0)	ND (2.0)	23.3	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	5 Prospect Street																	
		422,542			534,810			656,963			670,459			683,016			688,974		
		INF	MID	EFF	MID	EFF	MID	EFF	MID	EFF	INF	MID	EFF	MID	EFF				
Flow Meter Reading (gallons):		422,542		534,810		656,963		670,459		683,016		688,974							
Sampling Date		4/14/2022		7/26/2022		10/27/2022		1/19/2023		4/20/2023		8/1/2023							
Well Depth (feet): UNKNOWN																			
EPA 537.1 (ng/L)																			
Perfluorobutanesulfonic acid (PFBS)		4	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	3.1	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	18	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				
Perfluorooctanesulfonic acid (PFOS)		20	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	2.1	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				
Perfluorooctanoic acid (PFOA)		2	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	2.5	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				
Perfluorodecane sulfonic acid (PFDA)		6.2	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	5.7	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				
Perfluorododecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				
Perfluorododecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				
Total (All Compounds)		32.2	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	29.3	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				
Regulated Total	20	28.2	ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (2.1)	26.2	ND (2.0)	ND (2.1)	ND (2.0)	ND (2.1)				

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Tot;
 ND = Not detected above the lab reporting limits shown in parentheses;
 Bolded values exceed the proposed Method 1 Standard;
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	7 Prospect St													
		6,662						70,935		86,124		89,282			
		12/9/2019	6/5/2020	10/16/2020	1/19/2021	4/23/2021	6/23/2021	7/22/2021		10/25/2022		4/26/2023		8/4/2023	
Flow Meter Reading (gallons)															
Well Depth (feet): 385 (DEP Log)							POET INSTALLED	INF	MID	EFF	MID	EFF	INF	MID	EFF
EPA 537.1 (ng/l)															
Perfluorobutanesulfonic acid (PFBS)		3.1	2.7	2.9	3.4	3.7		3.6	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	4.3	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		13	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		8.8	11	11	11	15		16	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	22	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2-2cf Vessels	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		4.5	6	5.2	5	6.9		7.8	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	9.1	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Total (All Compounds)		16.4	19.7	19.1	19.4	25.6		40.4	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	35.4	ND (1.9)	ND (1.9)
Regulated Total	20	13.3	17.0	16.2	16.0	21.9		23.8	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.8)	31.1	ND (1.9)	ND (1.9)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolted values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	11 Prospect St																																																																							
		-				-				-				Not Recorded		Not Recorded																																																									
		1/8/2020				2/20/2020				9/10/2020				1/28/2021				4/21/2021				11/3/2021				4/21/2022				7/29/2022				10/27/2022																																							
Flow Meter Reading (gallons)		-				-				-				-				-				-				-				-																																											
Sampling Date		1/8/2020				2/20/2020				9/10/2020				1/28/2021				4/21/2021				11/3/2021				4/21/2022				7/29/2022				10/27/2022																																							
Well Depth (feet): 137		POET INSTALLED				INF				MID				EFF				INF				INF				INF				INF				INF				MID				EFF				MID				EFF																							
EPA 537.1 (ng/L)																																																																									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)															
Perfluorohexanoic acid (PFHxA)		ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)											
Perfluorohexanesulfonic acid (PFHxS)		2.1				3.3				ND (2.0)				ND (2.0)				3.4				4.7				5.8				9.0				16.0				ND (1.8)				ND (1.9)				ND (1.9)				ND (1.9)				ND (1.9)				ND (1.9)															
Perfluoroheptanoic acid (PFHpA)		ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)							
Perfluorooctanoic acid (PFOA)		ND (2.0)				2-2cf Vessels				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)											
Perfluorooctanesulfonic acid (PFOS)		2.3				2.5				ND (2.0)				ND (2.0)				3.7				3.5				4.1				5.1				6.9				ND (1.8)				ND (1.9)				ND (1.9)				ND (1.9)				ND (1.9)				ND (1.9)				ND (1.9)											
Perfluorononanoic acid (PFNA)		ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)							
Perfluorodecanoic acid (PFDA)		ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)			
N-EFOSAA		ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)							
Perfluoroundecanoic acid (PFUnA)		ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)							
N-MeFOSAA		ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)							
Perfluorododecanoic acid (PFDoA)		ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)							
Perfluorotridecanoic acid (PFTDA)		ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)							
Perfluorotetradecanoic acid (PFTA)		ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)				ND (2.0)							
Total (All Compounds)		4.4				5.8				ND (2.0)				ND (2.0)				7.1				8.2				9.9				16.4				25.8				ND (1.8)				ND (1.9)				ND (1.9)				ND (1.9)				ND (1.9)				ND (1.9)															
Regulated Total	20	4.4				5.8				ND (2.0)				ND (2.0)				7.1				8.2				9.9				14.1				22.9				ND (1.8)				ND (1.9)				ND (1.9)				ND (1.9)				ND (1.9)				ND (1.9)															

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	11 Prospect St			
		152,574		181,580	
		1/20/2023		8/4/2023	
Flow Meter Reading (gallons)		152,574		181,580	
Sampling Date		1/20/2023		8/4/2023	
Well Depth (feet): 137		MID		EFF	
EPA 537.1 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)		ND (1.9)	
Perfluorohexanoic acid (PFHxA)		ND (2.0)		ND (1.9)	
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)		ND (1.9)	
Perfluoroheptanoic acid (PFHpA)		ND (2.0)		ND (1.9)	
Perfluorooctanoic acid (PFOA)		ND (2.0)		ND (1.9)	
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)		ND (1.9)	
Perfluorononanoic acid (PFNA)		ND (2.0)		ND (1.9)	
Perfluorodecanoic acid (PFDA)		ND (2.0)		ND (1.9)	
N-EFOSAA		ND (2.0)		ND (1.9)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)		ND (1.9)	
N-MeFOSAA		ND (2.0)		ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)		ND (1.9)	
Perfluorotridecanoic acid (PFTDA)		ND (2.0)		ND (1.9)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)		ND (1.9)	
Total (All Compounds)		ND (2.0)		ND (1.9)	
Regulated Total	20	ND (2.0)		ND (1.9)	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	16 Prospect St								
		1/22/2020	6/5/2020	10/8/2020	1/20/2021	4/22/2021	11/5/2021	4/12/2022	10/26/2022	4/21/2023
Sampling Date										
Well Depth (feet): 255										
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	17 Prospect St											
		1/8/2020	6/5/2020	10/8/2020	1/19/2021	4/20/2021	11/9/2021	4/12/2022	11/2/2022	1/13/2023	4/21/2023		
Well Depth (feet): UNKNOWN											POET INSTALLED	INF	EFF
EPA 537.1 (ng/L)													
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)		ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	3.2	5.1	3.1			ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		2.8	ND (2.0)	2.0	2.0	2.4	9.5	5.7	5.2		1-2cf Vessel	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.9)
Total (All Compounds)		2.8	ND (2.0)	2.0	2.0	2.4	12.7	10.8	8.3			ND (1.9)	ND (1.9)
Regulated Total	20	2.8	ND (2.0)	2.0	2.0	2.4	12.7	10.8	8.3			ND (1.9)	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	18 Prospect St								
		1/8/2020	6/5/2020	10/8/2020	1/22/2021	4/19/2021	11/5/2021	4/15/2022	10/25/2022	4/26/2023
Sampling Date										
Well Depth (feet): UNKNOWN										
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.5	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	2.0	ND (2.0)	2.4	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorotetradecanoic acid (PFTa)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	2.0	ND (2.0)	4.9	ND (1.9)	ND (2.0)	ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	2.0	ND (2.0)	4.9	ND (1.9)	ND (2.0)	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	21 Prospect St							
		2/5/2020	7/22/2020	1/29/2021	4/19/2021	2/4/2022	4/15/2022	10/31/2022	4/20/2023
Well Depth (feet): UNKNOWN									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.1)	ND (1.9)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	26 Prospect St						
		UNKNOWN						
		2/6/2020	7/23/2020	3/3/2021	12/2/2021	4/15/2022	10/24/2022	4/20/2023
Well Depth (feet)								
Sampling Date								
Well Depth (feet): UNKNOWN								
EPA 537.1 (ng/L)								
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	2.4	2.3	ND (2.0)	ND (2.4)	2.2
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	2.3
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.4)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	2.4	2.3	ND (2.0)	ND (2.4)	4.5
Regulated Total	20	ND (2.0)	ND (2.0)	2.4	2.3	ND (2.0)	ND (2.4)	4.5

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	27 Prospect St
Well Depth (feet)		UNKNOWN
Sampling Date		11/23/2022
Well Depth (feet): UNKNOWN		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)
N-EtFOSAA		ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)
N-MeFOSAA		ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)
Total (All Compounds)		ND (2.0)
Regulated Total	20	ND (2.0)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	41 Prospect Street											
		-			164,724			Not Recorded			167,619		
		5/15/2020	10/13/2020	12/22/2020	12/30/2020			2/15/2021			3/25/2021		
Well Depth (feet): UNKNOWN	EXISTING POET ACTIVE			INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	
EPA 537.1 (ng/L)													
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	2.6		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	4.6		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	14		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	9.9		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		ND (2.0)	31.1		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Regulated Total	20	ND (2.0)	28.5		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	41 Prospect Street												
		169,007			178,621			Not Recorded			Not Recorded		Not Recorded	
		4/21/2021			11/4/2021			10/31/2022			5/5/2023		8/1/2023	
Well Depth (feet): UNKNOWN	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	EFF	MID	EFF	
EPA 537.1 (ng/L)														
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.1)	ND (2.1)	ND (2.0)	ND (1.9)	ND (2.0)	ND (1.8)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Tot;
 ND = Not detected above the lab reporting limits shown in parentheses;
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	2 Radford Rd							
		2/19/2020	11/30/2021	1/21/2021	4/21/2021	11/5/2021	4/14/2022	10/28/2022	4/20/2023
Well Depth (feet): UNKNOWN									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	7 Radford Rd									
		2/28/2020	7/21/2020	1/21/2021	4/21/2021	11/3/2021	4/14/2022	10/28/2022	12/2/2022	1/18/2023	4/24/2023
Well Depth (feet): UNKNOWN									POET INSTALLED	EFF	INF
EPA 537.1 (ng/l)											
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	2.7	2.2	ND (2.0)	2	1-2cf Vessel	ND (2.0)	4.2
Perfluorooctanesulfonic acid (PFOS)		2.3	3.2	2.5	3.2	3.7	3.7	3.4		ND (2.0)	4.5
Perfluorononanoic acid (PFNA)		ND (2.0)	2.7	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Total (All Compounds)		2.3	5.9	2.5	5.9	5.9	3.7	5.4		ND (2.0)	8.7
Regulated Total	20	2.3	5.9	2.5	5.9	5.9	3.7	5.4		ND (2.0)	8.7

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	8 Radford Rd										
		2/28/2020	7/21/2020	1/21/2021	4/21/2021	11/3/2021	4/14/2022	10/24/2022	2/8/2023	4/21/2023		
										POET INSTALLED	INF	EFF
Well Depth (feet): UNKNOWN												
EPA 537.1 (ng/l)												
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	1.8	ND (2.0)	ND (2.0)	ND (2.0)		2.1	ND (2.0)
Perfluorooctanoic acid (PFOA)		3.9	4.1	3.9	5.4	5.1	4.3	2.9		1-2cf Vessel	4.8	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		2.5	3.1	2.4	3.6	3.5	3.1	2.7			3.6	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (2.0)	ND (2.0)
Total (All Compounds)		6.4	7.2	6.3	9.0	10.4	7.4	5.6			10.5	ND (2.0)
Regulated Total	20	6.4	7.2	6.3	9.0	10.4	7.4	5.6			10.5	ND (2.0)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	11 Radford Rd										
		2/14/2020	7/22/2021	1/21/2021	4/22/2021	11/5/2021	4/14/2022	10/25/2022	11/16/2022	11/30/2022	5/5/2023	
Well Depth (feet): UNKNOWN									POET INSTALLED	EFF	INF	
EPA 537.1 (ng/L)									1-2cf Vessel			
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		2.7	3.1	2.3	3.7	3.6	3.8	4.4			ND (1.9)	4.8
Perfluorooctanesulfonic acid (PFOS)		2.3	3.1	2.1	2.9	3.3	2.9	3.3			ND (1.9)	3.6
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)			ND (1.9)	ND (1.9)
Total (All Compounds)		5.0	6.2	4.4	6.6	6.9	6.7	7.7		ND (1.9)	8.4	
Regulated Total	20	5.0	6.2	4.4	6.6	6.9	6.7	7.7		ND (1.9)	8.4	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	12 Radford Rd												
		879			1,943			3,465			6,539			
		5/1/2020	6/16/2020	6/30/2020	7/31/2020	8/31/2020	11/3/2020							
Flow Meter Reading (gallons)		-	879			1,943			3,465			6,539		
Sampling Date		5/1/2020	6/16/2020	6/30/2020	7/31/2020	8/31/2020	11/3/2020							
Well Depth (feet): UNKNOWN		POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF
EPA 537.1 (ng/L)														
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		2.4	2.7	ND (2.0)	ND (2.0)	2.3	ND (2.0)	ND (2.0)	2.9	ND (2.0)	ND (2.0)	2.7	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		3.2	3.2	ND (2.0)	ND (2.0)	3.3	ND (2.0)	ND (2.0)	4.2	ND (2.0)	ND (2.0)	3.7	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		11	9.8	ND (2.0)	ND (2.0)	11	ND (2.0)	ND (2.0)	13	ND (2.0)	ND (2.0)	13	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		8.3	7.5	ND (2.0)	ND (2.0)	8.9	ND (2.0)	ND (2.0)	8.5	ND (2.0)	ND (2.0)	8.7	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		24.9	23.2	ND (2.0)	ND (2.0)	25.5	ND (2.0)	ND (2.0)	28.6	ND (2.0)	ND (2.0)	28.1	ND (2.0)	ND (2.0)
Regulated Total	20	22.5	20.5	ND (2.0)	ND (2.0)	23.2	ND (2.0)	ND (2.0)	25.7	ND (2.0)	ND (2.0)	25.4	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	12 Radford Rd												
		9,916			15,126			50,514			55,069			
		1/29/2021	4/23/2021	7/27/2022	10/28/2022	1/19/2023								
Flow Meter Reading (gallons)		-	9,916			15,126			50,514			55,069		
Sampling Date		1/29/2021	4/23/2021	7/27/2022	10/28/2022	1/19/2023								
Well Depth (feet): UNKNOWN		INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	
EPA 537.1 (ng/L)														
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorohexanoic acid (PFHxA)		3.4	ND (2.0)	ND (2.0)	2.9	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	2	ND (1.9)	ND (2.0)	ND (1.9)	
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluoroheptanoic acid (PFHpA)		5.1	ND (2.0)	ND (2.0)	4.1	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	3.8	ND (1.9)	ND (2.0)	ND (1.9)	
Perfluorooctanoic acid (PFOA)		14	ND (2.0)	ND (2.0)	14	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	11	ND (1.9)	ND (2.0)	ND (1.9)	
Perfluorooctanesulfonic acid (PFOS)		10	ND (2.0)	ND (2.0)	9.9	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	9.9	ND (1.9)	ND (2.0)	ND (1.9)	
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	
N-EFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (2.0)	
Total (All Compounds)		32.5	ND (2.0)	ND (2.0)	30.9	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	26.7	ND (1.9)	ND (2.0)	ND (1.9)	
Regulated Total	20	29.1	ND (2.0)	ND (2.0)	28.0	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	24.7	ND (1.9)	ND (2.0)	ND (1.9)	

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	12 Radford Rd						
		59,223			66,196			
		4/20/2023	8/1/2023					
Flow Meter Reading (gallons)		-	59,223			66,196		
Sampling Date		4/20/2023	8/1/2023					
Well Depth (feet): UNKNOWN		INF	MID	EFF	MID	EFF		
EPA 537.1 (ng/L)								
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Perfluorohexanoic acid (PFHxA)		3	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Perfluoroheptanoic acid (PFHpA)		4.6	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Perfluorooctanoic acid (PFOA)		13	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Perfluorooctanesulfonic acid (PFOS)		11	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
N-EFOSAA		ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
N-MeFOSAA		ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Perfluorotridecanoic acid (PFTDA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Total (All Compounds)		31.6	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		
Regulated Total	20	28.6	ND (1.8)	ND (1.9)	ND (1.8)	ND (1.8)		

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	13 Radford Rd							
		3/4/2020	7/21/2020	1/22/2021	4/21/2021	11/4/2021	4/14/2022	10/28/2022	4/26/2023
Well Depth (feet): UNKNOWN									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.8)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	15 Radford Rd													
		381				1,947			4,504			7,391			
		9/18/2020	10/21/2020	10/30/2020		12/4/2020		2/5/2021		4/21/2021					
Well Depth (feet): UNKNOWN		POET INSTALLED	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	INF	MID	EFF	
EPA 537.1 (ng/L)															
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		3		2.2	ND (2.0)	ND (2.0)	2.4	ND (2.0)	ND (2.0)	2.9	ND (2.0)	ND (2.0)	2.7	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		4.3		3.4	ND (2.0)	ND (2.0)	3.2	ND (2.0)	ND (2.0)	4.3	ND (2.0)	ND (2.0)	3.8	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		15		12	ND (2.0)	ND (2.0)	14	ND (2.0)	ND (2.0)	12	ND (2.0)	ND (2.0)	13	ND (2.0)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		11		8.8	ND (2.0)	ND (2.0)	8.9	ND (2.0)	ND (2.0)	9	ND (2.0)	ND (2.0)	8.2	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTDA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		33.3		26.4	ND (2.0)	ND (2.0)	28.5	ND (2.0)	ND (2.0)	28.2	ND (2.0)	ND (2.0)	27.7	ND (2.0)	ND (2.0)
Regulated Total	20	30.3		24.2	ND (2.0)	ND (2.0)	26.1	ND (2.0)	ND (2.0)	25.3	ND (2.0)	ND (2.0)	25.0	ND (2.0)	ND (2.0)

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	15 Radford Rd												
		29,244		33,368			36,632		40,816			Not Recorded		
		7/27/2022		10/28/2022			1/20/2023		4/27/2023			7/31/2023		
Well Depth (feet): UNKNOWN		MID	EFF	INF	MID	EFF	MID	EFF	INF	MID	EFF	MID	EFF	
EPA 537.1 (ng/L)														
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (1.9)	ND (1.9)	2.1	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	2.9	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (1.9)	ND (1.9)	4.5	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	3.7	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (1.9)	ND (1.9)	13	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	12	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)	ND (1.9)	12	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	9.9	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
N-EFOSAA		ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTDA)		ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (1.9)	ND (1.9)	ND (2.1)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	ND (2.1)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Total (All Compounds)		ND (1.9)	ND (1.9)	31.6	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	28.5	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Regulated Total	20	ND (1.9)	ND (1.9)	29.5	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.2)	25.6	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	18 Radford							
		9/18/2020	1/29/2021	4/26/2021	11/5/2021	4/14/2022	11/16/2023	12/19/2023	5/5/2023
Well Depth (feet): UNKNOWN							POET INSTALLED	EFF	INF
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	2.0	ND (2.0)	ND (2.0)	ND (1.9)		ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	2.7	2.2	2	ND (1.9)		ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	2.3	ND (2.0)	ND (2.0)	ND (1.9)		ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		5.2	6.5	6	5.9	4.5	1-2cf Vessel	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		4.3	5.0	3.7	5.1	3.2		ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)		ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.9)	
Total (All Compounds)		9.5	18.5	11.9	13.0	7.7		ND (1.9)	ND (1.9)
Regulated Total	20	9.5	13.8	9.7	11.0	7.7		ND (1.9)	ND (1.9)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	23 Radford Rd								
		7/22/2020	1/22/2021	4/26/2021	11/5/2021	4/14/2022	10/26/2022	12/7/2023	1/19/2023	5/5/2023
Well Depth (feet): UNKNOWN								POET INSTALLED	EFF	INF
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	2.8	ND (2.0)	2	ND (2.1)	ND (2.3)		ND (2.0)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		2.2	2.4	ND (2.0)	2	2.4	2.4		ND (2.0)	3.2
Perfluorohexanesulfonic acid (PFHxS)		2.8	3	ND (2.0)	2.6	2.7	3.2		ND (2.0)	3.2
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	2.3	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.3)		ND (2.0)	2.1
Perfluorooctanoic acid (PFOA)		6.5	6.4	5.2	6.6	5.5	6.4	1-2cf Vessel	ND (2.0)	8.1
Perfluorooctanesulfonic acid (PFOS)		5.5	5.7	4.1	6.3	5.3	6.1		ND (2.0)	6.6
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.3)		ND (2.0)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.3)		ND (2.0)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.3)		ND (2.0)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.3)		ND (2.0)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.3)	ND (2.0)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.3)	ND (2.0)	ND (1.9)	
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.3)	ND (2.0)	ND (1.9)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (2.3)	ND (2.0)	ND (1.9)	
Total (All Compounds)		17.0	22.6	9.3	19.5	15.9	18.1		ND (2.0)	23.2
Regulated Total	20	14.8	17.4	9.3	15.5	13.5	15.7		ND (2.0)	20.0

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	28 Radford Rd									
		1/30/2020	7/21/2020	1/21/2021	4/26/2021	10/1/2021	10/25/2021	4/13/2022	12/7/2022	4/20/2023	
Well Depth (feet): 180						POET INSTALLED	INF	EFF	INF	INF	INF
EPA 537.1 (ng/L)											
Perfluorobutanesulfonic acid (PFBS)		2.1	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.9)	ND (2.0)	2.3	2
Perfluorohexanoic acid (PFHx)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.9)	ND (2.0)	2.2	2.4
Perfluorohexanesulfonic acid (PFHxS)		2.7	ND (2.0)	ND (2.0)	2.2		2.5	ND (1.9)	2.3	4	3.8
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	1.9
Perfluorooctanoic acid (PFOA)		5.4	4.6	4.8	6.2	2-2cf Vessels	5.7	ND (1.9)	5.8	6.8	7.1
Perfluorooctanesulfonic acid (PFOS)		7	4.0	3.8	5.5		5.2	ND (1.9)	4.4	6.9	6.5
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.9)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		17.2	8.6	8.6	13.9		13.4	ND (1.9)	12.5	22.2	23.7
Regulated Total	20	15.1	8.6	8.6	13.9		13.4	ND (1.9)	12.5	17.7	19.3

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	29 Radford Rd									
		3/17/2020	7/21/2020	1/21/2021	4/22/2021	10/1/2021	10/25/2021		4/14/2022	10/24/2022	4/26/2023
Well Depth (feet): UNKNOWN						POET INSTALLED	INF	MID	INF	INF	INF
EPA 537.1 (ng/l)						2-2cf Vessels					
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorooctanoic acid (PFOA)		3.2	2.4	3.3	3.3		4.2	ND (1.9)	4.3	4.1	3.2
Perfluorooctanesulfonic acid (PFOS)		3.5	2.8	3.3	3.4		3.7	ND (1.9)	3.2	4.7	4.1
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
Total (All Compounds)		6.7	5.2	6.6	6.7		7.9	ND (1.9)	7.5	8.8	7.3
Regulated Total	20	6.7	5.2	6.6	6.7	7.9	ND (1.9)	7.5	8.8	7.3	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	33 Radford Rd						
		5/29/2020	10/8/2020	1/29/2021	4/19/2021	11/8/2021	4/13/2022	10/27/2022
Sampling Date								
Well Depth (feet): UNKNOWN								
EPA 537.1 (ng/L)								
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	2.2	ND (2.0)	2.3	ND (2.0)	2.4
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	2.2	ND (2.0)	2.3	ND (2.0)	2.4
Regulated Total	20	ND (2.0)	ND (2.0)	2.2	ND (2.0)	2.3	ND (2.0)	2.4

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	37 Radford Rd								
		4/28/2020	10/8/2020	1/20/2021	4/20/2021	11/5/2021	4/15/2022	10/31/2022	11/16/2022	11/30/2022
Well Depth (feet): 70									POET INSTALLED	EFF
EPA 537.1 (ng/L)										
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2	ND (1.9)	2.4		ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)		ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	2.6	2.8	1.9	1.9	3.4		ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)		ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	1-2cf Vessel	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		2.1	2.5	2.5	2.2	2.3	2.0	3.5		ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)		ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)		ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)		ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)		ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	
Perfluorotridecanoic acid (PFTriDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	
Total (All Compounds)		2.1	2.5	5.1	5.0	6.2	3.9	9.3		ND (1.8)
Regulated Total	20	2.1	2.5	5.1	5.0	4.2	3.9	6.9		ND (1.8)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	7 Thompson Road			
		5/6/2021	11/4/2021	4/12/2022	10/27/2022
Well Depth (feet): UNKNOWN					
EPA 537.1 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Total (All Compounds)		ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)
Regulated Total	20	ND (2.0)	ND (1.8)	ND (1.9)	ND (2.0)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan	25 Thompson Road
Sampling Date	GW-1 Standard & MMCL	8/17/2023
Well Depth (feet): UNKNOWN		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (1.8)
Perfluorononanoic acid (PFNA)		ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (1.8)
N-EtFOSAA		ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (1.8)
N-MeFOSAA		ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (1.8)
Perfluorotridecanoic acid (PFTrDA)		ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (1.8)
Total (All Compounds)		ND (1.8)
Regulated Total	20	ND (1.8)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	1 Worcester Rd										
		1/7/2020	6/11/2020	12/16/2020	4/26/2021	11/4/2021	4/21/2022	10/25/2022	12/2/2022	4/20/2023		
Well Depth (feet): UNKNOWN										POET INSTALLED	INF	EFF
EPA 537.1 (ng/l)												
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	2.5	ND (2.0)	2	2.5	ND (1.9)	2.6		1-2cf Vessel	3.5	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			2.1	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.9)	ND (1.9)			ND (1.9)	ND (1.8)
Total (All Compounds)		ND (2.0)	2.5	ND (2.0)	2.0	2.5	ND (1.9)	2.6			5.6	ND (1.8)
Regulated Total	20	ND (2.0)	2.5	ND (2.0)	2.0	2.5	ND (1.9)	2.6			5.6	ND (1.8)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	10 Worcester Rd											
		1/9/2020	6/11/2020	10/16/2020	1/21/2021	4/19/2021	11/5/2021	4/13/2022	10/28/2022	1/18/2023	5/5/2023		
Well Depth (feet): 400 (DEP Log)											POET INSTALLED	INF	EFF
EPA 537.1 (ng/L)													
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		3.8	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		8	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
Perfluorooctanoic acid (PFOA)		3.6	3.0	ND (2.0)	3.2	3.1	2.9	3	3.1		1-2cf Vessel	4.5	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		2.3	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
Perfluorononanoic acid (PFNA)		2.7	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.8)	ND (1.8)
Total (All Compounds)		20.4	3.0	ND (2.0)	3.2	3.1	2.9	3	3.1			4.5	ND (1.8)
Regulated Total	20	16.6	3.0	ND (2.0)	3.2	3.1	2.9	3	3.1			4.5	ND (1.8)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	15 Worcester Rd							
		3/6/2020	7/21/2020	1/29/2021	4/26/2021	11/17/2022	4/14/2022	10/31/2022	4/27/2023
Sampling Date									
Well Depth (feet): UNKNOWN									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	2.1	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	2.2	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorooctanoic acid (PFOA)		3.1	3.1	4	4.1	4	3.6	5.9	4.0
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.9)
Total (All Compounds)		3.1	3.1	8.3	4.1	4.0	3.6	5.9	4.0
Regulated Total	20	3.1	3.1	6.2	4.1	4.0	3.6	5.9	4.0

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	16 Worcester Rd							
		2/5/2020	7/29/2020	1/19/2021	4/23/2021	11/4/2021	4/14/2022	10/28/2022	4/25/2023
Sampling Date									
Well Depth (feet): UNKNOWN									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorooctanoic acid (PFOA)		2.2	2.6	ND (2.0)	4.2	2.9	2.7	3.0	2.7
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Total (All Compounds)		2.2	2.6	ND (2.0)	4.2	2.9	2.7	3.0	2.7
Regulated Total	20	2.2	2.6	ND (2.0)	4.2	2.9	2.7	3.0	2.7

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
 PFAS Drinking Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	17 Worcester Rd										
		2/10/2020	7/21/2020	1/22/2021	4/22/2021	11/11/2021	4/15/2022	10/26/2022	1/13/2023	4/21/2023		
										POET INSTALLED	INF	EFF
Well Depth (feet): 300												
EPA 537.1 (ng/L)												
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)		ND (1.9)	ND (1.9)	
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)		ND (1.9)	ND (1.9)	
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)		ND (1.9)	ND (1.9)	
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)		ND (1.9)	ND (1.9)	
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	2.3	1-2cf Vessel	2.0	ND (1.9)	
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)		ND (1.9)	ND (1.9)	
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)		ND (1.9)	ND (1.9)	
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)		ND (1.9)	ND (1.9)	
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)		ND (1.9)	ND (1.9)	
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)		ND (1.9)	ND (1.9)	
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)		
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)		
Perfluorotridecanoic acid (PFTTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)		
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (1.9)		
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	2.3		2.0	ND (1.9)	
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (1.8)	2.3		2.0	ND (1.9)	

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	20 Worcester Rd							
		3/17/2020	7/21/2020	1/20/2021	4/27/2021	11/4/2021	5/4/2022	10/24/2022	4/20/2023
Well Depth (feet): 340 (DEP Log)									
EPA 537.1 (ng/L)									
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	6.5
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	1.8	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.8)	ND (2.0)	ND (1.9)	ND (1.9)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	1.8	ND (2.0)	ND (1.9)	6.5
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	1.8	ND (2.0)	ND (1.9)	6.5

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	23 Worcester Rd									
		2/5/2020	7/21/2020	1/29/2021	4/27/2021	11/3/2021	4/15/2022	8/1/2022	8/13/2022		
Well Depth (feet): UNKNOWN									POET INSTALLED	MID	EFF
EPA 537.1 (ng/L)											
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
Perfluorooctanoic acid (PFOA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.4	2-2cf Vessels	ND (1.9)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
N-EtFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)		ND (1.9)	ND (1.8)
Total (All Compounds)		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.4		ND (1.9)	ND (1.8)
Regulated Total	20	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.4		ND (1.9)	ND (1.8)

NOTES:
 Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
 ND = Not detected above the lab reporting limits shown in parentheses.
 Bolded values exceed the proposed Method 1 Standard
 MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	25 Worcester Rd			
		7/26/2022	9/16/2022	2/1/2023	4/3/2023
Sampling Date					
Well Depth (feet): UNKNOWN			RESAMPLE	POET INSTALLED	EFF
EPA 537.1 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)	ND (2.0)		ND (1.7)
Perfluorohexanoic acid (PFHxA)		ND (1.9)	ND (2.0)		ND (1.7)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.9)	ND (2.0)		ND (1.7)
Perfluoroheptanoic acid (PFHpA)		ND (1.9)	ND (2.0)		ND (1.7)
Perfluorooctanoic acid (PFOA)		1.9	1.9	1-2cf Vessel	ND (1.7)
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)	2.2		ND (1.7)
Perfluorononanoic acid (PFNA)		ND (1.9)	ND (2.0)		ND (1.7)
Perfluorodecanoic acid (PFDA)		ND (1.9)	ND (2.0)		ND (1.7)
N-EtFOSAA		ND (1.9)	ND (2.0)		ND (1.7)
Perfluoroundecanoic acid (PFUnA)		ND (1.9)	ND (2.0)		ND (1.7)
N-MeFOSAA		ND (1.9)	ND (2.0)		ND (1.7)
Perfluorododecanoic acid (PFDoA)		ND (1.9)	ND (2.0)		ND (1.7)
Perfluorotridecanoic acid (PFTrDA)		ND (1.9)	ND (2.0)		ND (1.7)
Perfluorotetradecanoic acid (PFTA)		ND (1.9)	ND (2.0)		ND (1.7)
Total (All Compounds)		1.9	4.1		ND (1.7)
Regulated Total	20	1.9	4.1		ND (1.7)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan	26 Worcester Rd
Sampling Date	GW-1 Standard & MMCL	10/28/2022
Well Depth (feet): 400 (DEP Log)		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)
Perfluorononanoic acid (PFNA)		ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (1.9)
N-EtFOSAA		ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (1.9)
N-MeFOSAA		ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (1.9)
Total (All Compounds)		ND (1.9)
Regulated Total	20	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	27 Worcester Rd				
		7/27/2022	10/27/2022	2/1/2023	4/25/2023	
Well Depth (feet): UNKNOWN				POET INSTALLED	INF	EFF
EPA 537.1 (ng/L)						
Perfluorobutanesulfonic acid (PFBS)		ND (2.0)	ND (2.0)		ND (2.1)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.0)	ND (2.0)		ND (2.1)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.0)	ND (2.0)		ND (2.1)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.0)	ND (2.0)		ND (2.1)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.0)	2.4	1-2cf Vessel	ND (2.1)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.0)	1.9		ND (2.1)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.0)	ND (2.0)		ND (2.1)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.0)	ND (2.0)		ND (2.1)	ND (1.9)
N-EtFOSAA		ND (2.0)	ND (2.0)		ND (2.1)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)		ND (2.1)	ND (1.9)
N-MeFOSAA		ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.1)	ND (1.9)	
Total (All Compounds)		ND (2.0)	4.3		ND (2.1)	ND (1.9)
Regulated Total	20	ND (2.0)	4.3		ND (2.1)	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan	29 Worcester Rd		
		7/27/2022	1/19/2023	4/27/2023
Sampling Date	GW-1 Standard & MMCL			
Well Depth (feet): UNKNOWN				
EPA 537.1 (ng/L)				
Perfluorobutanesulfonic acid (PFBS)		ND (2.1)	ND (2.2)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (2.1)	ND (2.2)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (2.1)	ND (2.2)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (2.1)	ND (2.2)	ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (2.1)	ND (2.2)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (2.1)	ND (2.2)	ND (1.9)
Perfluorononanoic acid (PFNA)		ND (2.1)	ND (2.2)	ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (2.1)	ND (2.2)	ND (1.9)
N-EtFOSAA		ND (2.1)	ND (2.2)	ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (2.1)	ND (2.2)	ND (1.9)
N-MeFOSAA		ND (2.1)	ND (2.2)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.1)	ND (2.2)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.1)	ND (2.2)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.1)	ND (2.2)	ND (1.9)
Total (All Compounds)		ND (2.1)	ND (2.2)	ND (1.9)
Regulated Total	20	ND (2.1)	ND (2.2)	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 1
PFAS Drinking Water Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan	41 Worcester Rd
Sampling Date	GW-1 Standard & MMCL	12/8/2022
Well Depth (feet): 225 (DEP Log)		
EPA 537.1 (ng/L)		
Perfluorobutanesulfonic acid (PFBS)		ND (1.9)
Perfluorohexanoic acid (PFHxA)		ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		ND (1.9)
Perfluoroheptanoic acid (PFHpA)		ND (1.9)
Perfluorooctanoic acid (PFOA)		ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		ND (1.9)
Perfluorononanoic acid (PFNA)		ND (1.9)
Perfluorodecanoic acid (PFDA)		ND (1.9)
N-EtFOSAA		ND (1.9)
Perfluoroundecanoic acid (PFUnA)		ND (1.9)
N-MeFOSAA		ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (1.9)
Perfluorotridecanoic acid (PFTTrDA)		ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (1.9)
Total (All Compounds)		ND (1.9)
Regulated Total	20	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1 Soil Standards	MCP Method 2 Soil Standards	18MTN Exposure Point Concentrations (EPCs) 0-3'													
	S-1/GW-1	S-1	18MTN S-1	18MTN S-1A	18MTN S-2	18MTN S-3	18MTN S-4	18MTN S-5	18MTN S-5A		18MTN S-6	18MTN S-7		18MTN S-8		
Sampling Date			11/17/2021	7/11/2023	11/17/2021	11/17/2021	11/17/2021	11/17/2021	7/11/2023		11/17/2021	7/11/2023		7/11/2023		
Sample Depth (inches)			0-6	6-12	0-6	0-6	0-6	0-6	6-12	12-24	0-6	0-24	24-36	0-24	24-36	
SOP-466 PFAS (µg/kg dry)																
Perfluorobutanoic acid (PFBA)	~	~	0.19	ND (0.51)	ND (0.46)	0.4	0.1	0.72	ND (0.56)	ND (0.54)	0.12	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluoropentanoic acid (PFPeA)	~	~	0.48	ND (0.51)	ND (0.46)	0.14	ND (0.48)	0.4	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluorohexanoic acid (PFHxA)	~	~	0.32	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	0.27	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.26
11Cl-PF3OUd5 (F53B Minor)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
9Cl-PF3ONS (F53B Major)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluorododecanoic acid (PFDoA)	~	~	0.35	ND (0.51)	0.091	0.088	0.077	0.12	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.21
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
N-EtFOSAA	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
N-MeFOSAA	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluorotetradecanoic acid (PFTA)	~	~	0.22	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.26
Perfluorotridecanoic acid (PFTDA)	~	~	0.2	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.26
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluoroundecanoic acid (PFUnA)	~	~	0.4	ND (0.51)	0.13	0.19	0.17	0.2	ND (0.56)	ND (0.54)	0.13	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.23
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.27
Perfluoroheptanoic acid (PFHpA)	0.5	300	0.33	ND (0.51) *	ND (0.46)	0.13	ND (0.48)	0.44	ND (0.56) *	ND (0.54) *	0.09	ND (0.54) *	ND (0.46)	ND (0.50)	ND (0.47)	0.25
Perfluorooctanoic acid (PFOA)	0.72	300	1.3	1.1	ND (0.46)	0.24	ND (0.48)	2.4	ND (0.56)	ND (0.54)	0.29	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	0.56
Perfluorooctanesulfonic acid (PFOS)	2	300	2.7	1.4	0.18	2.1	1.4	4	ND (0.56)	1.4	2.4	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)	1.30
Perfluorononanoic acid (PFNA)	0.32	300	0.32	ND (0.51) *	ND (0.46) *	0.51	0.26	0.67	ND (0.56) *	ND (0.54) *	0.28	ND (0.54) *	ND (0.46) *	ND (0.50) *	ND (0.47) *	0.31
Perfluorodecanoic acid (PFDA)	0.3	300	0.4	ND (0.51) *	ND (0.46) *	0.23	0.26	0.3	ND (0.56) *	ND (0.54) *	0.18	ND (0.54) *	ND (0.46) *	ND (0.50) *	ND (0.47) *	0.26
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	ND (0.88) *	ND (0.51) *	ND (0.46) *	ND (0.52) *	ND (0.48) *	ND (0.69) *	ND (0.56) *	ND (0.54) *	ND (0.53) *	ND (0.54) *	ND (0.46) *	ND (0.50) *	ND (0.47) *	0.27
Total (All Compounds)			7.2	2.5	0.4	4.0	2.3	9.5	0.0	1.4	3.5	0.0	0.0	0.0	0.0	NA
Regulated Total			5.1	2.5	0.2	3.2	1.9	7.8	0.0	1.4	3.2	0.0	0.0	0.0	0.0	NA

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit exceeds one or more of the regulatory criteria

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1	MCP Method 2	19MTN S-1, S-1A, S-2, S-3, S-3A, S-4, S-4A, S-5														19 Mountain Exposure Point Concentrations (EPCs) 0-3'	
	Soil Standards	Soil Standards	19MTN S-1	19MTN S-1 (DUP)	19MTN S-1A			19MTN S-2	19MTN S-3	19MTN S-3A				19MTN S-4	19MTN S-4A			19MTN S-5
	S-1/GW-1	S-1	11/17/2021	11/17/2021	7/11/2023			11/17/2021	11/17/2021	7/11/2023				11/17/2021	7/11/2023			11/17/2021
Sample Depth (inches)			0-6	0-6	6-12	12-24	24-36	0-6	0-6	6-12	12-24	24-48	48-60	0-6	6-12	12-24	0-6	
SOP-466 PFAS (µg/kg dry)																		
Perfluorobutanoic acid (PFBA)	~	~	0.1	0.073	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	0.3	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	0.17	ND (0.52)	ND (0.59)	0.064	0.24
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluoropentanoic acid (PFPeA)	~	~	0.1	0.28	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	0.11	ND (0.52)	ND (0.59)	ND (0.46)	0.24
Perfluorohexanoic acid (PFHxA)	~	~	ND (0.48)	0.14	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
11Cl-PF3OUd5 (F53B Minor)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
9Cl-PF3ONS (F53B Major)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluorododecanoic acid (PFDoA)	~	~	0.12	0.26	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	0.17	ND (0.52)	ND (0.59)	ND (0.46)	0.25
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
N-EtFOSAA	~	~	ND (0.48)	0.22	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
N-MeFOSAA	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.48)	0.13	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluoroundecanoic acid (PFUnA)	~	~	0.14	0.28	ND (0.57)	ND (0.54)	ND (0.56)	0.18	0.12	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	0.28	ND (0.52)	ND (0.59)	ND (0.46)	0.24
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)	0.27
Perfluoroheptanoic acid (PFHpA)	0.5	300	ND (0.48)	0.083	ND (0.57) *	ND (0.54) *	ND (0.56) *	ND (0.50)	0.2	ND (0.52) *	ND (0.55) *	ND (0.50)	ND (0.51) *	0.1	ND (0.52) *	ND (0.59) *	0.078	0.24
Perfluorooctanoic acid (PFOA)	0.72	300	0.18	0.45	0.67	ND (0.54)	ND (0.56)	ND (0.50)	0.59	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	0.41	0.53	ND (0.59)	0.21	0.34
Perfluorooctanesulfonic acid (PFOS)	2	300	0.72	1.2	0.57	0.58	ND (0.56)	1.4	1.8	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	2.2	2.3	0.82	0.28	0.86
Perfluorononanoic acid (PFNA)	0.32	300	0.1	0.22	ND (0.57) *	ND (0.54) *	ND (0.56) *	0.11	0.37	ND (0.52) *	ND (0.55) *	ND (0.50) *	ND (0.51) *	0.23	ND (0.52) *	ND (0.59) *	0.21	0.25
Perfluorodecanoic acid (PFDA)	0.3	300	0.17	0.34	ND (0.57) *	ND (0.54) *	ND (0.56) *	0.19	0.22	ND (0.52) *	ND (0.55) *	ND (0.50) *	ND (0.51) *	0.31	ND (0.52) *	ND (0.59) *	0.11	0.25
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	ND (0.48) *	ND (0.52) *	ND (0.57) *	ND (0.54) *	ND (0.56) *	ND (0.50) *	ND (0.54) *	ND (0.52) *	ND (0.55) *	ND (0.50) *	ND (0.51) *	ND (0.58) *	ND (0.52) *	ND (0.59) *	ND (0.46) *	0.27
Total (All Compounds)			1.6	3.7	1.2	0.6	ND (0.56)	1.9	3.6	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	4.0	2.8	0.8	1.0	NA
Regulated Total			1.2	2.3	1.2	0.6	ND (0.56)	1.7	3.2	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	3.3	2.8	0.8	0.9	NA

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit €

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1 Soil Standards	MCP Method 2 Soil Standards											21 Mountain Exposure Point Concentrations (EPCs) 0-3'		
	S-1/GW-1	S-1	21MTN S-1	21MTN S-2	21MTN S-3	21MTN S-4	21MTN S-5	21MTN S-6	21MTN S-7	21MTN S-8	21MTN S-9	21MTN S-10			
Sampling Date			11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	7/11/2023	7/11/2023	7/11/2023		
Sample Depth (inches)			0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	6-12	0-6	0-6	6-12
SOP-466 PFAS (µg/kg dry)															
Perfluorobutanoic acid (PFBA)	~	~	0.2	0.17	0.15	ND (0.49)	0.63	0.21	0.25	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.26
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluoropentanoic acid (PFPeA)	~	~	ND (0.48)	ND (0.50)	0.12	0.075	1.6	0.17	0.15	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.39
Perfluorohexanoic acid (PFHxA)	~	~	ND (0.48)	ND (0.50)	0.12	ND (0.49)	1.2	0.22	0.11	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.38
11Cl-PF3OUd5 (F53B Minor)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
9Cl-PF3ONS (F53B Major)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluorododecanoic acid (PFDoA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.25
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
N-EtFOSAA	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
N-MeFOSAA	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	1	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.63
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluoroundecanoic acid (PFUnA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	0.15	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.20
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	~	~	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	0.27
Perfluoroheptanoic acid (PFHpA)	0.5	300	0.081	0.08	0.098	ND (0.49)	0.27	0.21	0.14	ND (0.61) *	ND (0.60) *	ND (0.72) *	ND (0.53) *	ND (0.62) *	0.16
Perfluorooctanoic acid (PFOA)	0.72	300	0.2	0.16	0.23	0.2	0.91	0.55	0.46	0.7	0.81	0.72	ND (0.53)	ND (0.62)	0.48
Perfluorooctanesulfonic acid (PFOS)	2	300	0.46	0.45	0.72	1	1.9	2.5	0.83	10	6.9	19	0.95	8	4.1
Perfluorononanoic acid (PFNA)	0.32	300	0.13	0.14	0.18	0.14	0.46	0.26	0.2	ND (0.61) *	ND (0.60) *	ND (0.72) *	ND (0.53) *	ND (0.62) *	0.22
Perfluorodecanoic acid (PFDA)	0.3	300	ND (0.48) *	ND (0.50) *	0.11	0.11	0.15	0.25	0.084	ND (0.61) *	ND (0.60) *	ND (0.72) *	ND (0.53) *	ND (0.62) *	0.16
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	ND (0.48) *	ND (0.50) *	ND (0.54) *	ND (0.49) *	0.48	0.78	ND (0.54) *	ND (0.61) *	ND (0.60) *	1.5	ND (0.53) *	ND (0.62) *	0.76
Total (All Compounds)			1.1	1.0	1.7	1.5	7.8	6.2	2.2	10.7	7.7	21.2	1.0	8.0	NA
Regulated Total			0.9	0.8	1.3	1.5	4.2	4.6	1.7	10.7	7.7	21.2	1.0	8.0	NA

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit €

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1	MCP Method 2													
	Soil Standards	Soil Standards	22MTN S-1				22MTN S-2	22MTN S-3		22MTN S-4			22MTN S-5		
	S-1/GW-1	S-1	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	7/29/2021	10/27/2021	10/27/2021
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	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	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)	0.48	ND (0.39)	ND (0.40)
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)	0.22	ND (0.39)	ND (0.40)
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)	0.2	ND (0.39)	ND (0.40)
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)	0.23	ND (0.39)	ND (0.40)
11Cl-PF3OUd5 (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)	ND (0.50)	ND (0.39)	ND (0.40)
9Cl-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)	ND (0.50)	ND (0.39)	ND (0.40)
4,8-dioxa-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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
Perfluorononanesulfonic 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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
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)	ND (0.50)	0.18	0.16
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)	0.15	ND (0.39)	ND (0.40)
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)	0.094	ND (0.39)	ND (0.40)
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)	ND (0.50)	ND (0.39)	ND (0.40)
Perfluoroheptanoic acid (PFHpA)	0.5	300	0.65	0.48	0.21	0.13	0.38	0.31	0.15	0.3	0.088	ND (0.55) *	0.32	ND (0.39)	ND (0.40)
Perfluorooctanoic acid (PFOA)	0.72	300	1.4	0.91	0.45	0.34	1.7	0.71	0.71	1.1	0.36	0.17	1.5	ND (0.39)	ND (0.40)
Perfluorooctanesulfonic acid (PFOS)	2	300	17	13	4	4.3	3.1	1.7	0.71	1.7	0.88	0.54	1.7	0.12	ND (0.40)
Perfluorononanoic acid (PFNA)	0.32	300	ND (0.53) *	0.098	ND (0.51) *	0.11	0.68	0.49	0.14	0.19	0.18	0.13	0.57	ND (0.39) *	ND (0.40) *
Perfluorodecanoic acid (PFDA)	0.3	300	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) *	0.15	ND (0.39) *	ND (0.40) *
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	14	8.9	2.8	1.3	3.3	1	0.33	0.22	ND (0.57) *	0.13	0.63	0.17	0.35
Total (All Compounds)			41.9	29.7	9.1	7.1	12.5	6.1	2.9	3.9	1.3	0.8	6.2	0.5	0.5
Regulated Total			33.2	23.5	7.5	6.2	9.5	4.5	2.0	2.7	1.2	0.8	4.9	0.3	0.4

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit €

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1	MCP Method 2													
	Soil Standards	Soil Standards	22MTN S-6		22MTN S-7		22MTN S-8			22MTN S-9	22MTN S-10	22MTN S-11	22MTN S-12	22MTN S-13	
	S-1/GW-1	S-1	7/29/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021	10/27/2021	10/27/2021	7/29/2021	10/27/2021	10/27/2021	10/27/2021	10/27/2021	10/27/2021
Sampling Date			7/29/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021	10/27/2021	10/27/2021	7/29/2021	10/27/2021	10/27/2021	10/27/2021	10/27/2021	10/27/2021
Sample Depth (inches)			0-6	6-12	0-6	6-12	0-6	6/12	12-18	0-6	0-6	0-12	0-12	0-12	12-24
SOP-466 PFAS (µg/kg dry)															
Perfluorobutanoic acid (PFBA)	~	~	1.3	ND (0.44)	1.3	ND (0.58)	0.59	ND (0.50)	ND (0.51)	0.67	0.62	0.36	1.4	0.08	0.09
Perfluorobutanesulfonic acid (PFBS)	~	~	0.66	ND (0.44)	ND (0.62)	0.25	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	0.12	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluoropentanoic acid (PFPeA)	~	~	0.79	ND (0.44)	0.48	ND (0.58)	0.23	ND (0.50)	ND (0.51)	0.13	0.30	0.17	0.50	0.09	ND (0.48)
Perfluorohexanoic acid (PFHxA)	~	~	0.85	ND (0.44)	0.43	ND (0.58)	0.26	ND (0.50)	ND (0.51)	0.17	0.29	0.17	0.43	ND (0.53)	ND (0.48)
11Cl-PF3OUd5 (F53B Minor)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
9Cl-PF3ONS (F53B Major)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluorododecanoic acid (PFDoA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	0.11	ND (0.48)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
N-EtFOSAA	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	0.29	ND (0.48)
N-MeFOSAA	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	0.35	ND (0.68)	ND (0.57)	ND (0.77)	0.13	ND (0.48)
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	0.26	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	0.20	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	0.25	0.45	ND (0.48)
Perfluoropentanesulfonic acid (PFPeS)	~	~	0.82	ND (0.44)	ND (0.62)	0.18	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluoroundecanoic acid (PFUnA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	0.19	ND (0.49)	ND (0.50)	ND (0.51)	0.12	ND (0.68)	ND (0.57)	0.22	0.18	ND (0.48)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.60)	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.50)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)
Perfluoroheptanoic acid (PFHpA)	0.5	300	0.92	0.066	0.62	0.17	0.25	ND (0.50)	ND (0.51) *	0.21	0.29	0.25	0.66	0.13	0.1
Perfluorooctanoic acid (PFOA)	0.72	300	3.5	0.22	2.6	0.57	0.69	ND (0.50)	0.25	0.43	0.86	0.91	1.4	0.58	0.64
Perfluorooctanesulfonic acid (PFOS)	2	300	2.6	0.37	1.7	2.1	1.4	ND (0.50)	0.26	2.0	1.1	1.0	1.7	3.9	0.53
Perfluorononanoic acid (PFNA)	0.32	300	0.8	ND (0.44) *	1.1	0.45	0.46	ND (0.50) *	ND (0.51) *	0.53	0.2	0.25	0.46	0.15	ND (0.48) *
Perfluorodecanoic acid (PFDA)	0.3	300	0.15	ND (0.44) *	0.19	0.23	0.17	ND (0.50) *	ND (0.51) *	ND (0.49) *	ND (0.68) *	0.11	0.25	0.21	ND (0.48) *
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	5	0.21	ND (0.62) *	0.33	ND (0.49) *	ND (0.50) *	0.095	ND (0.49) *	0.11	0.16	0.16	ND (0.53) *	0.09
Total (All Compounds)			17.7	0.9	8.4	4.5	4.1	0.2	0.6	4.6	3.9	3.4	7.6	6.3	1.4
Regulated Total			13.0	0.9	6.2	3.9	3.0	ND (0.50)	0.6	3.2	2.6	2.7	4.6	5.0	1.4

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit €

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1	MCP Method 2								
	Soil Standards	Soil Standards	22MTN S-14			22MTN S-15		22MTN	22MTN	22 Mountain
	S-1/GW-1	S-1	7/11/2023			7/11/2023		Basement-1	Basement-2	
Sampling Date			7/11/2023			7/11/2023		10/29/2021	10/29/2021	Concentrations
Sample Depth (inches)			0-6	6-12	12-24	0-6	6-12	0-6	0-6	(EPCs) 0-3'
SOP-466 PFAS (µg/kg dry)										
Perfluorobutanoic acid (PFBA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	0.087	0.38	0.41
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	0.12	0.24
Perfluoropentanoic acid (PFPeA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	0.29	0.27
Perfluorohexanoic acid (PFHxA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.37
11Cl-PF3OUd5 (F53B Minor)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
9Cl-PF3ONS (F53B Major)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
Perfluorododecanoic acid (PFDoA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	0.12	0.22
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.28
N-EtFOSAA	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	0.42	ND (0.43)	ND (0.77)	0.26
N-MeFOSAA	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	0.36	ND (0.43)	ND (0.77)	0.26
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.26
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.26
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.27
Perfluoroundecanoic acid (PFUnA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.23
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)	0.25
Perfluoroheptanoic acid (PFHpA)	0.5	300	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77) *	0.27
Perfluorooctanoic acid (PFOA)	0.72	300	ND (0.22)	0.4	0.51	0.24	0.29	ND (0.43)	0.6	0.75
Perfluorooctanesulfonic acid (PFOS)	2	300	ND (0.22)	0.39	0.82	0.71	2	0.4	0.65	1.83
Perfluorononanoic acid (PFNA)	0.32	300	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43) *	ND (0.77) *	0.31
Perfluorodecanoic acid (PFDA)	0.3	300	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	0.09	ND (0.77) *	0.22
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43) *	0.13	1.03
Total (All Compounds)			ND (0.22)	0.8	1.3	1.0	3.1	0.6	2.3	NA
Regulated Total			ND (0.22)	0.8	1.3	1.0	2.3	0.5	1.4	NA

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit €

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1 Soil Standards	MCP Method 2 Soil Standards															
	S-1/GW-1	S-1	29MTN S-1	29MTN S-2	30MTN Basement-1		30MTN Basement-2		30MTN S-1	30MTN S-2		30MTN S-3			30MTN S-4		
Sampling Date			12/20/2023	12/20/2023	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	5/25/2021	5/25/2021	10/28/2021
Sample Depth (inches)			0-3	0-3	0-6	6-8	0-6	6-12	0-6	0-6	6-12	0-6	6-12	12-24	0-6	0-6 (DUP)	6-12
SOP-466 PFAS (µg/kg dry)																	
Perfluorobutanoic acid (PFBA)	~	~	ND (0.71)	ND (0.52)	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	ND (1.0)	ND (1.1)	0.22
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.71)	ND (0.52)	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	ND (1.0)	ND (1.1)	0.13
Perfluoropentanoic acid (PFPeA)	~	~	ND (0.71)	ND (0.52)	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	ND (1.0)	ND (1.1)	0.22
Perfluorohexanoic acid (PFHxA)	~	~	ND (0.71)	ND (0.52)	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	ND (1.0)	ND (1.1)	0.6
11Cl-PF3OUd5 (F53B Minor)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
9Cl-PF3ONS (F53B Major)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.71)	ND (0.52)	ND (2.5)	ND (0.48)	ND (2.1)	ND (0.77)	ND (2.0)	ND (2.3)	ND (0.48)	ND (2.3)	ND (0.52)	ND (0.53)	ND (2.0)	ND (2.1)	ND (0.60)
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Perfluorododecanoic acid (PFDoA)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.71)	ND (0.52)	1.7	1.3	ND (1.1)	ND (0.77)	ND (0.99)	ND (1.1)	1.1	ND (1.1)	0.71	2	ND (1.0)	ND (1.1)	0.76
N-EtFOSAA	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
N-MeFOSAA	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	0.38
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.71)	ND (0.52)	3.2	6.1	2.1	0.27	ND (0.99)	1.9	1.4	ND (1.1)	0.54	0.98	ND (1.0)	ND (1.1)	0.99
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.71)	ND (0.52)	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	ND (1.0)	ND (1.1)	ND (0.60)
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.71)	ND (0.52)	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	ND (1.0)	ND (1.1)	0.13
Perfluoroundecanoic acid (PFUnA)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.71)	ND (0.52)	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)	ND (1.0)	ND (1.1)	ND (0.60)
Perfluoroheptanoic acid (PFHpA)	0.5	300	ND (0.71)	ND (0.52)	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	ND (1.0)	ND (1.1)	0.21
Perfluorooctanoic acid (PFOA)	0.72	300	ND (0.71)	ND (0.52)	2.9	0.97	ND (1.1)	ND (0.77) *	ND (0.99)	1.4	0.72	ND (1.1)	1.3	2.1	ND (1.0)	ND (1.1)	0.68
Perfluorooctanesulfonic acid (PFOS)	2	300	ND (0.71)	ND (0.52)	120	170	59	13	1.1	100	130	27	9.2	24	9.8	11	72
Perfluorononanoic acid (PFNA)	0.32	300	ND (0.71)	ND (0.52)	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	ND (1.0)	ND (1.1)	0.13
Perfluorodecanoic acid (PFDA)	0.3	300	ND (0.71)	ND (0.52)	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) *	ND (1.0)	ND (1.1)	ND (0.60) *
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	ND (0.71)	ND (0.52)	4.5	2.9	1.6	0.41	ND (0.99)	5.2	4.8	5.6	5.5	9.5	1.6	2.1	6.7
Total (All Compounds)			ND (0.71)	ND (0.52)	132.3	182.1	62.7	18.6	1.1	108.5	140.9	32.6	19.8	42.8	11.4	13.1	83.2
Regulated Total			ND (0.71)	ND (0.52)	127.4	174.0	60.6	13.4	1.1	106.6	135.7	32.6	16.5	36.3	11.4	13.1	79.7

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit €

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1 Soil Standards	MCP Method 2 Soil Standards	30MTN S-5												
	S-1/GW-1	S-1	30MTN S-5			30MTN S-6	30MTN S-6A	30MTN S-7	30MTN S-8	30MTN S-9	30MTN S-10	30MTN S-11		30MTN S-12	
Sampling Date			5/25/2021	10/28/2021	10/28/2021	5/25/2021	10/29/2021	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)			0-6	6-12	12-24	0-6	0-12	0-12	0-12	0-12	0-12	0-12	24-36	0-12	12-24
SOP-466 PFAS (µg/kg dry)															
Perfluorobutanoic acid (PFBA)	~	~	ND (0.92)	0.25	ND (0.53)	ND (0.97)	1.2	0.33	ND (0.44)	0.18	0.46	0.2	ND (0.41)	ND (0.52)	0.11
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.92)	ND (0.50)	0.79	ND (0.97)	0.12	ND (0.49)	ND (0.44)	0.18	0.12	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluoropentanoic acid (PFPeA)	~	~	ND (0.92)	0.20	ND (0.53)	ND (0.97)	2.1	0.21	ND (0.44)	0.17	0.39	0.093	ND (0.41)	ND (0.52)	ND (0.54)
Perfluorohexanoic acid (PFHxA)	~	~	ND (0.92)	0.52	0.11	ND (0.97)	3.0	0.3	ND (0.44)	0.9	0.9	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
11Cl-PF3OUd5 (F53B Minor)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
9Cl-PF3ONS (F53B Major)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (1.8)	ND (0.50)	ND (0.53)	ND (1.9)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluorododecanoic acid (PFDoA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	0.22	ND (0.54)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.92)	0.26	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	0.82	1.9	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
N-EtFOSAA	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
N-MeFOSAA	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	0.2	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	0.14	1.3	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	0.14	0.9	2	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	0.2	0.31	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	0.14	ND (0.52)	ND (0.54)
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.92)	ND (0.50)	0.58	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	0.24	0.17	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluoroundecanoic acid (PFUnA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	0.43	ND (0.54)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.92)	ND (0.50)	ND (0.53)	ND (0.97)	ND (0.64)	ND (0.49)	ND (0.44)	ND (0.52)	ND (0.56)	ND (0.51)	ND (0.41)	ND (0.52)	ND (0.54)
Perfluoroheptanoic acid (PFHpA)	0.5	300	ND (0.92)	0.28	0.085	ND (0.97)	0.36	0.28	ND (0.44)	0.4	0.26	0.099	ND (0.41)	0.084	0.11
Perfluorooctanoic acid (PFOA)	0.72	300	ND (0.92)	0.85	0.35	ND (0.97)	1.2	0.92	0.14	0.93	1.1	0.39	ND (0.41)	0.37	0.69
Perfluorooctanesulfonic acid (PFOS)	2	300	3.5	11	2	ND (0.97)	1.0	2.8	6.1	26.0	110	1	ND (0.41)	6.9	2.3
Perfluorononanoic acid (PFNA)	0.32	300	ND (0.92)	0.33	ND (0.53) *	ND (0.97)	0.22	0.14	ND (0.44) *	0.095	0.098	0.22	ND (0.41) *	0.32	0.32
Perfluorodecanoic acid (PFDA)	0.3	300	ND (0.92)	ND (0.50) *	ND (0.53) *	ND (0.97)	0.12	ND (0.49) *	ND (0.44) *	ND (0.52) *	ND (0.56) *	ND (0.51) *	ND (0.41) *	0.66	0.11
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	ND (0.92)	1	1.8	ND (0.97)	0.15	1.2	0.8	11	7.7	ND (0.51) *	ND (0.41) *	ND (0.52) *	ND (0.54) *
Total (All Compounds)			3.5	14.7	5.7	ND (0.97)	9.5	6.2	7.2	42.2	126.9	2.1	0.1	9.0	3.6
Regulated Total			3.5	13.5	4.2	ND (0.97)	3.1	5.3	7.0	38.4	119.2	1.8	ND (0.41)	8.3	3.5

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit €

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1 Soil Standards		MCP Method 2 Soil Standards									
	S-1/GW-1	S-1	30MTN S-13		30MTN S-14		30MTN S-15		30MTN S-16	Soil Pile-1	Soil Pile-2	Mountain Rd Runoff Area
			10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/29/2021	10/29/2021	10/29/2021
Sampling Date			10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/29/2021	10/29/2021	10/29/2021
Sample Depth (inches)			0-12	12-24	0-12	12-24	0-12	12-24	0-12	Composite	Composite	0-8
SOP-466 PFAS (µg/kg dry)												
Perfluorobutanoic acid (PFBA)	~	~	0.17	0.078	0.4	0.11	0.3	0.11	0.14	ND (0.47)	0.12	ND (0.74)
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.55)	0.1	ND (0.51)	0.1	0.11	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluoropentanoic acid (PFPeA)	~	~	0.1	0.092	0.48	0.16	0.69	0.28	0.11	ND (0.47)	0.1	0.15
Perfluorohexanoic acid (PFHxA)	~	~	0.1	0.3	0.6	0.8	0.5	0.5	0.15	ND (0.47)	ND (0.52)	0.17
11Cl-PF3OUd5 (F53B Minor)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
9Cl-PF3ONS (F53B Major)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	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 (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	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 (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluorododecanoic acid (PFDoA)	~	~	ND (0.55)	ND (0.52)	0.13	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.87
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.41
N-EtFOSAA	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
N-MeFOSAA	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.22
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.19
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	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 (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	1.4
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.96
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.97
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	2
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	0.18	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	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 (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.25
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.55)	0.092	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.12
Perfluoroundecanoic acid (PFUnA)	~	~	0.12	ND (0.52)	0.12	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	0.77
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.55)	ND (0.52)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.44)	ND (0.60)	ND (0.47)	ND (0.52)	ND (0.74)
Perfluoroheptanoic acid (PFHpA)	0.5	300	0.11	0.14	0.11	0.18	0.1	0.091	0.17	ND (0.47)	ND (0.52) *	ND (0.74) *
Perfluorooctanoic acid (PFOA)	0.72	300	0.48	0.70	0.46	0.58	0.63	0.55	0.76	ND (0.47)	0.46	0.92
Perfluorooctanesulfonic acid (PFOS)	2	300	2.4	2.7	0.8	1.6	2.1	1.1	0.9	1.1	5.7	76
Perfluorononanoic acid (PFNA)	0.32	300	0.32	ND (0.52) *	0.22	0.27	0.23	0.14	0.13	ND (0.47) *	0.22	0.18
Perfluorodecanoic acid (PFDA)	0.3	300	0.17	ND (0.52) *	0.27	0.09	0.16	ND (0.44) *	ND (0.60) *	ND (0.47) *	0.17	0.69
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	0.33	0.96	ND (0.51) *	ND (0.50) *	ND (0.51) *	ND (0.44) *	0.17	ND (0.47) *	0.16	3.4
Total (All Compounds)			4.3	5.1	3.6	3.9	5.0	2.7	2.5	1.1	6.9	89.8
Regulated Total			3.8	4.5	1.9	2.7	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

An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit is

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1 Soil Standards	MCP Method 2 Soil Standards																
	S-1/GW-1	S-1	EPA SS-01A	EPA SS-01B	EPA SS-02A	EPA SS-02B	EPA SS-03A	EPA SS-03B	EPA SS-04A	EPA SS-04B	EPA SS-05A	EPA SS-05B	EPA SS-06A	EPA SS-06B	EPA SS-07A	EPA SS-07B	EPA SS-08A	EPA SS-08B
Sampling Date			4/24/2023	4/24/2023	4/24/2023	4/24/2023	4/24/2023	4/24/2023	4/24/2023	4/24/2023	4/25/2023	4/25/2023	4/25/2023	4/25/2023	4/25/2023	4/25/2023	4/25/2023	4/25/2023
Sample Depth (inches)			0-12	12-36	0-12	12-36	0-12	12-36	0-12	12-36	0-12	12-36	0-12	12-36	0-12	12-36	0-12	12-36
SOP-466 PFAS (µg/kg dry)																		
Perfluorobutanoic acid (PFBA)	~	~	ND (0.19)	0.21	ND (0.18)	0.18	ND (0.18)	ND (0.16)	0.2	0.46	0.2	ND (0.19)	0.19	0.39	0.28	0.88	0.21	0.35
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.04)	0.06	ND (0.04)	ND (0.04)	ND (0.03)	ND (0.03)	ND (0.04)	0.05	ND (0.03)	ND (0.04)	0.04	0.07	0.11	0.14	0.10	0.14
Perfluoropentanoic acid (PFPeA)	~	~	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.16)	1.2	0.48	ND (0.17)	ND (0.19)	ND (0.16)	ND (0.16)	0.65	ND (0.17)	0.30	
Perfluorohexanoic acid (PFHxA)	~	~	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.18)	0.18	ND (0.18)	0.5	ND (0.17)	ND (0.19)	0.26	0.40	0.22	2.1	0.27	0.88
11CI-PF3OUd5 (F53B Minor)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9CI-PF3ONS (F53B Major)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanesulfonic acid (PFHpS)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-EtFOSAA	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-MeFOSAA	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTDA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanesulfonic acid (PFDS)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonamide (FOSA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic acid (PFNS)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoro-1-butanefulfonamide (FBSA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanesulfonic acid (PFPeS)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	0.5	300	ND (0.19)	0.22	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.16)	ND (0.18)	0.61	ND (0.17)	ND (0.19)	ND (0.16)	ND (0.16)	0.3	ND (0.17)	0.19	
Perfluorooctanoic acid (PFOA)	0.72	300	0.55	1.1	0.34	0.41	0.4	0.33	0.34	1.7	0.5	0.54	0.3	0.50	0.37	1.1	0.27	0.77
Perfluorooctanesulfonic acid (PFOS)	2	300	1.2	0.68	1.0	0.62	17	9.0	5.0	3.1	4.1	2.2	28	62	130	490	75	130
Perfluorononanoic acid (PFNA)	0.32	300	0.27	0.19	0.22	0.14	0.3	0.22	0.41	0.60	0.30	0.21	0.07	0.10	0.11	0.22	0.12	0.14
Perfluorodecanoic acid (PFDA)	0.3	300	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	1.0	0.86	0.57	0.39	ND (0.17)	ND (0.19)	ND (0.16)	ND (0.16)	0.24	0.26	0.18	0.32
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	0.3	0.32	ND (0.18)	0.64	0.5	0.61	0.92	1.7	1.7	3.5	2.2	3.4
Total (All Compounds)			2.0	2.5	1.6	1.4	18.9	10.9	7.7	8.5	5.6	3.6	29.8	65.2	133	499	78.4	136
Regulated Total			2.0	2.2	1.6	1.2	18.9	10.7	6.3	7.0	5.4	3.6	29.3	64.3	132	495	77.8	135

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit €

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1 Soil Standards	MCP Method 2 Soil Standards														
	S-1/GW-1	S-1	EPA SS-09A	EPA SS-09B	EPA SS-10A	EPA SS-10B	EPA SS-11A	EPA SS-11B	EPA SS-12A	EPA SS-12B	EPA SS-13A	EPA SS-13B	EPA SS-14A	EPA SS-214A	EPA SS-15A	EPA SS-15B
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	4/25/2023	4/25/2023	4/25/2023	4/25/2023	4/25/2023	4/25/2023
Sample Depth (inches)			0-12	12-36	0-12	12-36	0-12	12-36	0-12	12-36	0-12	12-36	0-12	0-12	0-12	12-36
SOP-466 PFAS (µg/kg dry)																
Perfluorobutanoic acid (PFBA)	~	~	ND (0.17)	ND (0.18)	0.18	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.15)	0.21	ND (0.20)	ND (0.16)	ND (0.14)
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.03)	0.07	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.04)	0.06	ND (0.03)	ND (0.03)
Perfluoropentanoic acid (PFPeA)	~	~	ND (0.17)	ND (0.18)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.15)	ND (0.18)	ND (0.20)	ND (0.16)	ND (0.14)
Perfluorohexanoic acid (PFHxA)	~	~	ND (0.17)	0.24	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	0.22	ND (0.15)	ND (0.14)	ND (0.15)	ND (0.18)	ND (0.20)	ND (0.16)	ND (0.14)
11CI-PF3OUd5 (F53B Minor)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9CI-PF3ONS (F53B Major)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanesulfonic acid (PFHpS)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-EtFOSAA	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-MeFOSAA	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTDA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanesulfonic acid (PFDS)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonamide (FOSA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic acid (PFNS)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoro-1-butanedisulfonamide (FBSA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanesulfonic acid (PFPeS)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	0.5	300	ND (0.17)	ND (0.18)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.15)	ND (0.18)	ND (0.20)	ND (0.16)	ND (0.14)
Perfluorooctanoic acid (PFOA)	0.72	300	0.10	0.24	0.07	0.05	0.05	0.06	0.29	0.34	0.05	0.11	0.35	0.60	0.34	0.14
Perfluorooctanesulfonic acid (PFOS)	2	300	29	120	8.1	5.1	2.4	2.7	12	4.6	3.0	4.5	24	48	31	13
Perfluorononanoic acid (PFNA)	0.32	300	0.05	0.08	0.06	ND (0.03)	0.05	0.06	0.30	0.22	0.05	0.13	0.13	0.19	0.11	0.06
Perfluorodecanoic acid (PFDA)	0.3	300	ND (0.17)	ND (0.18)	ND (0.15)	ND (0.14)	ND (0.14)	0.18	ND (0.15)	ND (0.15)	0.15	0.38	0.37	0.42	0.28	0.17
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	0.89	2.2	0.18	ND (0.14)	ND (0.14)	0.18	0.18	0.38	ND (0.14)	ND (0.15)	0.5	1.1	0.7	0.4
Total (All Compounds)			30	123	8.6	5.2	2.5	3.2	13.0	5.5	3.3	5.1	25.6	50.4	32.4	13.7
Regulated Total			30	123	8.4	5.2	2.5	3.2	12.8	5.5	3.3	5.1	25.4	50.3	32.4	13.7

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit €

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1 Soil Standards	MCP Method 2 Soil Standards											30 Mountain Exposure Point Concentrations (EPCs) 0-3'
	S-1/GW-1	S-1	EPA SS-16A	EPA SS-16B	EPA SS-116A	EPA SS-116B	EPA SS-17A	EPA SS-17B	EPA SS-18A	EPA SS-18B	EPA SS-19A	EPA SS-19B	
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	4/25/2023	4/25/2023	
Sample Depth (inches)			0-12	12-36	0-12	12-36	0-12	0-12	0-12	12-36	0-12	12-36	
SOP-466 PFAS (µg/kg dry)													
Perfluorobutanoic acid (PFBA)	~	~	0.33	ND (0.17)	0.38	ND (0.17)	ND (0.17)	ND (0.16)	0.16	0.16	0.27	0.41	0.26
Perfluorobutanesulfonic acid (PFBS)	~	~	0.04	0.06	0.04	0.05	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	0.17
Perfluoropentanoic acid (PFPeA)	~	~	0.36	0.18	0.31	0.20	ND (0.17)	ND (0.16)	ND (0.15)	ND (0.16)	0.19	0.49	0.27
Perfluorohexanoic acid (PFHxA)	~	~	0.40	0.39	0.36	0.41	ND (0.17)	ND (0.16)	ND (0.15)	ND (0.16)	ND (0.16)	0.37	0.39
11CI-PF3OUd5 (F53B Minor)	~	~	-	-	-	-	-	-	-	-	-	-	0.34
9CI-PF3ONS (F53B Major)	~	~	-	-	-	-	-	-	-	-	-	-	0.34
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	~	~	-	-	-	-	-	-	-	-	-	-	0.34
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	-	-	-	-	-	-	-	-	-	-	0.38
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	-	-	-	-	-	-	-	-	-	-	0.34
Perfluorododecanoic acid (PFDoA)	~	~	-	-	-	-	-	-	-	-	-	-	0.35
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	-	-	-	-	-	-	-	-	-	-	0.34
Perfluoroheptanesulfonic acid (PFHpS)	~	~	-	-	-	-	-	-	-	-	-	-	0.57
N-EtFOSAA	~	~	-	-	-	-	-	-	-	-	-	-	0.34
N-MeFOSAA	~	~	-	-	-	-	-	-	-	-	-	-	0.35
Perfluorotetradecanoic acid (PFTA)	~	~	-	-	-	-	-	-	-	-	-	-	0.33
Perfluorotridecanoic acid (PFTDA)	~	~	-	-	-	-	-	-	-	-	-	-	0.33
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	-	-	-	-	-	-	-	-	-	-	0.34
Perfluorodecanesulfonic acid (PFDS)	~	~	-	-	-	-	-	-	-	-	-	-	0.38
Perfluorooctanesulfonamide (FOSA)	~	~	-	-	-	-	-	-	-	-	-	-	0.40
Perfluorononanesulfonic acid (PFNS)	~	~	-	-	-	-	-	-	-	-	-	-	0.41
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	-	-	-	-	-	-	-	-	-	-	0.87
Perfluoro-1-butanefulfonamide (FBSA)	~	~	-	-	-	-	-	-	-	-	-	-	0.34
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	-	-	-	-	-	-	-	-	-	-	0.34
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	-	-	-	-	-	-	-	-	-	-	0.34
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	-	-	-	-	-	-	-	-	-	-	0.33
Perfluoropentanesulfonic acid (PFPeS)	~	~	-	-	-	-	-	-	-	-	-	-	0.31
Perfluoroundecanoic acid (PFUnA)	~	~	-	-	-	-	-	-	-	-	-	-	0.34
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	-	-	-	-	-	-	-	-	-	-	0.34
Perfluoroheptanoic acid (PFHpA)	0.5	300	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.15)	ND (0.16)	ND (0.16)	0.28	0.21
Perfluorooctanoic acid (PFOA)	0.72	300	0.40	1.3	0.38	1.4	0.13	0.12	0.10	0.20	0.76	1.6	0.61
Perfluorooctanesulfonic acid (PFOS)	2	300	61	24	53	31	54	52	1.7	2.4	8.8	14	34.8
Perfluorononanoic acid (PFNA)	0.32	300	0.33	0.15	0.31	0.17	0.08	0.08	0.09	0.12	0.28	0.45	0.23
Perfluorodecanoic acid (PFDA)	0.3	300	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.15)	ND (0.16)	0.29	0.31	0.27
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	1.1	2.8	1.0	3.1	1.0	0.5	ND (0.15)	ND (0.16)	ND (0.16)	0.62	1.6
Total (All Compounds)			64.0	28.9	55.8	36.3	55.2	52.7	2.1	2.9	10.6	18.5	
Regulated Total			62.8	28.3	54.7	35.7	55.2	52.7	1.9	2.7	10.1	17.3	

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit is

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1 Soil Standards	MCP Method 2 Soil Standards															
	S-1/GW-1	S-1	Transformer Building S-1	Transformer Building S-2	Transformer Building S-3	Transformer Building S-4	Library-1	Library-2	54MTN S-1	54MTN S-2	54MTN S-3	54MTN S-4		54MTN S-5	54MTN S-5A	54MTN S-6	
Sampling Date			8/24/2021	8/24/2021	8/24/2021	8/24/2021	10/29/2021	10/29/2021	8/24/2021	8/24/2021	8/24/2021	8/24/2021	8/24/2021	8/24/2021	10/28/2021	8/24/2021	10/28/2021
Sample Depth (inches)			0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	Duplicate	0-6	0-12	0-6	6-12
SOP-466 PFAS (µg/kg dry)																	
Perfluorobutanoic acid (PFBA)	~	~	ND (0.47)	0.28 J	0.18 J	0.10 J	ND (0.51)	0.24	0.18 J	ND (1.0)	ND (0.48)	0.10 J	0.11 J	0.14 J	ND (0.48)	0.18 J	0.31
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	0.31	ND (0.53)	ND (0.55)
Perfluoropentanoic acid (PFPeA)	~	~	ND (0.47)	0.092 J	ND (0.58)	ND (0.47)	ND (0.51)	0.14	0.21 J	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	0.13 J	0.12	0.26 J	0.57
Perfluorohexanoic acid (PFHxA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	0.17	0.18 J	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	0.12 J	0.15	0.15 J	0.42
11Cl-PF3OUd5 (F53B Minor)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
9Cl-PF3ONS (F53B Major)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Perfluorododecanoic acid (PFDoA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	0.096 J	ND (1.0)	ND (0.48)	0.14 J	0.20 J	0.29 J	ND (0.48)	0.50 J	ND (0.55)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
N-EtFOSAA	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
N-MeFOSAA	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	0.19 J	0.27 J	0.16 J	ND (0.48)	0.13 J	ND (0.55)
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.47)	ND (0.47)	0.23 J	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	0.24 J	ND (0.48)	0.65	ND (0.55)
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	0.21
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	0.29
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	0.099	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Perfluoroundecanoic acid (PFUnA)	~	~	ND (0.47)	0.099 J	0.19 J	ND (0.47)	ND (0.51)	ND (0.50)	0.14 J	0.22 J	ND (0.48)	0.38 J	0.41 J	0.29 J	ND (0.48)	0.27 J	ND (0.55)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.47)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	ND (0.50)	ND (0.57)	ND (1.0)	ND (0.48)	ND (0.55)	ND (0.57)	ND (0.58)	ND (0.48)	ND (0.53)	ND (0.55)
Perfluoroheptanoic acid (PFHpA)	0.5	300	ND (0.47)	ND (0.47)	0.098 J	ND (0.47)	ND (0.51) *	0.18	0.3 J	ND (0.15)	0.073 J	ND (0.08)	ND (0.08)	0.18 J	0.11	0.17 J	0.69
Perfluorooctanoic acid (PFOA)	0.72	300	ND (0.13)	ND (0.47)	ND (0.58)	ND (0.47)	ND (0.51)	0.6	0.86	ND (0.29)	0.28 J	0.16 J	ND (0.57)	0.51 J	0.23	0.54	1.3
Perfluorooctanesulfonic acid (PFOS)	2	300	ND (0.47)	0.30 J	0.95	0.099 J	0.48	1.3	1.1	0.73 J	0.33 J	3.1	3.2	4.9	0.71	2.2	13
Perfluorononanoic acid (PFNA)	0.32	300	ND (0.08) *	ND (0.08) *	0.17 J	ND (0.07) *	ND (0.51) *	0.22	0.24 J	ND (0.17)	0.17	0.2 J	0.19 J	0.4 J	ND (0.48) *	0.36 J	0.55
Perfluorodecanoic acid (PFDA)	0.3	300	ND (0.06) *	0.088 J	0.20 J	ND (0.06) *	ND (0.51) *	0.094	0.2 J	0.18 J	ND (0.06)	0.51 J	0.56 J	0.5 J	0.083	1.1	1.5
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	ND (0.08) *	ND (0.08) *	ND (0.09) *	ND (0.07) *	ND (0.51) *	1.2	ND (0.09) J	ND (0.16)	ND (0.07)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.48) *	ND (0.08)	0.15
Total (All Compounds)			ND (0.47)	0.0	1.0	ND (0.47)	0.5	4.2	2.0	ND (1.0)	0.2	3.1	3.2	4.9	1.7	4.5	19.0
Regulated Total			ND (0.47)	0.0	1.0	ND (0.47)	0.5	3.6	2.0	ND (1.0)	0.2	3.1	3.2	4.9	1.1	3.8	17.2

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit €

TABLE 2A - PFAS Soil Sampling Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP Method 1 Soil Standards	MCP Method 2 Soil Standards	54MTN S-7													54MTN S-14	54 Mountain Exposure Point Concentrations (EPCs) 0-3'
	S-1/GW-1	S-1	8/24/2021	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	10/28/2021	10/28/2021	10/28/2021	10/28/2021	
Sampling Date			8/24/2021	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	10/28/2021	10/28/2021	10/28/2021	10/28/2021	
Sample Depth (inches)			0-6	6-12	12-24	0-12	0-12	12-24	0-12	12-24	0-12	12-24	0-12	0-12	12-24	0-6	
SOP-466 PFAS (µg/kg dry)																	
Perfluorobutanoic acid (PFBA)	~	~	0.069 J	ND (0.52)	ND (0.45)	0.16	ND (0.48)	ND (0.52)	ND (0.43)	0.47	0.064	ND (0.45)	ND (0.48)	0.19	0.21	0.38	0.23
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	0.11	ND (0.59)	0.26
Perfluoropentanoic acid (PFPeA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	0.76	ND (0.43)	ND (0.45)	ND (0.48)	0.22	0.25	0.2	0.28
Perfluorohexanoic acid (PFHxA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	0.99	ND (0.43)	ND (0.45)	ND (0.48)	0.11	0.18	0.29	0.27
11Cl-PF3OUd5 (F53B Minor)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
9Cl-PF3ONS (F53B Major)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Perfluorododecanoic acid (PFDoA)	~	~	0.12 J	ND (0.52)	ND (0.45)	0.094	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	0.13	ND (0.47)	ND (0.59)	0.24
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
N-EtFOSAA	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
N-MeFOSAA	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.25
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.28
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.51)	0.22	ND (0.45)	ND (0.46)	0.18	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	0.16	ND (0.48)	ND (0.49)	ND (0.47)	0.22	0.25
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Perfluoroundecanoic acid (PFUnA)	~	~	0.15 J	ND (0.52)	ND (0.45)	0.19	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	0.15	ND (0.47)	ND (0.59)	0.24
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	ND (0.51)	ND (0.52)	ND (0.45)	ND (0.46)	ND (0.48)	ND (0.52)	ND (0.43)	ND (0.50)	ND (0.43)	ND (0.45)	ND (0.48)	ND (0.49)	ND (0.47)	ND (0.59)	0.26
Perfluoroheptanoic acid (PFHpA)	0.5	300	ND (0.07)	ND (0.52) *	ND (0.45)	ND (0.46)	0.13	0.093	0.12	1.9	0.063	ND (0.45)	ND (0.48)	0.12	0.21	0.42	0.26
Perfluorooctanoic acid (PFOA)	0.72	300	0.18 J	ND (0.52)	ND (0.45)	0.43	0.47	0.39	0.43	5	0.17	ND (0.45)	ND (0.48)	0.34	0.65	1.8	0.66
Perfluorooctanesulfonic acid (PFOS)	2	300	1.1	0.11	ND (0.45)	0.64	1.2	0.29	0.78	2.1	0.17	ND (0.45)	0.19	2.4	2.4	1	1.83
Perfluorononanoic acid (PFNA)	0.32	300	0.088 J	ND (0.52) *	ND (0.45) *	0.18	0.13	ND (0.52) *	0.27	0.68	ND (0.43) *	ND (0.45) *	ND (0.48) *	0.17	0.37	0.3	0.26
Perfluorodecanoic acid (PFDA)	0.3	300	0.29 J	ND (0.52) *	ND (0.45) *	0.2	0.12	ND (0.52) *	0.089	ND (0.50) *	ND (0.43) *	ND (0.45) *	ND (0.48) *	0.39	0.14	ND (0.59) *	0.34
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	ND (0.08)	ND (0.52) *	ND (0.45) *	ND (0.46) *	ND (0.48) *	ND (0.52) *	ND (0.43) *	ND (0.50) *	ND (0.43) *	ND (0.45) *	ND (0.48) *	ND (0.49) *	ND (0.47) *	ND (0.59) *	0.17
Total (All Compounds)			1.1	0.3	ND (0.45)	1.9	2.2	0.8	1.7	11.9	0.5	0.2	0.5	4.2	4.5	4.6	NA
Regulated Total			1.1	0.1	ND (0.45)	1.5	2.1	0.8	1.7	9.7	0.4	ND (0.45)	0.5	3.4	3.8	3.5	NA

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit €

TABLE 2B - PFAS Soil Sampling Leachability Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP - Method 1 Standards	MCP - Method 2 Standards	22MTN S-1																				22MTN S-7		22MTN Potable Well	30MTN S-3			30MTN S-4			30MTN S-5					
	S-1/GW-1	S-1	Organics & Loam						Loam & Fine Sand						Fine Silty Sand							Fine Silty Sand			Fine Silty Sand			Loam and Sand			Clayey Silt and Fine Sand						
			10/27/2021						10/27/2021						10/29/2021							10/28/2021			10/28/2021			10/28/2021			10/28/2021						
Sample Depth (inches)			6-12			12-24			6-12			6-12				12-24			6-12			6-12			6-12			12-24									
Notes			SPLP	%	SPLP	%	SPLP	%	SPLP	%	SPLP	%		SPLP	%	SPLP	%	SPLP	%	SPLP	%	SPLP	%	SPLP	%	SPLP	%										
Parts-Per-Trillion (ppt)																																					
Perfluorobutanoic acid (PFBA)	~	~	250	12	-95%	210	13	-94%	ND (580)	ND (2.0)	-100%	-	370	4.9	-99%	220	6.9	-97%	250	12	-95%	ND (530)	2.5	-100%													
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (510)	2.1	-100%	ND (0.52)	2.8	-99%	250	11	-96%	28	160	5.8	-96%	130	5.5	-96%	ND (500)	ND (2.0)	-	790	25	-													
Perfluoropentanoic acid (PFPeA)	~	~	220	6.6	-97%	130	12	-91%	ND (580)	ND (2.0)	-100%	-	570	5.9	-99%	220	7.6	-97%	200	9.3	-95%	ND (530)	ND (2.0)	-													
Perfluorohexanoic acid (PFHxA)	~	~	480	12	-98%	270	29	-89%	ND (580)	2.7	-100%	4.0	1,600	39	-98%	600	33	-95%	520	24	-95%	110	3.4	-97%													
11CI-PF3OUdS (F53B Minor)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
9CI-PF3ONS (F53B Major)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluorododecanoic acid (PFDoA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	ND (2.0)	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluoroheptanesulfonic acid (PFHps)	~	~	ND (510)	2.2	-100%	ND (520)	2.8	-99%	ND (580)	ND (2.0)	-	-	2,000	41	-98%	760	44	-94%	260	11	-96%	ND (530)	3.2	-99%													
N-EtFOSAA	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	ND (2.0)	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
N-MeFOSAA	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	ND (2.0)	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluorotetradecanoic acid (PFTA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	ND (2.0)	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluorotridecanoic acid (PFTDA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	ND (2.0)	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluorooctanesulfonamide (FOSA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluorononanesulfonic acid (PFNS)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	380	11	-97%	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	980	3.6	-100%	990	8.7	-99%	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	600	7.8	-99%	ND (600)	4.8	-99%	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	720	ND (2.0)	-100%	320	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (510)	2.6	-99%	ND (520)	4.2	-99%	180	7.7	-96%	-	200	8.1	-	130	7.4	-	ND (500)	ND (2.0)	-	580	20	-97%													
Perfluoroundecanoic acid (PFUnA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	190	ND (2.0)	-	ND (2.0)	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	~	~	ND (510)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (580)	ND (2.0)	-	-	ND (530)	ND (2.0)	-	ND (600)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (530)	ND (2.0)	-													
Perfluoroheptanoic acid (PFHpA)	500	300	210	4.9	-98%	130	14	-89%	170	7.4	-96%	2.1	560	16	-97%	210	12	-94%	280	12	-96%	85	2.8	-97%													
Perfluorooctanoic acid (PFOA)	720	300	450	10	-98%	340	26	-92%	570	22	-96%	9.2	2,100	47	-98%	680	36	-95%	1,000	33	-97%	350	8.3	-98%													
Perfluorooctanesulfonic acid (PFOS)	2,000	300	4,000	140	-97%	4,300	85	-98%	2,100	19	-99%	73	24,000	330	-99%	72,000	1,800	-98%	11,000	290	-97%	2,000	31	-98%													
Perfluorononanoic acid (PFNA)	320	300	ND (510)*	2.5	-100%	110	4	-96%	450	8	-98%	ND (2.0)	110	2.7	-98%	130	4.1	-97%	330	11	-97%	ND (530)*	ND (2.0)	-													
Perfluorodecanoic acid (PFDA)	300	300	ND (510)*	ND (2.0)	-	ND (520)*	ND (2.0)	-	230	ND (2.0)	-99%	ND (2.0)	ND (530)*	ND (2.0)	-	ND (600)*	ND (2.0)	-	ND (500)*	ND (2.0)	-	ND (530)*	ND (2.0)	-													
Perfluorohexanesulfonic acid (PFHxS)	300	300	2,800	52	-98%	1,300	120	-91%	330	9.5	-97%	230	9,500	230	-98%	6,700	250	-96%	1,000	41	-96%	1,800	49	-100%													
Total (All Compounds)			9,130	247	-97%	7,110	313	-96%	4,470	87	-98%	346.3	42,750	742	-98%	83,150	2,231	-97%	14,840	443	-97%	5,715	145	-97%													
Regulated Total			7,460	209	-97%	6,180	249	-96%	3,850	66	-98%	314.3	36,270	626	-98%	79,720	2,102	-97%	13,610	387	-97%	4,235	91	-98%													

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.
 The % column is the fraction of the total PFAS retained in the sample matrix

TABLE 2B - PFAS Soil Sampling Leachability Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	MCP - Method 1 Standards		MCP - Method 2 Standards															
	S-1/GW-1	S-1	30MTN S-8			30MTN S-9			30MTN Barn Well	30MTN Inn Well	MTN Road Runoff	54 MTN S-6			54 MTN S-10			54MTN Potable Well
General Soil Stratigraphy			Fine Sand and Gravel			Loam, Fine Sand and Silt						Loam and Clayey Silt			Fine Silty Sand			
Sampling Date			10/28/2021			10/28/2021			4/26/2021	5/25/2021	10/27/2021	10/28/2021			10/28/2021			10/28/2021
Sample Depth (inches)			0-12			0-12					6-12			12-24				
Notes				SPLP	%		SPLP	%				SPLP	%		SPLP	%		
Parts-Per-Trillion (ppt)																		
Perfluorobutanoic acid (PFBA)	~	~	ND (440)	ND (2.0)	-	180	4.9	-97%	-	3.9	ND (20)	310	8.3	-97%	470	12	-97%	-
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (440)	ND (2.0)	-	180	6.7	-96%	2.2	ND (2.0)	31	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (2.0)
Perfluoropentanoic acid (PFPeA)	~	~	ND (440)	ND (2.0)	-	170	4.6	-97%	-	3.4	5.2	570	15	-97%	760	18	-98%	-
Perfluorohexanoic acid (PFHxA)	~	~	ND (440)	ND (2.0)	-	900	36	-96%	2.1	ND (2.0)	24	420	11	-97%	990	26	-97%	5.1
11CI-PF3OUdS (F53B Minor)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
9CI-PF3ONS (F53B Major)	~	~	ND (440)	ND (2.0)	-	ND (440)	ND (2.0)	-	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Perfluorododecanoic acid (PFDoA)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (2.0)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEISA)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Perfluoroheptanesulfonic acid (PFHps)	~	~	ND (440)	ND (2.0)	-	820	31	-96%	-	ND (2.0)	25	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
N-EtFOSAA	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (2.0)
N-MeFOSAA	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (2.0)
Perfluorotetradecanoic acid (PFTA)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (2.0)
Perfluorotridecanoic acid (PFTDA)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (2.0)
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Perfluorooctanesulfonamide (FOSA)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	210	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Perfluorononanesulfonic acid (PFNS)	~	~	ND (440)	ND (2.0)	-	140	2.8	-98%	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Perfluoro-1-hexanesulfonamide (FHxSA)	~	~	140	ND (2.0)	-99%	900	5.9	-99%	-	ND (2.0)	48	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Perfluoro-1-butanefulfonamide (FBSA)	~	~	ND (440)	ND (2.0)	-	200	5.2	-97%	-	ND (2.0)	9.5	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	290	ND (2.0)	-99%	ND (500)	ND (2.0)	-	-
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (440)	ND (2.0)	-	240	12	-	-	ND (2.0)	31	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Perfluoroundecanoic acid (PFUnA)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	ND (2.0)
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	~	~	ND (440)	ND (2.0)	-	ND (520)	ND (2.0)	-	-	ND (2.0)	ND (20)	ND (550)	ND (2.0)	-	ND (500)	ND (2.0)	-	-
Perfluoroheptanoic acid (PFHpA)	500	300	ND (440)	ND (2.0)	-	400	16	-96%	ND (2.0)	ND (2.0)	8.3	690	18	-97%	1,900	50	-97%	8.6
Perfluorooctanoic acid (PFOA)	720	300	140	2.5	-98%	930	36	-96%	6.9	13	27	1,300	32	-98%	5,000	120	-98%	24
Perfluorooctanesulfonic acid (PFOS)	2,000	300	6,100	110	-98%	26,000	400	-98%	12	110	1,100	13,000	130	-99%	2,100	26	-99%	25
Perfluorononanoic acid (PFNA)	320	300	ND (440)*	ND (2.0)	-	95	2.1	-98%	ND (2.0)	7.5	ND (20)	550	16	-97%	680	11	-98%	2.9
Perfluorodecanoic acid (PFDA)	300	300	ND (440)*	ND (2.0)	-	ND (520)*	ND (2.0)	-	ND (2.0)	ND (2.0)	2.4	1,500	16	-99%	ND (500)*	ND (2.0)	-	ND (2.0)
Perfluorohexanesulfonic acid (PFHxS)	300	300	800	22	-97%	11,000	370	-97%	13	3.9	430	150	ND (2.0)	-99%	ND (500)*	ND (2.0)	-	ND (2.0)
Total (All Compounds)			7,180	135	-98%	42,155	933	-98%	36.2	141.7	1,741	18,990	246	-99%	11,900	263	-98%	65.6
Regulated Total			7,040	135	-98%	38,425	824	-98%	31.9	134.4	1,568	17,190	212	-99%	9,680	207	-98%	60.5

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:
 The % column is the fraction of the total PFAS retained in the sample matrix

TABLE 3A
PFAS Surface Water Runoff Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard & MMCL	30 Mountain Runoff								29 Mountain Runoff	41 Prospect Runoff		
		2/27/2020	4/22/2021	7/12/2021	10/27/2021	4/8/2022	9/6/2022	4/23/2023	4/23/2023	11/16/2022	4/22/2021	7/12/2021	4/8/2022
Sampling Date		Pipe	Overland Flow	Overland Flow	Overland Flow	Overland Flow	Overland Flow	Overland Flow	Pipe				
PFAS (ng/L)													
Perfluorobutanoic acid (PFBA)		-	-	16	ND (20)	-	16	9.4	12	5.2	-	ND (2.0)	-
Perfluorobutanesulfonic acid (PFBS)		58	20	42	31	8.9	18	7.9	ND (10)	6	ND (2.0)	ND (2.0)	ND (1.8)
Perfluoropentanoic acid (PFPeA)		-	-	19	5.2	-	14	20	ND (10)	4	-	ND (2.0)	-
Perfluorohexanoic acid (PFHxA)		88	24	40	24	15	29	24	24	11	ND (2.0)	ND (2.0)	ND (1.8)
11Cl-PF3OUdS (F53B Minor)		-	ND (2.0)	ND (2.0)	ND (20)	-	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	-	ND (2.0)	-
9Cl-PF3ONS (F53B Major)		-	ND (2.0)	ND (2.0)	ND (20)	-	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	-	ND (2.0)	-
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		-	ND (2.0)	ND (2.0)	ND (20)	-	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	-	ND (2.0)	-
Hexafluoropropylene oxide dimer acid (HFPO-DA)		-	ND (2.0)	ND (2.0)	ND (20)	-	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	-	ND (2.0)	-
8:2 Fluorotelomersulfonic acid (8:2FTS A)		-	-	ND (2.0)	ND (20)	-	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	-	ND (2.0)	-
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (20)	ND (1.9)	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	ND (2.0)	ND (2.0)	ND (1.8)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)		-	-	ND (2.0)	ND (20)	-	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	-	ND (2.0)	-
Perfluoroheptanesulfonic acid (PFHpS)		-	-	43	25	-	18	17	17	ND (1.8)	-	ND (2.0)	-
N-EtFOSAA		3.1	ND (2.0)	ND (2.0)	ND (20)	ND (1.9)	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	ND (2.0)	ND (2.0)	ND (1.8)
N-MeFOSAA		3.9	ND (2.0)	ND (2.0)	ND (20)	ND (1.9)	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	ND (2.0)	ND (2.0)	ND (1.8)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (20)	ND (1.9)	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	ND (2.0)	ND (2.0)	ND (1.8)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (20)	ND (1.9)	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	ND (2.0)	ND (2.0)	ND (1.8)
4:2 Fluorotelomersulfonic acid (4:2FTS A)		-	-	ND (2.0)	ND (20)	-	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	-	ND (2.0)	-
Perfluorodecanesulfonic acid (PFDS)		-	-	ND (2.0)	ND (20)	-	ND (2.7)	2.8	ND (10)	ND (1.8)	-	ND (2.0)	-
Perfluorooctanesulfonamide (FOSA)		-	-	2.5	ND (20)	-	2.7	2.7	ND (10)	ND (1.8)	-	ND (2.0)	-
Perfluorononanesulfonic acid (PFNS)		-	-	ND (2.0)	ND (20)	-	5.9	7.5	ND (10)	ND (1.8)	-	ND (2.0)	-
Perfluoro-1-hexanesulfonamide (FHxSA)		-	-	36	48	-	48	20	38	ND (1.8)	-	ND (2.0)	-
Perfluoro-1-butananesulfonamide (FBSA)		-	-	12	9.5	-	9.5	4.9	ND (10)	ND (1.8)	-	ND (2.0)	-
Perfluoro-4-oxapentanoic acid (PFMPA)		-	-	ND (2.0)	ND (20)	-	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	-	ND (2.0)	-
Perfluoro-5-oxahexanoic acid (PFMBA)		-	-	ND (2.0)	ND (20)	-	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	-	ND (2.0)	-
6:2 Fluorotelomersulfonic acid (6:2FTS A)		-	-	ND (2.0)	ND (20)	-	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	-	ND (2.0)	-
Perfluoropentanesulfonic acid (PFPeS)		-	-	53	31	-	18	11	12	ND (1.8)	-	ND (2.0)	-
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (2.0)	ND (2.0)	ND (20)	ND (1.9)	ND (1.9)	ND (1.8)	ND (10)	ND (1.8)	ND (2.0)	ND (2.0)	ND (1.8)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)		-	-	ND (2.0)	ND (20)	-	ND (2.7)	ND (1.8)	ND (10)	ND (1.8)	-	ND (2.0)	-
Perfluoroheptanoic acid (PFHpA)		23	6.2	16	8.3	4.1	11	9.1	ND (10)	2.7	ND (2.0)	ND (2.0)	ND (1.8)
Perfluorooctanoic acid (PFOA)		100	32	48	27	15	37	24	25	6.4	ND (2.0)	ND (2.0)	ND (1.8)
Perfluorooctanesulfonic acid (PFOS)		2800	2100	2000	1100	750	930	830	1200	3.1	ND (2.0)	ND (2.0)	ND (1.8)
Perfluorononanoic acid (PFNA)		3.1	ND (2.0)	3.9	ND (20)	ND (1.9)	5.7	4.9	ND (10)	ND (1.8)	ND (2.0)	ND (2.0)	ND (1.8)
Perfluorodecanoic acid (PFDA)		6.2	2.2	2.4	2.4	ND (1.9)	4.3	3.5	ND (10)	ND (1.8)	ND (2.0)	ND (2.0)	ND (1.8)
Perfluorohexanesulfonic acid (PFHxS)		710	350	620	430	140	180	140	220	ND (1.8)	ND (2.0)	ND (2.0)	ND (1.8)
Total (All Compounds)		3,800	2,500	3,000	1,700	930	1,300	1,139	1,548	38.4	ND (2.0)	ND (2.0)	ND (1.8)
Regulated Total	20	3,600	2,500	2,700	1,600	910	1,200	1,012	1,445	12.2	ND (2.0)	ND (2.0)	ND (1.8)

NOTES:
Gray colored cells indicate those 6 compounds included in the regulated PFAS Total
- = indicates that the compound was not analyzed
ND = Not detected above the lab reporting limits shown in parentheses.
Bolded values exceed the proposed Method 1 Standard
MMCL is Massachusetts Maximum Contaminant Level

TABLE 3B
30 Mountain Road Pipe Runoff Treatment Summary
Princeton, Massachusetts
RTN 2-21072

Parameter	Massachusetts Contingency Plan GW-1 Standard	30 MOUNTAIN RUNOFF TREATMENT SUMMARY					
		2/27/2020	4/23/2023	9/12/2023	9/13/2023		
Sampling Date							
72 Hour Rainfall Total (inches)		1.01	0.66	6.44	6.44		
Flow Meter (gallons)		-	-	-	10,938		
		PIPE RUNOFF	PIPE RUNOFF	TREATMENT SYSTEM ONLINE	INF	MID	EFF
PFAS (ng/L)							
Perfluorobutanoic acid (PFBA)		-	12		12	ND (1.9)	ND (1.9)
Perfluorobutanesulfonic acid (PFBS)		58	ND (10)		13	ND (1.9)	ND (1.9)
Perfluoropentanoic acid (PFPeA)		-	ND (10)		7.3	ND (1.9)	ND (1.9)
Perfluorohexanoic acid (PFHxA)		88	24		15	ND (1.9)	ND (1.9)
11Cl-PF3OUds (F53B Minor)		-	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
9Cl-PF3ONS (F53B Major)		-	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		-	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
Hexafluoropropylene oxide dimer acid (HFPO-DA)		-	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
8:2 Fluorotelomersulfonic acid (8:2FTS A)		-	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
Perfluorododecanoic acid (PFDoA)		ND (2.0)	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)		-	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
Perfluoroheptanesulfonic acid (PFHpS)		-	17		17	ND (1.9)	ND (1.9)
N-EtFOSAA		3.1	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
N-MeFOSAA		3.9	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
Perfluorotetradecanoic acid (PFTA)		ND (2.0)	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
Perfluorotridecanoic acid (PFTrDA)		ND (2.0)	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
4:2 Fluorotelomersulfonic acid (4:2FTS A)		-	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
Perfluorodecanesulfonic acid (PFDS)		-	ND (10)		2.6	ND (1.9)	ND (1.9)
Perfluorooctanesulfonamide (FOSA)		-	ND (10)		2.6	ND (1.9)	ND (1.9)
Perfluorononanesulfonic acid (PFNS)		-	ND (10)		5.0	ND (1.9)	ND (1.9)
Perfluoro-1-hexanesulfonamide (FHxSA)		-	38		27	ND (1.9)	ND (1.9)
Perfluoro-1-butanefulfonamide (FBSA)		-	ND (10)		6.9	ND (1.9)	ND (1.9)
Perfluoro-4-oxapentanoic acid (PFMPA)		-	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
Perfluoro-5-oxahexanoic acid (PFMBA)		-	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
6:2 Fluorotelomersulfonic acid (6:2FTS A)		-	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
Perfluoropentanesulfonic acid (PFPeS)		-	12		-	-	-
Perfluoroundecanoic acid (PFUnA)		ND (2.0)	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)		-	ND (10)		ND (1.8)	ND (1.9)	ND (1.9)
Perfluoroheptanoic acid (PFHpA)		23	ND (10)		8.0	ND (1.9)	ND (1.9)
Perfluorooctanoic acid (PFOA)		100	25		20	ND (1.9)	ND (1.9)
Perfluorooctanesulfonic acid (PFOS)		2800	1200		840	47	ND (1.9)
Perfluorononanoic acid (PFNA)		3.1	ND (10)		3.6	ND (1.9)	ND (1.9)
Perfluorodecanoic acid (PFDA)		6.2	ND (10)		2.8	ND (1.9)	ND (1.9)
Perfluorohexanesulfonic acid (PFHxS)		710	220		240	10	ND (1.9)
Total (All Compounds)		3,795	1,548		1,223	57	ND (1.9)
Regulated Total	20	3,642	1,445		1,114	57	ND (1.9)

NOTES:

Gray colored cells indicate those 6 compounds included in the regulated PFAS Total

- = indicates that the compound was not analyzed

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the Method 1 Standard

MMCL is Massachusetts Maximum Contaminant Level

Precipitation data obtained from Community Collaborative Rain, Hail, and Snow Network (Station MA-WR-56: Sterling 4.3 miles NW)

TABLE 4
 PFAS Surface Water Summary
 Princeton, Massachusetts
 RTN 2-21072

Parameter	Surface Water Benchmark Values	Schoolhouse Pond		Airport Pond		SW-1	SW-2	SW-3	SW-4
		10/18/2021		10/18/2021		7/25/2023	7/25/2023	7/25/2023	7/25/2023
Sampling Date		Shallow	Deep	Shallow	Deep	Schoolhouse Pond Tributary	Brooks Station Rd Culvert	Gregory Hill Rd Culvert	Worcester Rd Culvert
PFAS (µg/L)									
Perfluorobutanoic acid (PFBA)		0.0044	0.0047	ND (0.0019)	ND (0.002)	0.0027	0.0026	0.005	0.0033
Perfluorobutanesulfonic acid (PFBS)		0.0061	0.0066	ND (0.0019)	ND (0.002)	0.0047	ND (0.0018)	ND (0.0018)	0.003
Perfluoropentanoic acid (PFPeA)		0.0043	0.0039	0.0012	0.0024	ND (0.002)	0.0019	0.0038	0.0056
Perfluorohexanoic acid (PFHxA)		0.0037	0.0039	ND (0.0019)	ND (0.002)	0.0028	ND (0.0018)	ND (0.0018)	0.0023
11Cl-PF3OUdS (F53B Minor)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
9Cl-PF3ONS (F53B Major)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
4,8-dioxa-3H-perfluorooctanoic acid (ADONA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Hexafluoropropylene oxide dimer acid (HFPO-DA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
8:2 Fluorotelomersulfonic acid (8:2FTS A)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluorododecanoic acid (PFDoA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluoroheptanesulfonic acid (PFHpS)		ND (0.0019)	0.0011	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
N-EtFOSAA		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
N-MeFOSAA		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluorotetradecanoic acid (PFTA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluorotridecanoic acid (PFTrDA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
4:2 Fluorotelomersulfonic acid (4:2FTS A)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluorodecanesulfonic acid (PFDS)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluorooctanesulfonamide (FOSA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluorooctanesulfonic acid (PFOS)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluoro-1-hexanesulfonamide (FHxSA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluoro-1-butanefulfonamide (FBSA)		0.00037	0.00038	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluoro-4-oxapentanoic acid (PFMPA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluoro-5-oxahexanoic acid (PFMBA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
6:2 Fluorotelomersulfonic acid (6:2FTS A)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluoropentanesulfonic acid (PFPeS)		0.0056	0.0059	ND (0.0019)	ND (0.002)	0.004	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluoroundecanoic acid (PFUnA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)		ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluoroheptanoic acid (PFHpA)	1705	0.0024	0.0021	0.00047	0.00066	0.0021	ND (0.0018)	0.0024	0.0024
Perfluorooctanoic acid (PFOA)	1705	0.0066	0.0065	0.00098	0.0011	0.0062	0.0033	0.0031	0.0056
Perfluorooctanesulfonic acid (PFOS)	19	0.0097	0.011	0.00097	0.0024	0.014	0.0019	0.0022	0.0061
Perfluorodecanoic acid (PFDA)	1705	ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluorooctanoic acid (PFNA)	1705	0.0007	0.00064	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Perfluorohexanesulfonic acid (PFHxS)	19	0.043	0.045	ND (0.0019)	ND (0.002)	0.044	ND (0.0018)	ND (0.0018)	0.012
Drinking Water Standard (PFAS6)	0.020	0.062	0.065	0.002	0.004	0.066	0.005	0.008	0.026

NOTES:

- = indicates that the compound was not analyzed

ND = Not detected above the lab reporting limits shown in parentheses.

Bolded values exceed the proposed Method 1 Standard

Surface Water Quality Criteria Reference

Minnesota Pollution Control Agency Surface Water Quality Criterion for Perfluorooctanoic Acid - <https://www.pca.state.mn.us/sites/default/files/pfoa-report.pdf>

Minnesota Pollution Control Agency Surface Water Quality Criterion for Perfluorooctane Sulfonic Acid - <https://www.pca.state.mn.us/sites/default/files/pfos-report.pdf>

Minnesota Pollution Control Agency Surface Water Quality Criterion for Perfluorooctanoic Acid - <https://www.pca.state.mn.us/sites/default/files/pfoa-report.pdf>

Minnesota Pollution Control Agency Surface Water Quality Criterion for Perfluorooctane Sulfonic Acid - <https://www.pca.state.mn.us/sites/default/files/pfos-report.pdf>

Minnesota Pollution Control Agency Surface Water Quality Criterion for Perfluorooctanoic Acid - <https://www.pca.state.mn.us/sites/default/files/pfoa-report.pdf>

Tighe&Bond

APPENDIX C

December 28, 2022

Michael Scherer
Tighe & Bond, Inc. - Worcester
120 Front St.
Worcester, MA 01608-2303

Project Location: 29 Mountain Princeton, MA
Client Job Number:
Project Number: P-05340
Laboratory Work Order Number: 22K3427

Enclosed are results of analyses for samples as received by the laboratory on November 23, 2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Tighe & Bond, Inc. - Worcester
120 Front St.
Worcester, MA 01608-2303
ATTN: Michael Scherer

REPORT DATE: 12/28/2022

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P-05340

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 22K3427

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 29 Mountain Princeton, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
29 Mountain SW	22K3427-01	Surface water		SOP-454 PFAS	
29 Mountain FB	22K3427-02	Surface Water		SOP-454 PFAS	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SOP-454 PFAS

Qualifications:

PF-17

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

Analyte & Samples(s) Qualified:

M2-6:2FTS

22K3427-01RE1[29 Mountain SW]

PF-18

Duplicate analysis confirmed Extracted Internal Standard failure due to matrix effects.

Analyte & Samples(s) Qualified:

M2PF7A

22K3427-01RE1[29 Mountain SW]

M8FOSA

22K3427-01RE1[29 Mountain SW]

MPFDoA

22K3427-01RE1[29 Mountain SW]

PF-20

Quantifying ion signal to noise ratio is <10. Detection is suspect.

Analyte & Samples(s) Qualified:

Perfluoroheptanoic acid (PFHpA)

22K3427-01RE1[29 Mountain SW]

Perfluoropentanoic acid (PFPeA)

22K3427-01RE1[29 Mountain SW]

S-29

Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

MPFBA

22K3427-01RE1[29 Mountain SW]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 29 Mountain Princeton, MA

Sample Description:

Work Order: 22K3427

Date Received: 11/23/2022

Field Sample #: 29 Mountain SW

Sampled: 11/16/2022 11:30

Sample ID: 22K3427-01

Sample Matrix: Surface water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	5.2	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorobutanesulfonic acid (PFBS)	6.0	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluoropentanoic acid (PFPeA)	4.0	1.8	ng/L	1	PF-20	SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorohexanoic acid (PFHxA)	11	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorodecanoic acid (PFDA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorodecanesulfonic acid (PFDS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorooctanesulfonamide (FOSA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorononanesulfonic acid (PFNS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluoro-1-butanefulfonamide (FBSA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluoroheptanoic acid (PFHpA)	2.7	1.8	ng/L	1	PF-20	SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorooctanoic acid (PFOA)	6.4	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorooctanesulfonic acid (PFOS)	3.1	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB
Perfluorononanoic acid (PFNA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/8/22	12/14/22 18:21	RRB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 29 Mountain Princeton, MA

Sample Description:

Work Order: 22K3427

Date Received: 11/23/2022

Field Sample #: 29 Mountain FB

Sampled: 11/16/2022 11:30

Sample ID: 22K3427-02

Sample Matrix: Surface Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluoropentanoic acid (PFPeA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorohexanoic acid (PFHxA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorodecanoic acid (PFDA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorodecanesulfonic acid (PFDS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorooctanesulfonamide (FOSA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorononanesulfonic acid (PFNS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluoro-1-butanefulfonamide (FBSA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluoropentanesulfonic acid (PFPeS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluoroheptanoic acid (PFHpA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorooctanoic acid (PFOA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL
Perfluorononanoic acid (PFNA)	ND	1.8	ng/L	1		SOP-454 PFAS	12/2/22	12/5/22 16:48	DRL

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Sample Extraction Data

Prep Method: SOP 454-PFAAS Analytical Method: SOP-454 PFAS

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
22K3427-02 [29 Mountain FB]	B324370	274	1.00	12/02/22

Prep Method: SOP 454-PFAAS Analytical Method: SOP-454 PFAS

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
22K3427-01RE1 [29 Mountain SW]	B324974	272	1.00	12/08/22

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B324370 - SOP 454-PFAAS
Blank (B324370-BLK1)

Prepared: 12/02/22 Analyzed: 12/05/22

Perfluorobutanoic acid (PFBA)	ND	1.8	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	1.8	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.8	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	1.8	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.8	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	ng/L							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.8	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.8	ng/L							
Perfluorooctanesulfonamide (FOSA)	ND	1.8	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.8	ng/L							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.8	ng/L							
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.8	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	ng/L							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.8	ng/L							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.8	ng/L							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.8	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.8	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.8	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	ng/L							

LCS (B324370-BS1)

Prepared: 12/02/22 Analyzed: 12/05/22

Perfluorobutanoic acid (PFBA)	9.20	1.8	ng/L	9.06	102	73-129
Perfluorobutanesulfonic acid (PFBS)	8.02	1.8	ng/L	8.02	100	72-130
Perfluoropentanoic acid (PFPeA)	9.27	1.8	ng/L	9.06	102	72-129
Perfluorohexanoic acid (PFHxA)	9.19	1.8	ng/L	9.06	101	72-129
11Cl-PF3OUdS (F53B Major)	7.10	1.8	ng/L	8.54	83.2	55.1-141
9Cl-PF3ONS (F53B Minor)	7.39	1.8	ng/L	8.44	87.6	59.6-146
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.69	1.8	ng/L	8.54	90.0	60.3-131
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.61	1.8	ng/L	9.06	84.0	37.6-167
8:2 Fluorotelomersulfonic acid (8:2FTS A)	9.14	1.8	ng/L	8.70	105	67-138
Perfluorodecanoic acid (PFDA)	9.21	1.8	ng/L	9.06	102	71-129
Perfluorododecanoic acid (PFDoA)	9.45	1.8	ng/L	9.06	104	72-134
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	7.86	1.8	ng/L	8.06	97.5	49.4-154

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B324370 - SOP 454-PFAAS										
LCS (B324370-BS1)										
					Prepared: 12/02/22 Analyzed: 12/05/22					
Perfluoroheptanesulfonic acid (PFHpS)	9.52	1.8	ng/L	8.65		110	69-134			
N-EtFOSAA (NEtFOSAA)	12.2	1.8	ng/L	9.06		135	61-135			
N-MeFOSAA (NMeFOSAA)	11.7	1.8	ng/L	9.06		129	65-136			
Perfluorotetradecanoic acid (PFTA)	9.42	1.8	ng/L	9.06		104	71-132			
Perfluorotridecanoic acid (PFTTrDA)	9.58	1.8	ng/L	9.06		106	65-144			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	8.69	1.8	ng/L	8.47		103	63-143			
Perfluorodecanesulfonic acid (PFDS)	8.56	1.8	ng/L	8.74		98.0	53-142			
Perfluorooctanesulfonamide (FOSA)	9.50	1.8	ng/L	9.06		105	67-137			
Perfluorononanesulfonic acid (PFNS)	8.97	1.8	ng/L	8.70		103	69-127			
Perfluoro-1-hexanesulfonamide (FHxSA)	8.51	1.8	ng/L	9.06		94.0	61.7-156			
Perfluoro-1-butanefulfonamide (FBSA)	8.74	1.8	ng/L	9.06		96.4	61.3-145			
Perfluorohexanesulfonic acid (PFHxS)	7.86	1.8	ng/L	8.29		94.8	68-131			
Perfluoro-4-oxapentanoic acid (PFMPA)	10.2	1.8	ng/L	9.06		113	59.8-147			
Perfluoro-5-oxahexanoic acid (PFMBA)	9.34	1.8	ng/L	9.06		103	59.5-146			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.17	1.8	ng/L	8.61		107	64-140			
Perfluoropentanesulfonic acid (PFPeS)	8.33	1.8	ng/L	8.52		97.8	71-127			
Perfluoroundecanoic acid (PFUnA)	8.55	1.8	ng/L	9.06		94.4	69-133			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	9.08	1.8	ng/L	9.06		100	58.5-143			
Perfluoroheptanoic acid (PFHpA)	8.72	1.8	ng/L	9.06		96.3	72-130			
Perfluorooctanoic acid (PFOA)	9.40	1.8	ng/L	9.06		104	71-133			
Perfluorooctanesulfonic acid (PFOS)	8.47	1.8	ng/L	8.38		101	65-140			
Perfluorononanoic acid (PFNA)	9.78	1.8	ng/L	9.06		108	69-130			
LCS Dup (B324370-BSD1)										
					Prepared: 12/02/22 Analyzed: 12/05/22					
Perfluorobutanoic acid (PFBA)	8.55	1.8	ng/L	9.03		94.8	73-129	7.29	30	
Perfluorobutanesulfonic acid (PFBS)	7.27	1.8	ng/L	7.99		91.0	72-130	9.83	30	
Perfluoropentanoic acid (PFPeA)	8.69	1.8	ng/L	9.03		96.2	72-129	6.52	30	
Perfluorohexanoic acid (PFHxA)	8.56	1.8	ng/L	9.03		94.8	72-129	7.16	30	
11Cl-PF3OUdS (F53B Major)	6.73	1.8	ng/L	8.50		79.1	55.1-141	5.37	30	
9Cl-PF3ONS (F53B Minor)	6.72	1.8	ng/L	8.41		79.9	59.6-146	9.51	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.29	1.8	ng/L	8.50		85.7	60.3-131	5.29	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.49	1.8	ng/L	9.03		83.0	37.6-167	1.54	30	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	8.63	1.8	ng/L	8.67		99.6	67-138	5.65	30	
Perfluorodecanoic acid (PFDA)	8.89	1.8	ng/L	9.03		98.5	71-129	3.44	30	
Perfluorododecanoic acid (PFDoA)	9.52	1.8	ng/L	9.03		105	72-134	0.719	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	7.18	1.8	ng/L	8.03		89.3	49.4-154	9.10	30	
Perfluoroheptanesulfonic acid (PFHpS)	9.15	1.8	ng/L	8.62		106	69-134	3.94	30	
N-EtFOSAA (NEtFOSAA)	11.4	1.8	ng/L	9.03		126	61-135	7.32	30	
N-MeFOSAA (NMeFOSAA)	11.7	1.8	ng/L	9.03		129	65-136	0.243	30	
Perfluorotetradecanoic acid (PFTA)	8.74	1.8	ng/L	9.03		96.8	71-132	7.52	30	
Perfluorotridecanoic acid (PFTTrDA)	8.61	1.8	ng/L	9.03		95.4	65-144	10.7	30	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	7.70	1.8	ng/L	8.44		91.2	63-143	12.2	30	
Perfluorodecanesulfonic acid (PFDS)	7.64	1.8	ng/L	8.71		87.8	53-142	11.4	30	
Perfluorooctanesulfonamide (FOSA)	8.81	1.8	ng/L	9.03		97.7	67-137	7.54	30	
Perfluorononanesulfonic acid (PFNS)	8.94	1.8	ng/L	8.67		103	69-127	0.307	30	
Perfluoro-1-hexanesulfonamide (FHxSA)	7.81	1.8	ng/L	9.03		86.5	61.7-156	8.66	30	
Perfluoro-1-butanefulfonamide (FBSA)	7.81	1.8	ng/L	9.03		86.5	61.3-145	11.3	30	
Perfluorohexanesulfonic acid (PFHxS)	7.19	1.8	ng/L	8.26		87.0	68-131	8.88	30	
Perfluoro-4-oxapentanoic acid (PFMPA)	9.37	1.8	ng/L	9.03		104	59.8-147	8.82	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	8.72	1.8	ng/L	9.03		96.6	59.5-146	6.89	30	

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B324370 - SOP 454-PFAAS
LCS Dup (B324370-BSD1)

Prepared: 12/02/22 Analyzed: 12/05/22

6:2 Fluorotelomersulfonic acid (6:2FTS A)	8.02	1.8	ng/L	8.57		93.6	64-140	13.4	30	
Perfluoropentanesulfonic acid (PFPeS)	7.83	1.8	ng/L	8.48		92.3	71-127	6.23	30	
Perfluoroundecanoic acid (PFUnA)	8.12	1.8	ng/L	9.03		90.0	69-133	5.14	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.85	1.8	ng/L	9.03		98.1	58.5-143	2.57	30	
Perfluoroheptanoic acid (PFHpA)	8.23	1.8	ng/L	9.03		91.2	72-130	5.76	30	
Perfluorooctanoic acid (PFOA)	8.96	1.8	ng/L	9.03		99.3	71-133	4.76	30	
Perfluorooctanesulfonic acid (PFOS)	7.94	1.8	ng/L	8.35		95.1	65-140	6.49	30	
Perfluorononanoic acid (PFNA)	9.27	1.8	ng/L	9.03		103	69-130	5.30	30	

Batch B324974 - SOP 454-PFAAS
Blank (B324974-BLK1)

Prepared: 12/08/22 Analyzed: 12/14/22

Perfluorobutanoic acid (PFBA)	ND	1.9	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	1.9	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L							
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L							
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.9	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L							

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B324974 - SOP 454-PFAAS
LCS (B324974-BS1)

Prepared: 12/08/22 Analyzed: 12/14/22

Perfluorobutanoic acid (PFBA)	9.03	1.9	ng/L	9.40		96.1	73-129			
Perfluorobutanesulfonic acid (PFBS)	8.26	1.9	ng/L	8.32		99.4	72-130			
Perfluoropentanoic acid (PFPeA)	9.00	1.9	ng/L	9.40		95.8	72-129			
Perfluorohexanoic acid (PFHxA)	9.13	1.9	ng/L	9.40		97.1	72-129			
11Cl-PF3OUdS (F53B Major)	7.91	1.9	ng/L	8.85		89.4	55.1-141			
9Cl-PF3ONS (F53B Minor)	7.83	1.9	ng/L	8.76		89.4	59.6-146			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.04	1.9	ng/L	8.85		90.8	60.3-131			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	6.61	1.9	ng/L	9.40		70.3	37.6-167			
8:2 Fluorotelomersulfonic acid (8:2FTS A)	9.91	1.9	ng/L	9.02		110	67-138			
Perfluorodecanoic acid (PFDA)	11.0	1.9	ng/L	9.40		117	71-129			
Perfluorododecanoic acid (PFDoA)	10.1	1.9	ng/L	9.40		107	72-134			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	8.02	1.9	ng/L	8.36		95.9	49.4-154			
Perfluoroheptanesulfonic acid (PFHpS)	9.61	1.9	ng/L	8.98		107	69-134			
N-EtFOSAA (NEtFOSAA)	11.6	1.9	ng/L	9.40		124	61-135			
N-MeFOSAA (NMeFOSAA)	10.8	1.9	ng/L	9.40		115	65-136			
Perfluorotetradecanoic acid (PFTA)	9.80	1.9	ng/L	9.40		104	71-132			
Perfluorotridecanoic acid (PFTrDA)	9.96	1.9	ng/L	9.40		106	65-144			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	8.79	1.9	ng/L	8.79		100	63-143			
Perfluorodecanesulfonic acid (PFDS)	8.46	1.9	ng/L	9.07		93.3	53-142			
Perfluorooctanesulfonamide (FOSA)	10.0	1.9	ng/L	9.40		107	67-137			
Perfluorononanesulfonic acid (PFNS)	9.08	1.9	ng/L	9.02		101	69-127			
Perfluoro-1-hexanesulfonamide (FHxSA)	9.29	1.9	ng/L	9.40		98.9	61.7-156			
Perfluoro-1-butanefulfonamide (FBSA)	9.03	1.9	ng/L	9.40		96.1	61.3-145			
Perfluorohexanesulfonic acid (PFHxS)	8.06	1.9	ng/L	8.60		93.8	68-131			
Perfluoro-4-oxapentanoic acid (PFMPA)	8.82	1.9	ng/L	9.40		93.8	59.8-147			
Perfluoro-5-oxahexanoic acid (PFMBA)	9.19	1.9	ng/L	9.40		97.7	59.5-146			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.58	1.9	ng/L	8.93		107	64-140			
Perfluoropentanesulfonic acid (PFPeS)	8.38	1.9	ng/L	8.83		94.9	71-127			
Perfluoroundecanoic acid (PFUnA)	10.9	1.9	ng/L	9.40		116	69-133			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	9.96	1.9	ng/L	9.40		106	58.5-143			
Perfluoroheptanoic acid (PFHpA)	9.37	1.9	ng/L	9.40		99.7	72-130			
Perfluorooctanoic acid (PFOA)	9.32	1.9	ng/L	9.40		99.2	71-133			
Perfluorooctanesulfonic acid (PFOS)	8.87	1.9	ng/L	8.69		102	65-140			
Perfluorononanoic acid (PFNA)	9.59	1.9	ng/L	9.40		102	69-130			

Reference (B324974-SRM1)

Prepared: 12/08/22 Analyzed: 12/14/22

Perfluorobutanoic acid (PFBA)	ND	1.9	ng/L	9.57			0-200			
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	8.47			0-200			
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	9.57			0-200			
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	9.57			0-200			
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	9.01			0-200			
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	8.92			0-200			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	9.01			0-200			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	9.57			0-200			
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L	9.19			0-200			
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	9.57			0-200			
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	9.57			0-200			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	1.9	ng/L	8.52			0-200			

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B324974 - SOP 454-PFAAS
Reference (B324974-SRM1)

Prepared: 12/08/22 Analyzed: 12/14/22

Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L	9.14			0-200			
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	9.57			0-200			
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	9.57			0-200			
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	9.57			0-200			
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L	9.57			0-200			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L	8.95			0-200			
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L	9.23			0-200			
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L	9.57			0-200			
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L	9.19			0-200			
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L	9.57			0-200			
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.9	ng/L	9.57			0-200			
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L	8.76			0-200			
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L	9.57			0-200			
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L	9.57			0-200			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L	9.09			0-200			
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L	8.99			0-200			
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	9.57			0-200			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	9.57			0-200			
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	9.57			0-200			
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	9.57			0-200			
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L	8.85			0-200			
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	9.57			0-200			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
PF-17	Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.
PF-18	Duplicate analysis confirmed Extracted Internal Standard failure due to matrix effects.
PF-20	Quantifying ion signal to noise ratio is <10. Detection is suspect.
S-29	Extracted Internal Standard is outside of control limits.

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
29 Mountain SW (22K3427-01RE1)			Lab File ID: 22K3427-01RE1.d			Analyzed: 12/14/22 18:21			
M8FOSA	77993.2	3.9486	236,835.00	3.9486	33	50 - 150	0.0000	+/-0.50	*
M2-4:2FTS	153806.1	2.472183	127,593.00	2.4804	121	50 - 150	-0.0082	+/-0.50	
M2PF _T A	54021.79	4.297266	883,350.00	4.297266	06	50 - 150	0.0000	+/-0.50	*
M2-8:2FTS	151075.9	3.76295	106,068.00	3.76295	142	50 - 150	0.0000	+/-0.50	
MPFBA	147604.6	1.025233	405,224.00	1.033533	36	50 - 150	-0.0083	+/-0.50	*
M3HFPO-DA	72245.05	2.81475	94,452.00	2.822933	76	50 - 150	-0.0082	+/-0.50	
M6PFDA	363945.3	3.763483	509,721.00	3.763467	71	50 - 150	0.0000	+/-0.50	
M3PFBS	82487.02	1.8701	114,251.00	1.878383	72	50 - 150	-0.0083	+/-0.50	
M7PF _U nA	365538.6	3.906067	559,117.00	3.914067	65	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	201753	3.4044	112,597.00	3.4044	179	50 - 150	0.0000	+/-0.50	*
M5PF _P eA	238439.9	1.690017	386,004.00	1.698283	62	50 - 150	-0.0083	+/-0.50	
M5PF _H xA	474832.1	2.564133	652,040.00	2.572333	73	50 - 150	-0.0082	+/-0.50	
M3PF _H xS	61257.48	3.177667	82,239.00	3.17765	74	50 - 150	0.0000	+/-0.50	
M4PF _H pA	515441.2	3.138483	675,794.00	3.14655	76	50 - 150	-0.0081	+/-0.50	
M8PFOA	468568.6	3.413117	614,656.00	3.413117	76	50 - 150	0.0000	+/-0.50	
M8PFOS	58022.13	3.60425	91,052.00	3.60425	64	50 - 150	0.0000	+/-0.50	
M9PFNA	359164.3	3.605283	493,594.00	3.605283	73	50 - 150	0.0000	+/-0.50	
MPF _D oA	220034.8	4.048683	536,571.00	4.048683	41	50 - 150	0.0000	+/-0.50	*
D5-NEtFOSAA	110704.9	3.913533	158,959.00	3.913533	70	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	134898.3	3.833783	191,022.00	3.841733	71	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
29 Mountain FB (22K3427-02)			Lab File ID: 22K3427-02.d			Analyzed: 12/05/22 16:48			
M8FOSA	217236.5	3.980583	328,777.00	3.980583	66	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	72522.84	2.45575	118,454.00	2.463967	61	50 - 150	-0.0082	+/-0.50	
M2PF _T A	739501.9	4.30535	1,275,309.00	4.30535	58	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	137316.6	3.794833	176,770.00	3.794833	78	50 - 150	0.0000	+/-0.50	
MPFBA	470869.3	1.075083	469,380.00	1.0834	100	50 - 150	-0.0083	+/-0.50	
M3HFPO-DA	113973.3	2.798383	105,635.00	2.798383	108	50 - 150	0.0000	+/-0.50	
M6PFDA	553592.2	3.79535	653,600.00	3.79535	85	50 - 150	0.0000	+/-0.50	
M3PFBS	94976.63	1.8701	112,282.00	1.878383	85	50 - 150	-0.0083	+/-0.50	
M7PFUnA	650216.9	3.93005	827,929.00	3.93005	79	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	49082.46	3.4373	87,961.00	3.4373	56	50 - 150	0.0000	+/-0.50	
M5PFPeA	374053.3	1.706567	374,746.00	1.706567	100	50 - 150	0.0000	+/-0.50	
M5PFHxA	657801.7	2.539483	703,561.00	2.539483	93	50 - 150	0.0000	+/-0.50	
M3PFHxS	81120.66	3.201883	115,565.00	3.201883	70	50 - 150	0.0000	+/-0.50	
M4PFHpA	721559	3.1627	834,907.00	3.1627	86	50 - 150	0.0000	+/-0.50	
M8PFOA	656563.1	3.445833	797,590.00	3.445833	82	50 - 150	0.0000	+/-0.50	
M8PFOS	73977.72	3.644167	115,731.00	3.644167	64	50 - 150	0.0000	+/-0.50	
M9PFNA	494739.3	3.637233	649,290.00	3.645217	76	50 - 150	-0.0080	+/-0.50	
MPFDoA	629207.1	4.064683	872,754.00	4.064667	72	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	160419.4	3.937517	240,658.00	3.937517	67	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	206227.7	3.865617	279,181.00	3.865617	74	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B324370-BLK1)			Lab File ID: B324370-BLK1.d			Analyzed: 12/05/22 15:43			
M8FOSA	310985.7	3.980567	328,777.00	3.980583	95	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	115180.4	2.463967	118,454.00	2.463967	97	50 - 150	0.0000	+/-0.50	
M2PFTA	1206134	4.30535	1,275,309.00	4.30535	95	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	199832	3.794833	176,770.00	3.794833	113	50 - 150	0.0000	+/-0.50	
MPFBA	631117.1	1.0834	469,380.00	1.0834	134	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	134652.7	2.798383	105,635.00	2.798383	127	50 - 150	0.0000	+/-0.50	
M6PFDA	837039.7	3.79535	653,600.00	3.79535	128	50 - 150	0.0000	+/-0.50	
M3PFBS	128934	1.878383	112,282.00	1.878383	115	50 - 150	0.0000	+/-0.50	
M7PFUnA	881590.8	3.938033	827,929.00	3.93005	106	50 - 150	0.0080	+/-0.50	
M2-6:2FTS	81530.37	3.4373	87,961.00	3.4373	93	50 - 150	0.0000	+/-0.50	
M5PFPeA	486873.7	1.706567	374,746.00	1.706567	130	50 - 150	0.0000	+/-0.50	
M5PFHxA	879304.4	2.5477	703,561.00	2.539483	125	50 - 150	0.0082	+/-0.50	
M3PFHxS	125807	3.201883	115,565.00	3.201883	109	50 - 150	0.0000	+/-0.50	
M4PFHpA	1054624	3.1627	834,907.00	3.1627	126	50 - 150	0.0000	+/-0.50	
M8PFOA	969728.8	3.453817	797,590.00	3.445833	122	50 - 150	0.0080	+/-0.50	
M8PFOS	124431.9	3.644167	115,731.00	3.644167	108	50 - 150	0.0000	+/-0.50	
M9PFNA	742779	3.6452	649,290.00	3.645217	114	50 - 150	0.0000	+/-0.50	
MPFDoA	884739.4	4.064667	872,754.00	4.064667	101	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	218662.5	3.937517	240,658.00	3.937517	91	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	286501.8	3.865617	279,181.00	3.865617	103	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B324370-BS1)			Lab File ID: B324370-BS1.d			Analyzed: 12/05/22 15:29			
M8FOSA	264037.4	3.980567	328,777.00	3.980583	80	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	93752.38	2.463967	118,454.00	2.463967	79	50 - 150	0.0000	+/-0.50	
M2PFTA	976745.1	4.30535	1,275,309.00	4.30535	77	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	159196.1	3.794833	176,770.00	3.794833	90	50 - 150	0.0000	+/-0.50	
MPFBA	526353.9	1.0834	469,380.00	1.0834	112	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	112703.5	2.798383	105,635.00	2.798383	107	50 - 150	0.0000	+/-0.50	
M6PFDA	699586.8	3.79535	653,600.00	3.79535	107	50 - 150	0.0000	+/-0.50	
M3PFBS	111475.1	1.878383	112,282.00	1.878383	99	50 - 150	0.0000	+/-0.50	
M7PFUnA	747484.4	3.938033	827,929.00	3.93005	90	50 - 150	0.0080	+/-0.50	
M2-6:2FTS	62431.9	3.4373	87,961.00	3.4373	71	50 - 150	0.0000	+/-0.50	
M5PFPeA	407777.9	1.706567	374,746.00	1.706567	109	50 - 150	0.0000	+/-0.50	
M5PFHxA	730738.3	2.539483	703,561.00	2.539483	104	50 - 150	0.0000	+/-0.50	
M3PFHxS	104167.3	3.201883	115,565.00	3.201883	90	50 - 150	0.0000	+/-0.50	
M4PFHpA	848171.1	3.1627	834,907.00	3.1627	102	50 - 150	0.0000	+/-0.50	
M8PFOA	809529.9	3.453817	797,590.00	3.445833	101	50 - 150	0.0080	+/-0.50	
M8PFOS	102378	3.644167	115,731.00	3.644167	88	50 - 150	0.0000	+/-0.50	
M9PFNA	586996.4	3.6452	649,290.00	3.645217	90	50 - 150	0.0000	+/-0.50	
MPFDoA	726583.4	4.064667	872,754.00	4.064667	83	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	173416.3	3.937517	240,658.00	3.937517	72	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	229520	3.865617	279,181.00	3.865617	82	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS Dup (B324370-BSD1)			Lab File ID: B324370-BSD1.d			Analyzed: 12/05/22 15:36			
M8FOSA	255182.8	3.9806	328,777.00	3.980583	78	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	99180	2.463967	118,454.00	2.463967	84	50 - 150	0.0000	+/-0.50	
M2PF _T A	985978	4.305367	1,275,309.00	4.30535	77	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	164204.8	3.794833	176,770.00	3.794833	93	50 - 150	0.0000	+/-0.50	
MPFBA	547577.6	1.075083	469,380.00	1.0834	117	50 - 150	-0.0083	+/-0.50	
M3HFPO-DA	126877.7	2.798383	105,635.00	2.798383	120	50 - 150	0.0000	+/-0.50	
M6PFDA	670374.9	3.79535	653,600.00	3.79535	103	50 - 150	0.0000	+/-0.50	
M3PFBS	119042.7	1.878383	112,282.00	1.878383	106	50 - 150	0.0000	+/-0.50	
M7PFUnA	727880.3	3.930067	827,929.00	3.93005	88	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	69713.77	3.4373	87,961.00	3.4373	79	50 - 150	0.0000	+/-0.50	
M5PFPeA	419949.9	1.706567	374,746.00	1.706567	112	50 - 150	0.0000	+/-0.50	
M5PFHxA	747879.9	2.5477	703,561.00	2.539483	106	50 - 150	0.0082	+/-0.50	
M3PFHxS	108306.7	3.201883	115,565.00	3.201883	94	50 - 150	0.0000	+/-0.50	
M4PFHpA	890281.2	3.1627	834,907.00	3.1627	107	50 - 150	0.0000	+/-0.50	
M8PFOA	811036.8	3.453817	797,590.00	3.445833	102	50 - 150	0.0080	+/-0.50	
M8PFOS	106128.9	3.644183	115,731.00	3.644167	92	50 - 150	0.0000	+/-0.50	
M9PFNA	602518.4	3.645217	649,290.00	3.645217	93	50 - 150	0.0000	+/-0.50	
MPFDoA	680162.9	4.064683	872,754.00	4.064667	78	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	171862.1	3.937533	240,658.00	3.937517	71	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	224677.2	3.865633	279,181.00	3.865617	80	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B324974-BLK1)			Lab File ID: B324974-BLK1.d			Analyzed: 12/14/22 17:38			
M8FOSA	178603.2	3.9486	236,835.00	3.9486	75	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	120497.1	2.4804	127,593.00	2.4804	94	50 - 150	0.0000	+/-0.50	
M2PFTA	622613.7	4.297266	883,350.00	4.297266	70	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	119923.8	3.76295	106,068.00	3.76295	113	50 - 150	0.0000	+/-0.50	
MPFBA	382906.4	1.033533	405,224.00	1.033533	94	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	129051	2.81475	94,452.00	2.822933	137	50 - 150	-0.0082	+/-0.50	
M6PFDA	456965.5	3.763467	509,721.00	3.763467	90	50 - 150	0.0000	+/-0.50	
M3PFBS	102058	1.878383	114,251.00	1.878383	89	50 - 150	0.0000	+/-0.50	
M7PFUnA	464099.8	3.91405	559,117.00	3.914067	83	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	125889.5	3.4044	112,597.00	3.4044	112	50 - 150	0.0000	+/-0.50	
M5PFPeA	361695.2	1.698283	386,004.00	1.698283	94	50 - 150	0.0000	+/-0.50	
M5PFHxA	572924.7	2.572333	652,040.00	2.572333	88	50 - 150	0.0000	+/-0.50	
M3PFHxS	77944.23	3.17765	82,239.00	3.17765	95	50 - 150	0.0000	+/-0.50	
M4PFHpA	617187.6	3.14655	675,794.00	3.14655	91	50 - 150	0.0000	+/-0.50	
M8PFOA	569905.4	3.421167	614,656.00	3.413117	93	50 - 150	0.0080	+/-0.50	
M8PFOS	75449.61	3.60425	91,052.00	3.60425	83	50 - 150	0.0000	+/-0.50	
M9PFNA	447764.5	3.605283	493,594.00	3.605283	91	50 - 150	0.0000	+/-0.50	
MPFDoA	439954	4.048683	536,571.00	4.048683	82	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	125386.5	3.913533	158,959.00	3.913533	79	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	171857.7	3.841733	191,022.00	3.841733	90	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B324974-BS1)			Lab File ID: B324974-BS1.d			Analyzed: 12/14/22 17:31			
M8FOSA	168533.4	3.9486	236,835.00	3.9486	71	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	116948.4	2.4804	127,593.00	2.4804	92	50 - 150	0.0000	+/-0.50	
M2PFTA	605126.2	4.297266	883,350.00	4.297266	69	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	108526.3	3.76295	106,068.00	3.76295	102	50 - 150	0.0000	+/-0.50	
MPFBA	380378.5	1.033533	405,224.00	1.033533	94	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	113819.7	2.822933	94,452.00	2.822933	121	50 - 150	0.0000	+/-0.50	
M6PFDA	421568.2	3.763467	509,721.00	3.763467	83	50 - 150	0.0000	+/-0.50	
M3PFBS	99494.78	1.878383	114,251.00	1.878383	87	50 - 150	0.0000	+/-0.50	
M7PFUnA	438575.6	3.914067	559,117.00	3.914067	78	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	115295.6	3.4044	112,597.00	3.4044	102	50 - 150	0.0000	+/-0.50	
M5PFPeA	362890.8	1.698283	386,004.00	1.698283	94	50 - 150	0.0000	+/-0.50	
M5PFHxA	566883.9	2.572333	652,040.00	2.572333	87	50 - 150	0.0000	+/-0.50	
M3PFHxS	71112.02	3.177667	82,239.00	3.17765	86	50 - 150	0.0000	+/-0.50	
M4PFHpA	607406.6	3.14655	675,794.00	3.14655	90	50 - 150	0.0000	+/-0.50	
M8PFOA	555448.5	3.421167	614,656.00	3.413117	90	50 - 150	0.0080	+/-0.50	
M8PFOS	72765.86	3.60425	91,052.00	3.60425	80	50 - 150	0.0000	+/-0.50	
M9PFNA	443238.2	3.605283	493,594.00	3.605283	90	50 - 150	0.0000	+/-0.50	
MPFDoA	409943.4	4.048683	536,571.00	4.048683	76	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	115016.8	3.921533	158,959.00	3.913533	72	50 - 150	0.0080	+/-0.50	
D3-NMeFOSAA	156910.3	3.841733	191,022.00	3.841733	82	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Reference (B324974-SRM1)			Lab File ID: B324974-SRM1.d			Analyzed: 12/14/22 18:00			
M8FOSA	186242.4	3.9486	236,835.00	3.9486	79	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	102990.2	2.480383	127,593.00	2.4804	81	50 - 150	0.0000	+/-0.50	
M2PFTA	582191.3	4.297266	883,350.00	4.297266	66	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	103948.4	3.76295	106,068.00	3.76295	98	50 - 150	0.0000	+/-0.50	
MPFBA	385235.8	1.033533	405,224.00	1.033533	95	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	110374.1	2.81475	94,452.00	2.822933	117	50 - 150	-0.0082	+/-0.50	
M6PFDA	456578.3	3.763467	509,721.00	3.763467	90	50 - 150	0.0000	+/-0.50	
M3PFBS	105543.8	1.878383	114,251.00	1.878383	92	50 - 150	0.0000	+/-0.50	
M7PFUnA	447936.1	3.91405	559,117.00	3.914067	80	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	108753.6	3.4044	112,597.00	3.4044	97	50 - 150	0.0000	+/-0.50	
M5PFPeA	369343.1	1.698283	386,004.00	1.698283	96	50 - 150	0.0000	+/-0.50	
M5PFHxA	591611.8	2.572333	652,040.00	2.572333	91	50 - 150	0.0000	+/-0.50	
M3PFHxS	77288.45	3.17765	82,239.00	3.17765	94	50 - 150	0.0000	+/-0.50	
M4PFHpA	617790.6	3.14655	675,794.00	3.14655	91	50 - 150	0.0000	+/-0.50	
M8PFOA	557926.1	3.421167	614,656.00	3.413117	91	50 - 150	0.0080	+/-0.50	
M8PFOS	77623.47	3.604233	91,052.00	3.60425	85	50 - 150	0.0000	+/-0.50	
M9PFNA	435931.5	3.605283	493,594.00	3.605283	88	50 - 150	0.0000	+/-0.50	
MPFDoA	410163	4.048683	536,571.00	4.048683	76	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	116449.2	3.913533	158,959.00	3.913533	73	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	158704.1	3.841733	191,022.00	3.841733	83	50 - 150	0.0000	+/-0.50	

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>SOP-454 PFAS in Water</i>	
Perfluorobutanoic acid (PFBA)	NH-P
Perfluorobutanesulfonic acid (PFBS)	NH-P
Perfluoropentanoic acid (PFPeA)	NH-P
Perfluorohexanoic acid (PFHxA)	NH-P
11Cl-PF3OUdS (F53B Major)	NH-P
9Cl-PF3ONS (F53B Minor)	NH-P
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P
Perfluorodecanoic acid (PFDA)	NH-P
Perfluorododecanoic acid (PFDoA)	NH-P
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	NH-P
Perfluoroheptanesulfonic acid (PFHpS)	NH-P
N-EtFOSAA (NEtFOSAA)	NH-P
N-MeFOSAA (NMeFOSAA)	NH-P
Perfluorotetradecanoic acid (PFTA)	NH-P
Perfluorotridecanoic acid (PFTrDA)	NH-P
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P
Perfluorodecanesulfonic acid (PFDS)	NH-P
Perfluorooctanesulfonamide (FOSA)	NH-P
Perfluorononanesulfonic acid (PFNS)	NH-P
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P
Perfluoro-1-butanesulfonamide (FBSA)	NH-P
Perfluorohexanesulfonic acid (PFHxS)	NH-P
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P
Perfluoropetanesulfonic acid (PFPeS)	NH-P
Perfluoroundecanoic acid (PFUnA)	NH-P
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P
Perfluoroheptanoic acid (PFHpA)	NH-P
Perfluorooctanoic acid (PFOA)	NH-P
Perfluorooctanesulfonic acid (PFOS)	NH-P
Perfluorononanoic acid (PFNA)	NH-P

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2023

22K3427

Doc # 381 Rev 2_06262019

Page 1 of 1

http://www.contestlabs.com

Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com



39 Spruce Street
 East Longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

Requested Parameters		7-Day PFAS 10-Day (std)	10-Day	Due Date:	Field Filtered	Lab to Filter					
1-Day	2-Day	3-Day	4-Day	Field Filtered	Lab to Filter						
Format: <input type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/>											
CLP Like Data Pkg Required: <input type="checkbox"/>											
Email To: _____ Fax To #: _____											
Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Comp/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
2	29 MOUNTAIN SW	11/16/12	1130	GRAB	DW	U	2				
	29 MOUNTAIN FB	11/16/12	1130				1				
Client Comments: _____											
Relinquished by: (signature)	Date/Time:	11/21/12	1024								
Received by: (signature)	Date/Time:	11-23-2012	1337								
Relinquished by: (signature)	Date/Time:	11-23-2012	1147								
Received by: (signature)	Date/Time:	11/23/12	1743								
Relinquished by: (signature)	Date/Time:										
Received by: (signature)	Date/Time:										
Relinquished by: (signature)	Date/Time:										
Received by: (signature)	Date/Time:										

ANALYSIS REQUESTED

7 Preservation Code	Concave Uses Only
Total Number Of:	VIALS _____
	GLASS _____
	PLASTIC _____
	BACTERIA _____
	ENCORE _____
Glassware in the fridge?	Y / N
Glassware in freezer?	Y / N
Prepackaged Cooler?	Y / N
*Contest is not responsible for missing samples from prepacked coolers	
1 Matrix Codes:	
GW = Ground Water	
WW = Waste Water	
DW = Drinking Water	
A = Air	
S = Soil	
SL = Sludge	
SOL = Solid	
O = Other (please define)	
2 Preservation Codes:	
I = Iced	
H = HCL	
M = Methanol	
N = Nitric Acid	
S = Sulfuric Acid	
B = Sodium Bisulfate	
X = Sodium Hydroxide	
T = Sodium Thiosulfate	
O = Other (please define)	

MA MCP Required MA MCP Form Required
 MCP Certification Form Required CT MCP Required
 RCP Certification Form Required MA State DW Required
 PWSID # _____

Project Entity: Government Municipality WRTA Other
 Federal 21 J School Chromatogram
 City Brownfield MBTA ALPHA-LAP, LLC Non Soxhlet

PCB ONLY

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Pace PEOPLE ADVANCING SCIENCE
 Doc# 277 Rev 6 July 2022

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client T+B
 Received By MW Date 7/23/22 Time 1743
 How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____
 Were samples within Temperature? Within 2-6°C _____ Direct From Sample _____ Ambient _____ Melted Ice _____
 By Gun # 3 Actual Temp - 4.1
 By Blank # _____ Actual Temp - _____
 Was Custody Seal in tact? T Were Samples Tampered with? NA
 Was COC Relinquished? F Does Chain Agree With Samples? T
 Are there broken/leaking/loose caps on any samples? F
 Is COC in ink/ Legible? T Were samples received within holding time? _____
 Did COC include all pertinent information? Client? T Analysis? T Sampler Name? _____
 Project? T ID's? T Collection Dates/Times? _____
 Are Sample labels filled out and legible? T
 Are there Lab to Filters? F Who was notified? _____
 Are there Rushes? F Who was notified? _____
 Are there Short Holds? F Who was notified? _____
 Samples are received within holding time? T Is there enough Volume? T
 Is there Headspace where applicable? NA MS/MSD? F
 Proper Media/Containers Used? T splitting samples required? F
 Were trip blanks receive F On COC? F
 Do All Samples Have the proper pH? NA Acid NA Base NA

Vials	#	Containers	#		#	
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	<u>3</u>	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Unused Media

Vials	#	Containers	#		#	
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:

July 18, 2023

Michael Scherer
Tighe & Bond, Inc. - Worcester
120 Front St.
Worcester, MA 01608-2303

Project Location: 18 Mountain Road, Princeton, MA
Client Job Number:
Project Number: P-0534
Laboratory Work Order Number: 23G1778

Enclosed are results of analyses for samples as received by the laboratory on July 13, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Raymond J. McCarthy
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Tighe & Bond, Inc. - Worcester
 120 Front St.
 Worcester, MA 01608-2303
 ATTN: Michael Scherer

REPORT DATE: 7/18/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P-0534

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23G1778

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 18 Mountain Road, Princeton, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
18MTN S-1A (6-12)	23G1778-01	Soil		SM 2540G SOP-466 PFAS	
18MTN S-5A (6-12)	23G1778-02	Soil		SM 2540G SOP-466 PFAS	
18MTN S-5A (12-24)	23G1778-03	Soil		SM 2540G SOP-466 PFAS	
18 MTN S-7 (0-24)	23G1778-04	Soil		SM 2540G SOP-466 PFAS	
18 MTN S-7 (24-36)	23G1778-05	Soil		SM 2540G SOP-466 PFAS	
18 MTN S-8 (0-24)	23G1778-06	Soil		SM 2540G SOP-466 PFAS	
18 MTN S-8 (24-36)	23G1778-07	Soil		SM 2540G SOP-466 PFAS	
Trip Blank	23G1778-08	Water		SOP-454 PFAS	
Field Blank	23G1778-09	Water		SOP-454 PFAS	
EQ Blank	23G1778-10	Water		SOP-454 PFAS	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SOP-454 PFAS

Qualifications:

L-01

Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

N-EtFOSAA (NEtFOSAA)

B346072-BSD1

N-MeFOSAA (NMeFOSAA)

B346072-BSD1

SOP-466 PFAS

Qualifications:

S-29

Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

D3-NMeFOSAA

23G1778-02[18MTN S-5A (6-12)]

D5-NEtFOSAA

23G1778-02[18MTN S-5A (6-12)]

M2PFTA

23G1778-02[18MTN S-5A (6-12)]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18MTN S-1A (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorodecanoic acid (PFDA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorooctanoic acid (PFOA)	1.1	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorooctanesulfonic acid (PFOS)	1.4	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW
Perfluorononanoic acid (PFNA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:15	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18MTN S-1A (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.1		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18MTN S-5A (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorodecanoic acid (PFDA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorooctanoic acid (PFOA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW
Perfluorononanoic acid (PFNA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 14:22	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18MTN S-5A (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	76.5		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18MTN S-5A (12-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-03

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorodecanoic acid (PFDA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorooctanoic acid (PFOA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorooctanesulfonic acid (PFOS)	1.4	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW
Perfluorononanoic acid (PFNA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:30	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18MTN S-5A (12-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.6		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample # 18 MTN S-7 (0-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorodecanoic acid (PFDA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorooctanoic acid (PFOA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW
Perfluorononanoic acid (PFNA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:37	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18 MTN S-7 (0-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.1		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18 MTN S-7 (24-36)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorodecanoic acid (PFDA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorooctanoic acid (PFOA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW
Perfluorononanoic acid (PFNA)	ND	0.46	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:44	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18 MTN S-7 (24-36)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.1		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18 MTN S-8 (0-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-06

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorodecanoic acid (PFDA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorooctanoic acid (PFOA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW
Perfluorononanoic acid (PFNA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:51	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18 MTN S-8 (0-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.4		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: 18 MTN S-8 (24-36)

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorodecanoic acid (PFDA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorooctanoic acid (PFOA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW
Perfluorononanoic acid (PFNA)	ND	0.47	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 10:59	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

 Field Sample #: **18 MTN S-8 (24-36)**

Sampled: 7/11/2023 00:00

 Sample ID: **23G1778-07**

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.6		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: Trip Blank

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-08

Sample Matrix: Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluoropentanoic acid (PFPeA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorohexanoic acid (PFHxA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorodecanoic acid (PFDA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorotridecanoic acid (PFTTrDA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorooctanesulfonamide (FOSA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorononanesulfonic acid (PFNS)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluoroheptanoic acid (PFHpA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorooctanoic acid (PFOA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW
Perfluorononanoic acid (PFNA)	ND	1.8	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:26	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: Field Blank

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-09

Sample Matrix: Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorotridecanoic acid (PFTTrDA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:33	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1778

Date Received: 7/13/2023

Field Sample #: EQ Blank

Sampled: 7/11/2023 00:00

Sample ID: 23G1778-10

Sample Matrix: Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorotridecanoic acid (PFTTrDA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		SOP-454 PFAS	7/17/23	7/18/23 12:40	QNW

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Sample Extraction Data
Prep Method:% Solids Analytical Method:SM 2540G

Lab Number [Field ID]	Batch	Date
23G1778-01 [18MTN S-1A (6-12)]	B346112	07/17/23
23G1778-02 [18MTN S-5A (6-12)]	B346112	07/17/23
23G1778-03 [18MTN S-5A (12-24)]	B346112	07/17/23
23G1778-04 [18 MTN S-7 (0-24)]	B346112	07/17/23
23G1778-05 [18 MTN S-7 (24-36)]	B346112	07/17/23
23G1778-06 [18 MTN S-8 (0-24)]	B346112	07/17/23
23G1778-07 [18 MTN S-7 (24-36)]	B346112	07/17/23

Prep Method:SOP 454-PFAAS Analytical Method:SOP-454 PFAS

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23G1778-08 [Trip Blank]	B346072	277	1.00	07/17/23
23G1778-09 [Field Blank]	B346072	263	1.00	07/17/23
23G1778-10 [EQ Blank]	B346072	266	1.00	07/17/23

Prep Method:SOP 466-PFAAS Analytical Method:SOP-466 PFAS

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23G1778-01 [18MTN S-1A (6-12)]	B346073	5.86	5.00	07/17/23
23G1778-02 [18MTN S-5A (6-12)]	B346073	5.82	5.00	07/17/23
23G1778-03 [18MTN S-5A (12-24)]	B346073	5.64	5.00	07/17/23
23G1778-04 [18 MTN S-7 (0-24)]	B346073	5.76	5.00	07/17/23
23G1778-05 [18 MTN S-7 (24-36)]	B346073	5.87	5.00	07/17/23
23G1778-06 [18 MTN S-8 (0-24)]	B346073	5.65	5.00	07/17/23
23G1778-07 [18 MTN S-7 (24-36)]	B346073	5.86	5.00	07/17/23

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B346072 - SOP 454-PFAAS
Blank (B346072-BLK1)

Prepared: 07/17/23 Analyzed: 07/18/23

Perfluorobutanoic acid (PFBA)	ND	1.9	ng/L
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	1.9	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.9	ng/L
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L

LCS (B346072-BS1)

Prepared: 07/17/23 Analyzed: 07/18/23

Perfluorobutanoic acid (PFBA)	9.99	1.9	ng/L	9.75	103	73-129
Perfluorobutanesulfonic acid (PFBS)	8.54	1.9	ng/L	8.63	99.0	72-130
Perfluoropentanoic acid (PFPeA)	9.99	1.9	ng/L	9.75	103	72-129
Perfluorohexanoic acid (PFHxA)	10.0	1.9	ng/L	9.75	103	72-129
11Cl-PF3OUdS (F53B Major)	8.25	1.9	ng/L	9.18	89.8	55.1-141
9Cl-PF3ONS (F53B Minor)	9.55	1.9	ng/L	9.08	105	59.6-146
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	10.1	1.9	ng/L	9.18	110	60.3-131
Hexafluoropropylene oxide dimer acid (HFPO-DA)	10.8	1.9	ng/L	9.75	111	37.6-167
8:2 Fluorotelomersulfonic acid (8:2FTS A)	10.8	1.9	ng/L	9.36	115	67-138
Perfluorodecanoic acid (PFDA)	10.8	1.9	ng/L	9.75	111	71-129
Perfluorododecanoic acid (PFDoA)	10.6	1.9	ng/L	9.75	109	72-134
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	9.27	1.9	ng/L	8.67	107	49.4-154

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B346072 - SOP 454-PFAAS										
LCS (B346072-BS1)										
					Prepared: 07/17/23 Analyzed: 07/18/23					
Perfluoroheptanesulfonic acid (PFHpS)	8.78	1.9	ng/L	9.31		94.3	69-134			
N-EtFOSAA (NEtFOSAA)	12.2	1.9	ng/L	9.75		125	61-135			
N-MeFOSAA (NMeFOSAA)	11.7	1.9	ng/L	9.75		120	65-136			
Perfluorotetradecanoic acid (PFTA)	11.9	1.9	ng/L	9.75		122	71-132			
Perfluorotridecanoic acid (PFTTrDA)	12.3	1.9	ng/L	9.75		127	65-144			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	9.16	1.9	ng/L	9.11		101	63-143			
Perfluorodecanesulfonic acid (PFDS)	7.80	1.9	ng/L	9.40		82.9	53-142			
Perfluorooctanesulfonamide (FOSA)	11.3	1.9	ng/L	9.75		116	67-137			
Perfluorononanesulfonic acid (PFNS)	8.71	1.9	ng/L	9.36		93.1	69-127			
Perfluoro-1-hexanesulfonamide (FHxSA)	10.4	1.9	ng/L	9.75		106	61.7-156			
Perfluoro-1-butanefulfonamide (FBSA)	9.82	1.9	ng/L	9.75		101	61.3-145			
Perfluorohexanesulfonic acid (PFHxS)	9.59	1.9	ng/L	8.92		108	68-131			
Perfluoro-4-oxapentanoic acid (PFMPA)	10.9	1.9	ng/L	9.75		111	59.8-147			
Perfluoro-5-oxahexanoic acid (PFMBA)	10.9	1.9	ng/L	9.75		112	59.5-146			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.19	1.9	ng/L	9.26		99.2	64-140			
Perfluoropentanesulfonic acid (PFPeS)	9.67	1.9	ng/L	9.16		106	71-127			
Perfluoroundecanoic acid (PFUnA)	10.9	1.9	ng/L	9.75		111	69-133			
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	10.7	1.9	ng/L	9.75		110	58.5-143			
Perfluoroheptanoic acid (PFHpA)	10.4	1.9	ng/L	9.75		107	72-130			
Perfluorooctanoic acid (PFOA)	10.1	1.9	ng/L	9.75		103	71-133			
Perfluorooctanesulfonic acid (PFOS)	9.45	1.9	ng/L	9.01		105	65-140			
Perfluorononanoic acid (PFNA)	10.4	1.9	ng/L	9.75		107	69-130			
LCS Dup (B346072-BS1)										
					Prepared: 07/17/23 Analyzed: 07/18/23					
Perfluorobutanoic acid (PFBA)	10.6	1.9	ng/L	9.39		112	73-129	5.56	30	
Perfluorobutanesulfonic acid (PFBS)	8.99	1.9	ng/L	8.31		108	72-130	5.18	30	
Perfluoropentanoic acid (PFPeA)	10.7	1.9	ng/L	9.39		114	72-129	6.82	30	
Perfluorohexanoic acid (PFHxA)	10.6	1.9	ng/L	9.39		113	72-129	5.39	30	
11Cl-PF3OUdS (F53B Major)	8.85	1.9	ng/L	8.85		100	55.1-141	7.09	30	
9Cl-PF3ONS (F53B Minor)	10.1	1.9	ng/L	8.76		116	59.6-146	5.90	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	10.7	1.9	ng/L	8.85		121	60.3-131	6.28	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	10.8	1.9	ng/L	9.39		115	37.6-167	0.288	30	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	10.3	1.9	ng/L	9.02		114	67-138	4.21	30	
Perfluorodecanoic acid (PFDA)	11.3	1.9	ng/L	9.39		121	71-129	4.51	30	
Perfluorododecanoic acid (PFDoA)	10.9	1.9	ng/L	9.39		116	72-134	2.93	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	9.73	1.9	ng/L	8.36		116	49.4-154	4.83	30	
Perfluoroheptanesulfonic acid (PFHpS)	10.4	1.9	ng/L	8.97		116	69-134	16.8	30	
N-EtFOSAA (NEtFOSAA)	13.2	1.9	ng/L	9.39		141	* 61-135	7.97	30	L-01
N-MeFOSAA (NMeFOSAA)	13.0	1.9	ng/L	9.39		139	* 65-136	10.6	30	L-01
Perfluorotetradecanoic acid (PFTA)	11.7	1.9	ng/L	9.39		124	71-132	1.90	30	
Perfluorotridecanoic acid (PFTTrDA)	11.9	1.9	ng/L	9.39		127	65-144	3.73	30	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	10.6	1.9	ng/L	8.78		120	63-143	14.1	30	
Perfluorodecanesulfonic acid (PFDS)	8.27	1.9	ng/L	9.07		91.3	53-142	5.92	30	
Perfluorooctanesulfonamide (FOSA)	11.6	1.9	ng/L	9.39		123	67-137	2.00	30	
Perfluorononanesulfonic acid (PFNS)	10.5	1.9	ng/L	9.02		116	69-127	18.5	30	
Perfluoro-1-hexanesulfonamide (FHxSA)	10.8	1.9	ng/L	9.39		115	61.7-156	4.28	30	
Perfluoro-1-butanefulfonamide (FBSA)	10.4	1.9	ng/L	9.39		110	61.3-145	5.39	30	
Perfluorohexanesulfonic acid (PFHxS)	10.1	1.9	ng/L	8.60		118	68-131	5.58	30	
Perfluoro-4-oxapentanoic acid (PFMPA)	11.4	1.9	ng/L	9.39		121	59.8-147	4.47	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	11.3	1.9	ng/L	9.39		121	59.5-146	3.56	30	

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B346072 - SOP 454-PFAAS
LCS Dup (B346072-BSD1)

Prepared: 07/17/23 Analyzed: 07/18/23

6:2 Fluorotelomersulfonic acid (6:2FTS A)	10.1	1.9	ng/L	8.92		113	64-140	9.26	30	
Perfluoropentanesulfonic acid (PFPeS)	10.2	1.9	ng/L	8.83		115	71-127	5.03	30	
Perfluoroundecanoic acid (PFUnA)	11.2	1.9	ng/L	9.39		120	69-133	3.52	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	11.1	1.9	ng/L	9.39		119	58.5-143	4.02	30	
Perfluoroheptanoic acid (PFHpA)	11.1	1.9	ng/L	9.39		118	72-130	6.10	30	
Perfluorooctanoic acid (PFOA)	11.2	1.9	ng/L	9.39		119	71-133	10.5	30	
Perfluorooctanesulfonic acid (PFOS)	10.2	1.9	ng/L	8.69		118	65-140	7.87	30	
Perfluorononanoic acid (PFNA)	10.6	1.9	ng/L	9.39		113	69-130	1.58	30	

Batch B346073 - SOP 466-PFAAS
Blank (B346073-BLK1)

Prepared: 07/17/23 Analyzed: 07/18/23

Perfluorobutanoic acid (PFBA)	ND	0.43	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.43	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.43	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.43	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.43	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.43	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.43	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.43	µg/kg wet							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.43	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.43	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.43	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.43	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.43	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.43	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.43	µg/kg wet							
Perfluorotetradecanoic acid (PFTA)	ND	0.43	µg/kg wet							
Perfluorotridecanoic acid (PFTTrDA)	ND	0.43	µg/kg wet							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.43	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.43	µg/kg wet							
Perfluorooctanesulfonamide (FOSA)	ND	0.43	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.43	µg/kg wet							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.43	µg/kg wet							
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.43	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.43	µg/kg wet							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.43	µg/kg wet							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.43	µg/kg wet							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.43	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.43	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.43	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.43	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.43	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.43	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.43	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.43	µg/kg wet							

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B346073 - SOP 466-PFAAS
LCS (B346073-BS1)

Prepared: 07/17/23 Analyzed: 07/18/23

Perfluorobutanoic acid (PFBA)	2.00	0.43	µg/kg wet	2.19		91.4	71-135			
Perfluorobutanesulfonic acid (PFBS)	1.71	0.43	µg/kg wet	1.94		88.1	72-128			
Perfluoropentanoic acid (PFPeA)	1.99	0.43	µg/kg wet	2.19		90.6	69-132			
Perfluorohexanoic acid (PFHxA)	2.01	0.43	µg/kg wet	2.19		91.6	70-132			
11Cl-PF3OUdS (F53B Major)	1.75	0.43	µg/kg wet	2.07		84.9	41.8-128			
9Cl-PF3ONS (F53B Minor)	1.90	0.43	µg/kg wet	2.04		93.1	51.1-141			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.92	0.43	µg/kg wet	2.07		92.8	55.2-122			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.95	0.43	µg/kg wet	2.19		89.1	27.6-137			
8:2 Fluorotelomersulfonic acid (8:2FTS A)	2.43	0.43	µg/kg wet	2.10		116	65-137			
Perfluorodecanoic acid (PFDA)	1.98	0.43	µg/kg wet	2.19		90.2	69-133			
Perfluorododecanoic acid (PFDoA)	1.93	0.43	µg/kg wet	2.19		88.2	69-135			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	1.79	0.43	µg/kg wet	1.95		91.5	56.7-133			
Perfluoroheptanesulfonic acid (PFHpS)	2.02	0.43	µg/kg wet	2.10		96.5	70-132			
N-EtFOSAA (NEtFOSAA)	2.18	0.43	µg/kg wet	2.19		99.2	61-139			
N-MeFOSAA (NMeFOSAA)	2.48	0.43	µg/kg wet	2.19		113	63-144			
Perfluorotetradecanoic acid (PFTA)	2.21	0.43	µg/kg wet	2.19		101	69-133			
Perfluorotridecanoic acid (PFTrDA)	2.40	0.43	µg/kg wet	2.19		109	66-139			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	2.04	0.43	µg/kg wet	2.05		99.3	62-145			
Perfluorodecanesulfonic acid (PFDS)	1.70	0.43	µg/kg wet	2.11		80.2	59-134			
Perfluorooctanesulfonamide (FOSA)	2.21	0.43	µg/kg wet	2.19		101	67-137			
Perfluorononanesulfonic acid (PFNS)	2.05	0.43	µg/kg wet	2.10		97.5	69-125			
Perfluoro-1-hexanesulfonamide (FHxSA)	2.10	0.43	µg/kg wet	2.19		95.7	51.4-142			
Perfluoro-1-butanesulfonamide (FBSA)	2.00	0.43	µg/kg wet	2.19		91.3	53.5-129			
Perfluorohexanesulfonic acid (PFHxS)	1.97	0.43	µg/kg wet	2.01		97.9	67-130			
Perfluoro-4-oxapentanoic acid (PFMPA)	2.05	0.43	µg/kg wet	2.19		93.6	57.8-127			
Perfluoro-5-oxahexanoic acid (PFMBA)	2.07	0.43	µg/kg wet	2.19		94.3	56.5-132			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	1.87	0.43	µg/kg wet	2.08		89.9	64-140			
Perfluoropentanesulfonic acid (PFPeS)	2.02	0.43	µg/kg wet	2.06		97.9	73-123			
Perfluoroundecanoic acid (PFUnA)	1.99	0.43	µg/kg wet	2.19		90.8	64-136			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.03	0.43	µg/kg wet	2.19		92.5	54.5-128			
Perfluoroheptanoic acid (PFHpA)	2.11	0.43	µg/kg wet	2.19		96.2	71-131			
Perfluorooctanoic acid (PFOA)	2.08	0.43	µg/kg wet	2.19		94.9	69-133			
Perfluorooctanesulfonic acid (PFOS)	1.91	0.43	µg/kg wet	2.03		94.0	68-136			
Perfluorononanoic acid (PFNA)	1.99	0.43	µg/kg wet	2.19		90.7	72-129			

Matrix Spike (B346073-MS1)

Source: 23G1778-01

Prepared: 07/17/23 Analyzed: 07/18/23

Perfluorobutanoic acid (PFBA)	2.53	0.51	µg/kg dry	2.56	ND	98.8	71-135			
Perfluorobutanesulfonic acid (PFBS)	2.18	0.51	µg/kg dry	2.26	ND	96.2	72-128			
Perfluoropentanoic acid (PFPeA)	2.60	0.51	µg/kg dry	2.56	ND	102	69-132			
Perfluorohexanoic acid (PFHxA)	2.83	0.51	µg/kg dry	2.56	0.244	101	70-132			
11Cl-PF3OUdS (F53B Major)	1.97	0.51	µg/kg dry	2.41	ND	81.9	4.02-158			
9Cl-PF3ONS (F53B Minor)	2.24	0.51	µg/kg dry	2.38	ND	93.8	52.5-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.42	0.51	µg/kg dry	2.41	ND	100	50.7-124			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.47	0.51	µg/kg dry	2.56	ND	96.6	29.2-146			
8:2 Fluorotelomersulfonic acid (8:2FTS A)	2.48	0.51	µg/kg dry	2.46	ND	101	65-137			
Perfluorodecanoic acid (PFDA)	2.91	0.51	µg/kg dry	2.56	0.217	105	69-133			
Perfluorododecanoic acid (PFDoA)	2.38	0.51	µg/kg dry	2.56	ND	93.0	69-135			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	2.17	0.51	µg/kg dry	2.28	ND	95.3	60.7-135			

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B346073 - SOP 466-PFAAS										
Matrix Spike (B346073-MS1)										
		Source: 23G1778-01			Prepared: 07/17/23 Analyzed: 07/18/23					
Perfluoroheptanesulfonic acid (PFHpS)	2.29	0.51	µg/kg dry	2.45	ND	93.6	70-132			
N-EtFOSAA (NEtFOSAA)	2.88	0.51	µg/kg dry	2.56	ND	113	61-139			
N-MeFOSAA (NMeFOSAA)	2.82	0.51	µg/kg dry	2.56	ND	110	63-144			
Perfluorotetradecanoic acid (PFTA)	2.76	0.51	µg/kg dry	2.56	ND	108	69-133			
Perfluorotridecanoic acid (PFTTrDA)	2.68	0.51	µg/kg dry	2.56	ND	105	66-139			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	2.36	0.51	µg/kg dry	2.39	ND	98.7	62-145			
Perfluorodecanesulfonic acid (PFDS)	2.17	0.51	µg/kg dry	2.47	ND	88.1	59-134			
Perfluorooctanesulfonamide (FOSA)	2.56	0.51	µg/kg dry	2.56	ND	100	67-137			
Perfluorononanesulfonic acid (PFNS)	2.33	0.51	µg/kg dry	2.46	ND	94.8	69-125			
Perfluoro-1-hexanesulfonamide (FHxSA)	2.39	0.51	µg/kg dry	2.56	ND	93.4	18.9-162			
Perfluoro-1-butanesulfonamide (FBSA)	2.48	0.51	µg/kg dry	2.56	ND	96.9	49.8-135			
Perfluorohexanesulfonic acid (PFHxS)	2.55	0.51	µg/kg dry	2.34	ND	109	67-130			
Perfluoro-4-oxapentanoic acid (PFMPA)	2.54	0.51	µg/kg dry	2.56	ND	99.5	62-155			
Perfluoro-5-oxahexanoic acid (PFMBA)	2.53	0.51	µg/kg dry	2.56	ND	99.0	52.1-148			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	2.16	0.51	µg/kg dry	2.43	ND	89.1	64-140			
Perfluoropentanesulfonic acid (PFPeS)	2.42	0.51	µg/kg dry	2.40	ND	101	73-123			
Perfluoroundecanoic acid (PFUnA)	2.61	0.51	µg/kg dry	2.56	ND	102	64-136			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.44	0.51	µg/kg dry	2.56	ND	95.5	54.6-133			
Perfluoroheptanoic acid (PFHpA)	2.84	0.51	µg/kg dry	2.56	0.197	103	71-131			
Perfluorooctanoic acid (PFOA)	4.10	0.51	µg/kg dry	2.56	1.13	116	69-133			
Perfluorooctanesulfonic acid (PFOS)	4.07	0.51	µg/kg dry	2.36	1.40	113	68-136			
Perfluorononanoic acid (PFNA)	3.17	0.51	µg/kg dry	2.56	0.393	109	72-129			
Matrix Spike Dup (B346073-MSD1)										
		Source: 23G1778-01			Prepared: 07/17/23 Analyzed: 07/18/23					
Perfluorobutanoic acid (PFBA)	2.47	0.51	µg/kg dry	2.60	ND	95.0	71-135	2.39	30	
Perfluorobutanesulfonic acid (PFBS)	2.18	0.51	µg/kg dry	2.30	ND	94.8	72-128	0.0342	30	
Perfluoropentanoic acid (PFPeA)	2.62	0.51	µg/kg dry	2.60	ND	101	69-132	0.842	30	
Perfluorohexanoic acid (PFHxA)	2.82	0.51	µg/kg dry	2.60	0.244	99.1	70-132	0.386	30	
11Cl-PF3OUdS (F53B Major)	2.23	0.51	µg/kg dry	2.45	ND	91.0	4.02-158	12.0	30	
9Cl-PF3ONS (F53B Minor)	2.26	0.51	µg/kg dry	2.42	ND	93.4	52.5-150	1.06	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.34	0.51	µg/kg dry	2.45	ND	95.8	50.7-124	3.28	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.57	0.51	µg/kg dry	2.60	ND	99.1	29.2-146	4.04	30	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	2.69	0.51	µg/kg dry	2.49	ND	108	65-137	7.94	30	
Perfluorodecanoic acid (PFDA)	2.80	0.51	µg/kg dry	2.60	0.217	99.4	69-133	4.08	30	
Perfluorododecanoic acid (PFDoA)	2.36	0.51	µg/kg dry	2.60	ND	90.8	69-135	0.908	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	2.16	0.51	µg/kg dry	2.31	ND	93.3	60.7-135	0.520	30	
Perfluoroheptanesulfonic acid (PFHpS)	2.17	0.51	µg/kg dry	2.48	ND	87.5	70-132	5.13	30	
N-EtFOSAA (NEtFOSAA)	2.77	0.51	µg/kg dry	2.60	ND	107	61-139	4.00	30	
N-MeFOSAA (NMeFOSAA)	2.66	0.51	µg/kg dry	2.60	ND	103	63-144	5.67	30	
Perfluorotetradecanoic acid (PFTA)	2.68	0.51	µg/kg dry	2.60	ND	103	69-133	2.93	30	
Perfluorotridecanoic acid (PFTTrDA)	2.64	0.51	µg/kg dry	2.60	ND	102	66-139	1.48	30	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	2.38	0.51	µg/kg dry	2.43	ND	98.0	62-145	0.771	30	
Perfluorodecanesulfonic acid (PFDS)	2.14	0.51	µg/kg dry	2.50	ND	85.3	59-134	1.63	30	
Perfluorooctanesulfonamide (FOSA)	2.63	0.51	µg/kg dry	2.60	ND	101	67-137	2.62	30	
Perfluorononanesulfonic acid (PFNS)	2.38	0.51	µg/kg dry	2.49	ND	95.3	69-125	2.05	30	
Perfluoro-1-hexanesulfonamide (FHxSA)	2.44	0.51	µg/kg dry	2.60	ND	93.9	18.9-162	2.04	30	
Perfluoro-1-butanesulfonamide (FBSA)	2.45	0.51	µg/kg dry	2.60	ND	94.3	49.8-135	1.20	30	
Perfluorohexanesulfonic acid (PFHxS)	2.56	0.51	µg/kg dry	2.38	ND	108	67-130	0.424	30	
Perfluoro-4-oxapentanoic acid (PFMPA)	2.57	0.51	µg/kg dry	2.60	ND	99.0	62-155	1.00	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	2.53	0.51	µg/kg dry	2.60	ND	97.4	52.1-148	0.175	30	

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B346073 - SOP 466-PFAAS
Matrix Spike Dup (B346073-MSD1)
Source: 23G1778-01

Prepared: 07/17/23 Analyzed: 07/18/23

6:2 Fluorotelomersulfonic acid (6:2FTS A)	2.26	0.51	µg/kg dry	2.47	ND	91.6	64-140	4.35	30	
Perfluoropentanesulfonic acid (PFPeS)	2.59	0.51	µg/kg dry	2.44	ND	106	73-123	6.84	30	
Perfluoroundecanoic acid (PFUnA)	2.52	0.51	µg/kg dry	2.60	ND	97.1	64-136	3.38	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	0.51	µg/kg dry	2.60	ND	96.4	54.6-133	2.52	30	
Perfluoroheptanoic acid (PFHpA)	2.86	0.51	µg/kg dry	2.60	0.197	103	71-131	0.712	30	
Perfluorooctanoic acid (PFOA)	3.93	0.51	µg/kg dry	2.60	1.13	108	69-133	4.16	30	
Perfluorooctanesulfonic acid (PFOS)	4.26	0.51	µg/kg dry	2.40	1.40	119	68-136	4.67	30	
Perfluorononanoic acid (PFNA)	3.01	0.51	µg/kg dry	2.60	0.393	101	72-129	5.37	30	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-01	Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
S-29	Extracted Internal Standard is outside of control limits.

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
18MTN S-1A (6-12) (23G1778-01)			Lab File ID: 23G1778-01.d		Analyzed: 07/18/23 10:15				
M8FOSA	184990.6	3.980567	177,471.00	3.9806	104	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	27677.32	2.4886	27,615.00	2.505033	100	50 - 150	-0.0164	+/-0.50	
M2PF _{TA}	398982.9	4.337817	415,138.00	4.337817	96	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	66245.98	3.8028	57,791.00	3.802817	115	50 - 150	0.0000	+/-0.50	
MPF _{BA}	222094.1	1.066783	238,033.00	1.058467	93	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	75917.21	2.8393	81,446.00	2.847483	93	50 - 150	-0.0082	+/-0.50	
M6PF _{DA}	481749.2	3.803317	489,526.00	3.803333	98	50 - 150	0.0000	+/-0.50	
M3PF _{BS}	103613.9	1.886667	106,371.00	1.886667	97	50 - 150	0.0000	+/-0.50	
M7PF _{UnA}	455036.3	3.954033	428,294.00	3.95405	106	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	35356.09	3.445283	28,964.00	3.4453	122	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	230647.2	1.7231	244,100.00	1.714833	94	50 - 150	0.0083	+/-0.50	
M5PF _{HxA}	400498	2.58055	416,365.00	2.58055	96	50 - 150	0.0000	+/-0.50	
M3PF _{HxS}	60352.75	3.21025	63,136.00	3.210267	96	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	401965.1	3.178867	412,002.00	3.178867	98	50 - 150	0.0000	+/-0.50	
M8PFOA	453561.2	3.453817	454,473.00	3.453833	100	50 - 150	0.0000	+/-0.50	
M8PFOS	66205.75	3.644167	65,865.00	3.644183	101	50 - 150	0.0000	+/-0.50	
M9PF _{NA}	424144.1	3.6452	429,522.00	3.645233	99	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	375201.6	4.08865	391,573.00	4.088666	96	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	108419	3.9615	111,736.00	3.961517	97	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	116623.4	3.88175	110,063.00	3.881767	106	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
18MTN S-5A (6-12) (23G1778-02)									
			Lab File ID: 23G1778-02R.d			Analyzed: 07/18/23 14:22			
M8FOSA	181149.9	3.980583	177,471.00	3.9806	102	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	19912.82	2.472183	27,615.00	2.472183	72	50 - 150	0.0000	+/-0.50	
M2PF _{TA}	122321.7	4.329683	415,138.00	4.3297	29	50 - 150	0.0000	+/-0.50	*
M2-8:2FTS	41131.55	3.786867	57,791.00	3.79485	71	50 - 150	-0.0080	+/-0.50	
MPFBA	166737.3	1.058467	238,033.00	1.058467	70	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	58401.55	2.831117	81,446.00	2.822933	72	50 - 150	0.0082	+/-0.50	
M6PFDA	341083.9	3.795367	489,526.00	3.795367	70	50 - 150	0.0000	+/-0.50	
M3PFBS	80033.02	1.8701	106,371.00	1.8701	75	50 - 150	0.0000	+/-0.50	
M7PFUnA	282819.3	3.94605	428,294.00	3.946067	66	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	22444.67	3.4373	28,964.00	3.437317	77	50 - 150	0.0000	+/-0.50	
M5PFPeA	172228.8	1.706567	244,100.00	1.698283	71	50 - 150	0.0083	+/-0.50	
M5PFHxA	301823.3	2.555917	416,365.00	2.555917	72	50 - 150	0.0000	+/-0.50	
M3PFHxS	48527.36	3.201883	63,136.00	3.2019	77	50 - 150	0.0000	+/-0.50	
M4PFHpA	304519.3	3.170783	412,002.00	3.170783	74	50 - 150	0.0000	+/-0.50	
M8PFOA	338062.3	3.445833	454,473.00	3.44585	74	50 - 150	0.0000	+/-0.50	
M8PFOS	44944.89	3.644183	65,865.00	3.644183	68	50 - 150	0.0000	+/-0.50	
M9PFNA	312473.2	3.637233	429,522.00	3.645217	73	50 - 150	-0.0080	+/-0.50	
MPFDoA	204953.9	4.088666	391,573.00	4.088666	52	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	43184.45	3.953517	111,736.00	3.953533	39	50 - 150	0.0000	+/-0.50	*
D3-NMeFOSAA	50016.05	3.873783	110,063.00	3.8738	45	50 - 150	0.0000	+/-0.50	*

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
18MTN S-5A (12-24) (23G1778-03)			Lab File ID: 23G1778-03.d			Analyzed: 07/18/23 10:30			
M8FOSA	189327.3	3.980583	177,471.00	3.9806	107	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	27074.09	2.505033	27,615.00	2.505033	98	50 - 150	0.0000	+/-0.50	
M2PF _T A	346073.7	4.337817	415,138.00	4.337817	83	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	56644.11	3.8028	57,791.00	3.802817	98	50 - 150	0.0000	+/-0.50	
MPFBA	224674.6	1.066783	238,033.00	1.058467	94	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	105016.6	2.847483	81,446.00	2.847483	129	50 - 150	0.0000	+/-0.50	
M6PFDA	491944.8	3.803333	489,526.00	3.803333	100	50 - 150	0.0000	+/-0.50	
M3PFBS	103155.1	1.894967	106,371.00	1.886667	97	50 - 150	0.0083	+/-0.50	
M7PF _U nA	444602.7	3.954033	428,294.00	3.95405	104	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	30217.5	3.4453	28,964.00	3.4453	104	50 - 150	0.0000	+/-0.50	
M5PF _P eA	231458.3	1.7231	244,100.00	1.714833	95	50 - 150	0.0083	+/-0.50	
M5PF _H xA	399041.4	2.588767	416,365.00	2.58055	96	50 - 150	0.0082	+/-0.50	
M3PF _H xS	60891.39	3.21025	63,136.00	3.210267	96	50 - 150	0.0000	+/-0.50	
M4PF _H pA	401379.8	3.178867	412,002.00	3.178867	97	50 - 150	0.0000	+/-0.50	
M8PFOA	452211.6	3.453817	454,473.00	3.453833	100	50 - 150	0.0000	+/-0.50	
M8PFOS	63627.61	3.644183	65,865.00	3.644183	97	50 - 150	0.0000	+/-0.50	
M9PFNA	428262.7	3.645217	429,522.00	3.645233	100	50 - 150	0.0000	+/-0.50	
MPF _D oA	364576.5	4.088666	391,573.00	4.088666	93	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	96205.55	3.961517	111,736.00	3.961517	86	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	105703.3	3.881767	110,063.00	3.881767	96	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
18 MTN S-7 (0-24) (23G1778-04)			Lab File ID: 23G1778-04.d			Analyzed: 07/18/23 10:37			
M8FOSA	163971.8	3.980583	177,471.00	3.9806	92	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	23778.76	2.496817	27,615.00	2.505033	86	50 - 150	-0.0082	+/-0.50	
M2PF _{TA}	358483.1	4.337817	415,138.00	4.337817	86	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	52247.57	3.8028	57,791.00	3.802817	90	50 - 150	0.0000	+/-0.50	
MPF _{BA}	197713	1.066783	238,033.00	1.058467	83	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	61801.34	2.8393	81,446.00	2.847483	76	50 - 150	-0.0082	+/-0.50	
M6PF _{DA}	422903.1	3.803317	489,526.00	3.803333	86	50 - 150	0.0000	+/-0.50	
M3PF _{BS}	91253.25	1.886667	106,371.00	1.886667	86	50 - 150	0.0000	+/-0.50	
M7PF _{UnA}	392668.5	3.954033	428,294.00	3.95405	92	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	27018.31	3.445283	28,964.00	3.4453	93	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	202183.1	1.714833	244,100.00	1.714833	83	50 - 150	0.0000	+/-0.50	
M5PF _{HxA}	351464.2	2.58055	416,365.00	2.58055	84	50 - 150	0.0000	+/-0.50	
M3PF _{HxS}	51192.89	3.21025	63,136.00	3.210267	81	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	353219	3.17885	412,002.00	3.178867	86	50 - 150	0.0000	+/-0.50	
M8PF _{OA}	382738.2	3.453817	454,473.00	3.453833	84	50 - 150	0.0000	+/-0.50	
M8PF _{OS}	57297.71	3.644167	65,865.00	3.644183	87	50 - 150	0.0000	+/-0.50	
M9PF _{NA}	383033.4	3.6452	429,522.00	3.645233	89	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	332957.5	4.08865	391,573.00	4.088666	85	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	84069.73	3.9615	111,736.00	3.961517	75	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	92168.68	3.88175	110,063.00	3.881767	84	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
18 MTN S-7 (24-36) (23G1778-05)			Lab File ID: 23G1778-05.d			Analyzed: 07/18/23 10:44			
M8FOSA	207787.3	3.9806	177,471.00	3.9806	117	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	31375.71	2.496833	27,615.00	2.505033	114	50 - 150	-0.0082	+/-0.50	
M2PF _{TA}	440487.3	4.337833	415,138.00	4.337817	106	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	70304.65	3.802833	57,791.00	3.802817	122	50 - 150	0.0000	+/-0.50	
MPF _{BA}	258707.5	1.066783	238,033.00	1.058467	109	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	86484.73	2.839317	81,446.00	2.847483	106	50 - 150	-0.0082	+/-0.50	
M6PF _{DA}	534357.6	3.80335	489,526.00	3.803333	109	50 - 150	0.0000	+/-0.50	
M3PF _{BS}	117871.2	1.886683	106,371.00	1.886667	111	50 - 150	0.0000	+/-0.50	
M7PF _{UnA}	481795	3.954067	428,294.00	3.95405	112	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	37485.92	3.4453	28,964.00	3.4453	129	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	263548.4	1.71485	244,100.00	1.714833	108	50 - 150	0.0000	+/-0.50	
M5PF _{HxA}	458521.4	2.580567	416,365.00	2.58055	110	50 - 150	0.0000	+/-0.50	
M3PF _{HxS}	72278.59	3.210267	63,136.00	3.210267	114	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	455272.2	3.178883	412,002.00	3.178867	111	50 - 150	0.0000	+/-0.50	
M8PF _{OA}	513796.8	3.453833	454,473.00	3.453833	113	50 - 150	0.0000	+/-0.50	
M8PF _{OS}	68667.31	3.6442	65,865.00	3.644183	104	50 - 150	0.0000	+/-0.50	
M9PF _{NA}	486716	3.645233	429,522.00	3.645233	113	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	412256.4	4.088683	391,573.00	4.088666	105	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	118452.9	3.961533	111,736.00	3.961517	106	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	128456	3.881783	110,063.00	3.881767	117	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
18 MTN S-8 (0-24) (23G1778-06)			Lab File ID: 23G1778-06.d			Analyzed: 07/18/23 10:51			
M8FOSA	185356.8	3.980583	177,471.00	3.9806	104	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	27244.67	2.496817	27,615.00	2.505033	99	50 - 150	-0.0082	+/-0.50	
M2PFTA	353268.7	4.337817	415,138.00	4.337817	85	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	60031.43	3.794833	57,791.00	3.802817	104	50 - 150	-0.0080	+/-0.50	
MPFBA	219376.4	1.066783	238,033.00	1.058467	92	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	81984.03	2.8393	81,446.00	2.847483	101	50 - 150	-0.0082	+/-0.50	
M6PFDA	483182.4	3.803333	489,526.00	3.803333	99	50 - 150	0.0000	+/-0.50	
M3PFBS	99825.29	1.886683	106,371.00	1.886667	94	50 - 150	0.0000	+/-0.50	
M7PFUnA	407605.7	3.95405	428,294.00	3.95405	95	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	28942.17	3.4453	28,964.00	3.4453	100	50 - 150	0.0000	+/-0.50	
M5PFPeA	225415.5	1.714833	244,100.00	1.714833	92	50 - 150	0.0000	+/-0.50	
M5PFHxA	391139.9	2.572333	416,365.00	2.58055	94	50 - 150	-0.0082	+/-0.50	
M3PFHxS	58666.1	3.21025	63,136.00	3.210267	93	50 - 150	0.0000	+/-0.50	
M4PFHpA	389733.6	3.170783	412,002.00	3.178867	95	50 - 150	-0.0081	+/-0.50	
M8PFOA	439594.2	3.453833	454,473.00	3.453833	97	50 - 150	0.0000	+/-0.50	
M8PFOS	62481.15	3.644183	65,865.00	3.644183	95	50 - 150	0.0000	+/-0.50	
M9PFNA	410770.3	3.645217	429,522.00	3.645233	96	50 - 150	0.0000	+/-0.50	
MPFDoA	340646.2	4.088666	391,573.00	4.088666	87	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	98175.38	3.961517	111,736.00	3.961517	88	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	99429.26	3.881767	110,063.00	3.881767	90	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
18 MTN S-8 (24-36) (23G1778-07)			Lab File ID: 23G1778-07.d			Analyzed: 07/18/23 10:59			
M8FOSA	215452	3.9806	177,471.00	3.9806	121	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	29338.7	2.4804	27,615.00	2.505033	106	50 - 150	-0.0246	+/-0.50	
M2PFTA	432500.3	4.337817	415,138.00	4.337817	104	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	70178.67	3.8028	57,791.00	3.802817	121	50 - 150	0.0000	+/-0.50	
MPFBA	244149.9	1.058467	238,033.00	1.058467	103	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	87522.05	2.8393	81,446.00	2.847483	107	50 - 150	-0.0082	+/-0.50	
M6PFDA	520509.2	3.803333	489,526.00	3.803333	106	50 - 150	0.0000	+/-0.50	
M3PFBS	116064.3	1.886667	106,371.00	1.886667	109	50 - 150	0.0000	+/-0.50	
M7PFUnA	452942.8	3.95405	428,294.00	3.95405	106	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	36997.5	3.445283	28,964.00	3.4453	128	50 - 150	0.0000	+/-0.50	
M5PFPeA	250030.8	1.714833	244,100.00	1.714833	102	50 - 150	0.0000	+/-0.50	
M5PFHxA	435360.6	2.57235	416,365.00	2.58055	105	50 - 150	-0.0082	+/-0.50	
M3PFHxS	68152.26	3.21025	63,136.00	3.210267	108	50 - 150	0.0000	+/-0.50	
M4PFHpA	432254.1	3.170783	412,002.00	3.178867	105	50 - 150	-0.0081	+/-0.50	
M8PFOA	494907.5	3.453817	454,473.00	3.453833	109	50 - 150	0.0000	+/-0.50	
M8PFOS	76152.95	3.644183	65,865.00	3.644183	116	50 - 150	0.0000	+/-0.50	
M9PFNA	471639	3.645217	429,522.00	3.645233	110	50 - 150	0.0000	+/-0.50	
MPFDoA	385276.2	4.088666	391,573.00	4.088666	98	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	109270.8	3.961517	111,736.00	3.961517	98	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	122389.2	3.881767	110,063.00	3.881767	111	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Trip Blank (23G1778-08)			Lab File ID: 23G1778-08.d			Analyzed: 07/18/23 12:26			
M8FOSA	167194	3.980583	177,471.00	3.980583	94	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	30944	2.4804	27,615.00	2.496817	112	50 - 150	-0.0164	+/-0.50	
M2PFTA	322955.7	4.329683	415,138.00	4.3297	78	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	67614.88	3.794833	57,791.00	3.794833	117	50 - 150	0.0000	+/-0.50	
MPFBA	253869	1.066783	238,033.00	1.058467	107	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	74669.91	2.822933	81,446.00	2.8393	92	50 - 150	-0.0164	+/-0.50	
M6PFDA	478416.9	3.79535	489,526.00	3.803333	98	50 - 150	-0.0080	+/-0.50	
M3PFBS	110846.5	1.878383	106,371.00	1.878383	104	50 - 150	0.0000	+/-0.50	
M7PFUnA	426984.6	3.946033	428,294.00	3.94605	100	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	36286.73	3.4373	28,964.00	3.4453	125	50 - 150	-0.0080	+/-0.50	
M5PFPeA	255490.5	1.714833	244,100.00	1.714833	105	50 - 150	0.0000	+/-0.50	
M5PFHxA	425624.2	2.564117	416,365.00	2.57235	102	50 - 150	-0.0082	+/-0.50	
M3PFHxS	65003.26	3.2019	63,136.00	3.2019	103	50 - 150	0.0000	+/-0.50	
M4PFHpA	422141.5	3.170783	412,002.00	3.170783	102	50 - 150	0.0000	+/-0.50	
M8PFOA	475250.1	3.445833	454,473.00	3.453833	105	50 - 150	-0.0080	+/-0.50	
M8PFOS	67043.28	3.644183	65,865.00	3.644183	102	50 - 150	0.0000	+/-0.50	
M9PFNA	453020.1	3.645217	429,522.00	3.645217	105	50 - 150	0.0000	+/-0.50	
MPFDoA	318847.3	4.08865	391,573.00	4.088666	81	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	105578	3.953517	111,736.00	3.953517	94	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	103428.1	3.873783	110,063.00	3.881767	94	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Field Blank (23G1778-09)									
			Lab File ID: 23G1778-09.d			Analyzed: 07/18/23 12:33			
M8FOSA	166492.1	3.980583	177,471.00	3.980583	94	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	30836.51	2.480383	27,615.00	2.496817	112	50 - 150	-0.0164	+/-0.50	
M2PFTA	326501.1	4.329683	415,138.00	4.3297	79	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	69682.9	3.794833	57,791.00	3.794833	121	50 - 150	0.0000	+/-0.50	
MPFBA	252031.7	1.066783	238,033.00	1.058467	106	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	73089.77	2.831117	81,446.00	2.8393	90	50 - 150	-0.0082	+/-0.50	
M6PFDA	477800.5	3.79535	489,526.00	3.803333	98	50 - 150	-0.0080	+/-0.50	
M3PFBS	111209.4	1.878383	106,371.00	1.878383	105	50 - 150	0.0000	+/-0.50	
M7PFUnA	408213.3	3.946033	428,294.00	3.94605	95	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	36658.13	3.4373	28,964.00	3.4453	127	50 - 150	-0.0080	+/-0.50	
M5PFPeA	253220.2	1.714833	244,100.00	1.714833	104	50 - 150	0.0000	+/-0.50	
M5PFHxA	425548.5	2.564117	416,365.00	2.57235	102	50 - 150	-0.0082	+/-0.50	
M3PFHxS	65041.15	3.201883	63,136.00	3.2019	103	50 - 150	0.0000	+/-0.50	
M4PFHpA	429481.3	3.170783	412,002.00	3.170783	104	50 - 150	0.0000	+/-0.50	
M8PFOA	466777.8	3.453817	454,473.00	3.453833	103	50 - 150	0.0000	+/-0.50	
M8PFOS	66779.89	3.644167	65,865.00	3.644183	101	50 - 150	0.0000	+/-0.50	
M9PFNA	441573.9	3.645217	429,522.00	3.645217	103	50 - 150	0.0000	+/-0.50	
MPFDoA	308016.4	4.08865	391,573.00	4.088666	79	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	106744.3	3.9535	111,736.00	3.953517	96	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	107759.2	3.873767	110,063.00	3.881767	98	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
EQ Blank (23G1778-10)			Lab File ID: 23G1778-10.d			Analyzed: 07/18/23 12:40			
M8FOSA	173244.2	3.980583	177,471.00	3.980583	98	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	30197.65	2.4804	27,615.00	2.496817	109	50 - 150	-0.0164	+/-0.50	
M2PF _{TA}	340583.3	4.329683	415,138.00	4.3297	82	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	66209.35	3.794833	57,791.00	3.794833	115	50 - 150	0.0000	+/-0.50	
MPF _{BA}	250638.8	1.066783	238,033.00	1.058467	105	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	79536.18	2.822933	81,446.00	2.8393	98	50 - 150	-0.0164	+/-0.50	
M6PF _{DA}	470317.2	3.79535	489,526.00	3.803333	96	50 - 150	-0.0080	+/-0.50	
M3PF _{BS}	110294.5	1.8784	106,371.00	1.878383	104	50 - 150	0.0000	+/-0.50	
M7PF _{UnA}	427469.8	3.946033	428,294.00	3.94605	100	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	36950.39	3.4373	28,964.00	3.4453	128	50 - 150	-0.0080	+/-0.50	
M5PF _{PeA}	251414.2	1.714833	244,100.00	1.714833	103	50 - 150	0.0000	+/-0.50	
M5PF _{HxA}	420960.3	2.564133	416,365.00	2.57235	101	50 - 150	-0.0082	+/-0.50	
M3PF _{HxS}	62989.92	3.2019	63,136.00	3.2019	100	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	428038.1	3.170783	412,002.00	3.170783	104	50 - 150	0.0000	+/-0.50	
M8PFOA	487819.8	3.445833	454,473.00	3.453833	107	50 - 150	-0.0080	+/-0.50	
M8PFOS	64908.44	3.644183	65,865.00	3.644183	99	50 - 150	0.0000	+/-0.50	
M9PF _{NA}	450941.3	3.645217	429,522.00	3.645217	105	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	332726.2	4.08865	391,573.00	4.088666	85	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	109209.9	3.953517	111,736.00	3.953517	98	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	111949.9	3.873783	110,063.00	3.881767	102	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B346072-BLK1)			Lab File ID: B346072-BLK1.d			Analyzed: 07/18/23 12:19			
M8FOSA	166578.8	3.972583	177,471.00	3.980583	94	50 - 150	-0.0080	+/-0.50	
M2-4:2FTS	30955.96	2.4804	27,615.00	2.496817	112	50 - 150	-0.0164	+/-0.50	
M2PFTA	356486.4	4.329683	415,138.00	4.3297	86	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	68913.51	3.794833	57,791.00	3.794833	119	50 - 150	0.0000	+/-0.50	
MPFBA	226172.9	1.058467	238,033.00	1.058467	95	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	59004.16	2.822933	81,446.00	2.8393	72	50 - 150	-0.0164	+/-0.50	
M6PFDA	442072.5	3.79535	489,526.00	3.803333	90	50 - 150	-0.0080	+/-0.50	
M3PFBS	106087.4	1.878383	106,371.00	1.878383	100	50 - 150	0.0000	+/-0.50	
M7PFUnA	408543.1	3.946033	428,294.00	3.94605	95	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	34602.27	3.4373	28,964.00	3.4453	119	50 - 150	-0.0080	+/-0.50	
M5PFPeA	237017.4	1.714833	244,100.00	1.714833	97	50 - 150	0.0000	+/-0.50	
M5PFHxA	417192.4	2.564117	416,365.00	2.57235	100	50 - 150	-0.0082	+/-0.50	
M3PFHxS	63254.48	3.201883	63,136.00	3.2019	100	50 - 150	0.0000	+/-0.50	
M4PFHpA	424183.7	3.170783	412,002.00	3.170783	103	50 - 150	0.0000	+/-0.50	
M8PFOA	474042.1	3.453817	454,473.00	3.453833	104	50 - 150	0.0000	+/-0.50	
M8PFOS	62695.72	3.644167	65,865.00	3.644183	95	50 - 150	0.0000	+/-0.50	
M9PFNA	432248.3	3.6452	429,522.00	3.645217	101	50 - 150	0.0000	+/-0.50	
MPFDoA	325802.2	4.08865	391,573.00	4.088666	83	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	105216.4	3.9535	111,736.00	3.953517	94	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	103166.2	3.873767	110,063.00	3.881767	94	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B346072-BS1)			Lab File ID: B346072-BS1.d			Analyzed: 07/18/23 12:04			
M8FOSA	170397.5	3.980583	177,471.00	3.980583	96	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	32334.82	2.4804	27,615.00	2.496817	117	50 - 150	-0.0164	+/-0.50	
M2PFTA	373877.4	4.329683	415,138.00	4.3297	90	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	69768.16	3.794833	57,791.00	3.794833	121	50 - 150	0.0000	+/-0.50	
MPFBA	242949.5	1.058467	238,033.00	1.058467	102	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	82934.9	2.831117	81,446.00	2.8393	102	50 - 150	-0.0082	+/-0.50	
M6PFDA	475918.3	3.79535	489,526.00	3.803333	97	50 - 150	-0.0080	+/-0.50	
M3PFBS	113518.7	1.878383	106,371.00	1.878383	107	50 - 150	0.0000	+/-0.50	
M7PFUnA	417709.5	3.946033	428,294.00	3.94605	98	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	37554.93	3.445283	28,964.00	3.4453	130	50 - 150	0.0000	+/-0.50	
M5PFPeA	252168	1.714833	244,100.00	1.714833	103	50 - 150	0.0000	+/-0.50	
M5PFHxA	434544.9	2.564133	416,365.00	2.57235	104	50 - 150	-0.0082	+/-0.50	
M3PFHxS	68257.22	3.2019	63,136.00	3.2019	108	50 - 150	0.0000	+/-0.50	
M4PFHpA	440907.1	3.170783	412,002.00	3.170783	107	50 - 150	0.0000	+/-0.50	
M8PFOA	501478.8	3.453817	454,473.00	3.453833	110	50 - 150	0.0000	+/-0.50	
M8PFOS	68495.65	3.644183	65,865.00	3.644183	104	50 - 150	0.0000	+/-0.50	
M9PFNA	458362.3	3.645217	429,522.00	3.645217	107	50 - 150	0.0000	+/-0.50	
MPFDoA	345942.7	4.08865	391,573.00	4.088666	88	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	109215.2	3.953517	111,736.00	3.953517	98	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	111598.3	3.873783	110,063.00	3.881767	101	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS Dup (B346072-BSD1)			Lab File ID: B346072-BSD1.d			Analyzed: 07/18/23 12:11			
M8FOSA	155074.6	3.980583	177,471.00	3.980583	87	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	28531.32	2.4804	27,615.00	2.496817	103	50 - 150	-0.0164	+/-0.50	
M2PF _{TA}	349859.2	4.329683	415,138.00	4.3297	84	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	64671.27	3.794833	57,791.00	3.794833	112	50 - 150	0.0000	+/-0.50	
MPF _{BA}	213774	1.058467	238,033.00	1.058467	90	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	77527.97	2.831117	81,446.00	2.8393	95	50 - 150	-0.0082	+/-0.50	
M6PF _{DA}	439500.5	3.79535	489,526.00	3.803333	90	50 - 150	-0.0080	+/-0.50	
M3PF _{BS}	102499.9	1.878383	106,371.00	1.878383	96	50 - 150	0.0000	+/-0.50	
M7PF _{UnA}	364072.6	3.946033	428,294.00	3.94605	85	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	35406.59	3.4373	28,964.00	3.4453	122	50 - 150	-0.0080	+/-0.50	
M5PF _{PeA}	223080.5	1.706567	244,100.00	1.714833	91	50 - 150	-0.0083	+/-0.50	
M5PF _{HxA}	389291.4	2.564117	416,365.00	2.57235	93	50 - 150	-0.0082	+/-0.50	
M3PF _{HxS}	61338.38	3.201883	63,136.00	3.2019	97	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	398869.9	3.170783	412,002.00	3.170783	97	50 - 150	0.0000	+/-0.50	
M8PF _{OA}	445717	3.445833	454,473.00	3.453833	98	50 - 150	-0.0080	+/-0.50	
M8PF _{OS}	58860.79	3.644167	65,865.00	3.644183	89	50 - 150	0.0000	+/-0.50	
M9PF _{NA}	424767.3	3.6452	429,522.00	3.645217	99	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	294988.3	4.08865	391,573.00	4.088666	75	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	94667.03	3.9535	111,736.00	3.953517	85	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	104391.8	3.88175	110,063.00	3.881767	95	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B346073-BLK1)			Lab File ID: B346073-BLK1.d			Analyzed: 07/18/23 09:32			
M8FOSA	199090.5	3.980583	177,471.00	3.9806	112	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	30529.92	2.496817	27,615.00	2.505033	111	50 - 150	-0.0082	+/-0.50	
M2PFTA	406515.8	4.337817	415,138.00	4.337817	98	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	61546.95	3.8028	57,791.00	3.802817	106	50 - 150	0.0000	+/-0.50	
MPFBA	250880.8	1.066783	238,033.00	1.058467	105	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	84640.75	2.8393	81,446.00	2.847483	104	50 - 150	-0.0082	+/-0.50	
M6PFDA	531442.4	3.803317	489,526.00	3.803333	109	50 - 150	0.0000	+/-0.50	
M3PFBS	117183.9	1.894967	106,371.00	1.886667	110	50 - 150	0.0083	+/-0.50	
M7PFUnA	479017.9	3.954033	428,294.00	3.95405	112	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	33844.62	3.445283	28,964.00	3.4453	117	50 - 150	0.0000	+/-0.50	
M5PFPeA	257310	1.7231	244,100.00	1.714833	105	50 - 150	0.0083	+/-0.50	
M5PFHxA	440819.5	2.58055	416,365.00	2.58055	106	50 - 150	0.0000	+/-0.50	
M3PFHxS	69654.19	3.21025	63,136.00	3.210267	110	50 - 150	0.0000	+/-0.50	
M4PFHpA	446478.3	3.17885	412,002.00	3.178867	108	50 - 150	0.0000	+/-0.50	
M8PFOA	474929.9	3.453817	454,473.00	3.453833	105	50 - 150	0.0000	+/-0.50	
M8PFOS	75053.84	3.644167	65,865.00	3.644183	114	50 - 150	0.0000	+/-0.50	
M9PFNA	466315.8	3.6452	429,522.00	3.645233	109	50 - 150	0.0000	+/-0.50	
MPFDoA	393944.1	4.08865	391,573.00	4.088666	101	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	105867.6	3.9615	111,736.00	3.961517	95	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	113438	3.881767	110,063.00	3.881767	103	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B346073-BS1)			Lab File ID: B346073-BS1.d			Analyzed: 07/18/23 09:25			
M8FOSA	181846.1	3.980583	177,471.00	3.9806	102	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	30109.74	2.496817	27,615.00	2.505033	109	50 - 150	-0.0082	+/-0.50	
M2PFTA	397704.1	4.337817	415,138.00	4.337817	96	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	64767.43	3.8028	57,791.00	3.802817	112	50 - 150	0.0000	+/-0.50	
MPFBA	235346.1	1.066783	238,033.00	1.058467	99	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	80407.55	2.847483	81,446.00	2.847483	99	50 - 150	0.0000	+/-0.50	
M6PFDA	512215.3	3.803333	489,526.00	3.803333	105	50 - 150	0.0000	+/-0.50	
M3PFBS	112337.5	1.894967	106,371.00	1.886667	106	50 - 150	0.0083	+/-0.50	
M7PFUnA	460212.8	3.954033	428,294.00	3.95405	107	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	33943.73	3.4453	28,964.00	3.4453	117	50 - 150	0.0000	+/-0.50	
M5PFPeA	246695.5	1.7231	244,100.00	1.714833	101	50 - 150	0.0083	+/-0.50	
M5PFHxA	420169.7	2.58055	416,365.00	2.58055	101	50 - 150	0.0000	+/-0.50	
M3PFHxS	66191.75	3.210267	63,136.00	3.210267	105	50 - 150	0.0000	+/-0.50	
M4PFHpA	434857.3	3.178867	412,002.00	3.178867	106	50 - 150	0.0000	+/-0.50	
M8PFOA	475397.1	3.453817	454,473.00	3.453833	105	50 - 150	0.0000	+/-0.50	
M8PFOS	68036.71	3.644183	65,865.00	3.644183	103	50 - 150	0.0000	+/-0.50	
M9PFNA	455321.6	3.645217	429,522.00	3.645233	106	50 - 150	0.0000	+/-0.50	
MPFDoA	384915.9	4.08865	391,573.00	4.088666	98	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	102640.2	3.9615	111,736.00	3.961517	92	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	107540	3.881767	110,063.00	3.881767	98	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike (B346073-MS1)									
			Lab File ID: B346073-MS1.d			Analyzed: 07/18/23 09:39			
M8FOSA	185261.7	3.980583	177,471.00	3.9806	104	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	29700.77	2.496817	27,615.00	2.505033	108	50 - 150	-0.0082	+/-0.50	
M2PF _{TA}	414180.8	4.337817	415,138.00	4.337817	100	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	72213.54	3.8028	57,791.00	3.802817	125	50 - 150	0.0000	+/-0.50	
MPF _{BA}	235054.1	1.066783	238,033.00	1.058467	99	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	78329.02	2.8393	81,446.00	2.847483	96	50 - 150	-0.0082	+/-0.50	
M6PF _{DA}	492115.1	3.803317	489,526.00	3.803333	101	50 - 150	0.0000	+/-0.50	
M3PF _{BS}	109543.6	1.894967	106,371.00	1.886667	103	50 - 150	0.0083	+/-0.50	
M7PF _{UnA}	454059.8	3.954033	428,294.00	3.95405	106	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	38725.08	3.445283	28,964.00	3.4453	134	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	245670.8	1.7231	244,100.00	1.714833	101	50 - 150	0.0083	+/-0.50	
M5PF _{HxA}	423881.8	2.58055	416,365.00	2.58055	102	50 - 150	0.0000	+/-0.50	
M3PF _{HxS}	64820.78	3.21025	63,136.00	3.210267	103	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	419296.7	3.178867	412,002.00	3.178867	102	50 - 150	0.0000	+/-0.50	
M8PF _{OA}	484260.3	3.453817	454,473.00	3.453833	107	50 - 150	0.0000	+/-0.50	
M8PF _{OS}	70801.88	3.644167	65,865.00	3.644183	107	50 - 150	0.0000	+/-0.50	
M9PF _{NA}	443913.6	3.645217	429,522.00	3.645233	103	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	411182.5	4.09665	391,573.00	4.088666	105	50 - 150	0.0080	+/-0.50	
D5-NEtFOSAA	115800.9	3.9615	111,736.00	3.961517	104	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	130391.1	3.88175	110,063.00	3.881767	118	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (B346073-MSD1)			Lab File ID: B346073-MSD1.d			Analyzed: 07/18/23 09:46			
M8FOSA	198013.8	3.980583	177,471.00	3.9806	112	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	31146.05	2.4886	27,615.00	2.505033	113	50 - 150	-0.0164	+/-0.50	
M2PFTA	457138.8	4.337833	415,138.00	4.337817	110	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	75747.59	3.8028	57,791.00	3.802817	131	50 - 150	0.0000	+/-0.50	
MPFBA	251813.1	1.066783	238,033.00	1.058467	106	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	83740.91	2.847483	81,446.00	2.847483	103	50 - 150	0.0000	+/-0.50	
M6PFDA	533776.7	3.803333	489,526.00	3.803333	109	50 - 150	0.0000	+/-0.50	
M3PFBS	116361.5	1.894967	106,371.00	1.886667	109	50 - 150	0.0083	+/-0.50	
M7PFUnA	509898.5	3.95405	428,294.00	3.95405	119	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	39046.88	3.4453	28,964.00	3.4453	135	50 - 150	0.0000	+/-0.50	
M5PFPeA	264563.6	1.7231	244,100.00	1.714833	108	50 - 150	0.0083	+/-0.50	
M5PFHxA	453148.1	2.58055	416,365.00	2.58055	109	50 - 150	0.0000	+/-0.50	
M3PFHxS	69312.52	3.21025	63,136.00	3.210267	110	50 - 150	0.0000	+/-0.50	
M4PFHpA	456739.2	3.178867	412,002.00	3.178867	111	50 - 150	0.0000	+/-0.50	
M8PFOA	521372.5	3.453833	454,473.00	3.453833	115	50 - 150	0.0000	+/-0.50	
M8PFOS	71495.03	3.644183	65,865.00	3.644183	109	50 - 150	0.0000	+/-0.50	
M9PFNA	481099.6	3.645217	429,522.00	3.645233	112	50 - 150	0.0000	+/-0.50	
MPFDoA	434022.8	4.088666	391,573.00	4.088666	111	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	125302.4	3.961517	111,736.00	3.961517	112	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	134085.1	3.881767	110,063.00	3.881767	122	50 - 150	0.0000	+/-0.50	

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
SOP-454 PFAS in Water	
Perfluorobutanoic acid (PFBA)	NH-P,PA
Perfluorobutanesulfonic acid (PFBS)	NH-P,PA
Perfluoropentanoic acid (PFPeA)	NH-P,PA
Perfluorohexanoic acid (PFHxA)	NH-P,PA
11Cl-PF3OUdS (F53B Major)	NH-P,PA
9Cl-PF3ONS (F53B Minor)	NH-P,PA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,PA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,PA
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P,PA
Perfluorodecanoic acid (PFDA)	NH-P,PA
Perfluorododecanoic acid (PFDoA)	NH-P,PA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	NH-P,PA
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,PA
N-EtFOSAA (NEtFOSAA)	NH-P,PA
N-MeFOSAA (NMeFOSAA)	NH-P,PA
Perfluorotetradecanoic acid (PFTA)	NH-P,PA
Perfluorotridecanoic acid (PFTrDA)	NH-P,PA
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P,PA
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA
Perfluorooctanesulfonamide (FOSA)	NH-P,PA
Perfluorononanesulfonic acid (PFNS)	NH-P,PA
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P,PA
Perfluoro-1-butanesulfonamide (FBSA)	NH-P,PA
Perfluorohexanesulfonic acid (PFHxS)	NH-P,PA
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P,PA
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P,PA
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P,PA
Perfluoropentanesulfonic acid (PFPeS)	NH-P,PA
Perfluoroundecanoic acid (PFUnA)	NH-P,PA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA
Perfluoroheptanoic acid (PFHpA)	NH-P,PA
Perfluorooctanoic acid (PFOA)	NH-P,PA
Perfluorooctanesulfonic acid (PFOS)	NH-P,PA
Perfluorononanoic acid (PFNA)	NH-P,PA

SOP-466 PFAS in Soil

Perfluorobutanoic acid (PFBA)	NH-P,PA
Perfluorobutanesulfonic acid (PFBS)	NH-P,PA
Perfluoropentanoic acid (PFPeA)	NH-P,PA
Perfluorohexanoic acid (PFHxA)	NH-P,PA
11Cl-PF3OUdS (F53B Major)	NH-P,PA
9Cl-PF3ONS (F53B Minor)	NH-P,PA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,PA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,PA
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P,PA
Perfluorodecanoic acid (PFDA)	NH-P,PA
Perfluorododecanoic acid (PFDoA)	NH-P,PA

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>SOP-466 PFAS in Soil</i>	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,PA
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,PA
N-EtFOSAA (NEtFOSAA)	NH-P,PA
N-MeFOSAA (NMeFOSAA)	NH-P,PA
Perfluorotetradecanoic acid (PFTA)	NH-P,PA
Perfluorotridecanoic acid (PFTrDA)	NH-P,PA
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P,PA
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA
Perfluorooctanesulfonamide (FOSA)	NH-P,PA
Perfluorononanesulfonic acid (PFNS)	NH-P,PA
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P,PA
Perfluoro-1-butanesulfonamide (FBSA)	NH-P,PA
Perfluorohexanesulfonic acid (PFHxS)	NH-P,PA
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P,PA
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P,PA
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P,PA
Perfluoropentanesulfonic acid (PFPeS)	NH-P,PA
Perfluoroundecanoic acid (PFUnA)	NH-P,PA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA
Perfluoroheptanoic acid (PFHpA)	NH-P,PA
Perfluorooctanoic acid (PFOA)	NH-P,PA
Perfluorooctanesulfonic acid (PFOS)	NH-P,PA
Perfluorononanoic acid (PFNA)	NH-P,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

2361778

RM



Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Page 1 of 1

Company Name: Tighe & Bond
Address: 120 Front Street, Worcester, MA 01608
Project Name: Princeton PFAS Investigation
Project Location: 18 MOUNTAIN ROAD, Princeton, MA

Requestor's Requirements: 7-Day, 10-Day, PFAS 10-Day (std)
Rush Approval Required: 1-Day, 2-Day, 3-Day, 4-Day
Data Delivery: Format: PDF, EXCEL
Other: CLP Like Data Pkg Required

ANALYSIS REQUESTED table with columns for VIALS, GLASS, PLASTIC, BACTERIA, ENCORE

Preservation Code: Total Number Of: VIALS, GLASS, BACTERIA, ENCORE

Main data table with columns: Con-Test Work Order#, Client Sample ID / Description, Beginning Date/Time, Ending Date/Time, COMP/GRAB, Matrix Code, Conc Code, VIALS, GLASS, PLASTIC, BACTERIA, ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

Relinquished by: (signature)
Received by: (signature)
Date/Time: 7/12/23 09:00, 7-13-23 9:15

Client Comments:
Exclusion Limits/Requirements
Special Requirements: MA MCP Required, MCP Certification Form Required, CT RCP Required, RCP Certification Form Required


Matrix Codes: GW = Ground Water, WW = Waste Water, DW = Drinking Water, A = Air, S = Soil, SL = Sludge, SOL = Solid, O = Other (please define)
Preservation Codes: I = Iced, H = HCL, M = Methanol, N = Nitric Acid, S = Sulfuric Acid, B = Sodium Bisulfate, X = Sodium Hydroxide, T = Sodium Thiosulfate, O = Other (please define)

Received by: (signature)
Date/Time:
Project Entity: Government, Federal, City, Municipality, 21 J, Brownfield, MWRA, School, MBTA, WRTA
Other: Chromatogram, AIHA-LAP, LLC

PCB ONLY: Soxhlet, Non Soxhlet

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform.

	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Tighe and Ben
 Project Princeton PFAS Investigation
 MCP/RCP Required NA MCP
 Deliverable Package Requirement NA
 Location 18 Mountain Road, Princeton, MA
 PWSID# (When Applicable) NA
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time ER 7/13/23 1828
 Back-Sheet By / Date / Time LA 7/14/23 050
 Temperature Method gun #5
 Temp < 6° C Actual Temperature 3.0
 Rush Samples: Yes / No Notify _____
 Short Hold: Yes / No Notify _____

Login Sample Receipt Checklist – (Rejection Criteria Listing
 – Using Acceptance Policy) Any False statement will be
 brought to the attention of the Client – True or False

	True	False
Received on Ice	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Received in Cooler	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Custody Seal: DATE TIME	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Relinquished	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC/Samples Labels Agree	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All Samples in Good Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Samples Received within Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there enough Volume	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proper Media/Container Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Splitting Samples Required	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MS/MSD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Trip Blanks	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lab to Filters	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Legible	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC Included: (Check all included)		
Client <input checked="" type="checkbox"/>	Analysis <input checked="" type="checkbox"/>	Sampler Name <input checked="" type="checkbox"/>
Project <input checked="" type="checkbox"/>	IDs <input type="checkbox"/>	Collection Date/Time <input checked="" type="checkbox"/>
All Samples Proper pH: <u>N/A</u> <input type="checkbox"/> <input type="checkbox"/>		

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample	Soils Jars (Circle Amb/Clear)				Ambers				Plastics						VOA Vials					Other / Fill in															
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	100ml	Unpreserved	1 Liter	Sulfuric	Unpreserved	500ml	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	BiSulfate	Col/Bact					
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2																																			
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July 18, 2023

Michael Scherer
Tighe & Bond, Inc. - Worcester
120 Front St.
Worcester, MA 01608-2303

Project Location: 22 Mountain Rs, Princeton, MA
Client Job Number:
Project Number: P-0534
Laboratory Work Order Number: 23G1806

Enclosed are results of analyses for samples as received by the laboratory on July 13, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Raymond J. McCarthy
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

 Tighe & Bond, Inc. - Worcester
 120 Front St.
 Worcester, MA 01608-2303
 ATTN: Michael Scherer

REPORT DATE: 7/18/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P-0534

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23G1806

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 22 Mountain Rs, Princeton, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
22MTN S-14 (0-6)	23G1806-01	Soil		SM 2540G SOP-466 PFAS	
22MTN S-14 (6-12)	23G1806-02	Soil		SM 2540G SOP-466 PFAS	
22MTN S-14 (12-24)	23G1806-03	Soil		SM 2540G SOP-466 PFAS	
22MTN S-15 (0-6)	23G1806-04	Soil		SM 2540G SOP-466 PFAS	
22MTN S-15 (6-12)	23G1806-05	Soil		SM 2540G SOP-466 PFAS	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 22 Mountain Rs, Princeton, MA

Sample Description:

Work Order: 23G1806

Date Received: 7/13/2023

Field Sample #: 22MTN S-14 (0-6)

Sampled: 7/11/2023 00:00

Sample ID: 23G1806-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorodecanoic acid (PFDA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorooctanoic acid (PFOA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW
Perfluorononanoic acid (PFNA)	ND	0.22	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:28	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 22 Mountain Rs, Princeton, MA

Sample Description:

Work Order: 23G1806

Date Received: 7/13/2023

Field Sample #: 22MTN S-14 (0-6)

Sampled: 7/11/2023 00:00

Sample ID: 23G1806-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.1		% Wt	1		SM 2540G	7/17/23	7/18/23 8:33	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 22 Mountain Rs, Princeton, MA

Sample Description:

Work Order: 23G1806

Date Received: 7/13/2023

Field Sample #: 22MTN S-14 (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1806-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorodecanoic acid (PFDA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorooctanoic acid (PFOA)	0.40	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorooctanesulfonic acid (PFOS)	0.39	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW
Perfluorononanoic acid (PFNA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:35	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 22 Mountain Rs, Princeton, MA

Sample Description:

Work Order: 23G1806

Date Received: 7/13/2023

Field Sample #: 22MTN S-14 (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1806-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.9		% Wt	1		SM 2540G	7/17/23	7/18/23 8:33	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 22 Mountain Rs, Princeton, MA

Sample Description:

Work Order: 23G1806

Date Received: 7/13/2023

Field Sample #: 22MTN S-14 (12-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1806-03

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorodecanoic acid (PFDA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorooctanoic acid (PFOA)	0.51	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorooctanesulfonic acid (PFOS)	0.82	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW
Perfluorononanoic acid (PFNA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:42	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 22 Mountain Rs, Princeton, MA

Sample Description:

Work Order: 23G1806

Date Received: 7/13/2023

Field Sample #: 22MTN S-14 (12-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1806-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.6		% Wt	1		SM 2540G	7/17/23	7/18/23 8:33	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 22 Mountain Rs, Princeton, MA

Sample Description:

Work Order: 23G1806

Date Received: 7/13/2023

Field Sample #: 22MTN S-15 (0-6)

Sampled: 7/11/2023 00:00

Sample ID: 23G1806-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorodecanoic acid (PFDA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorooctanoic acid (PFOA)	0.24	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorooctanesulfonic acid (PFOS)	0.71	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW
Perfluorononanoic acid (PFNA)	ND	0.23	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:50	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 22 Mountain Rs, Princeton, MA

Sample Description:

Work Order: 23G1806

Date Received: 7/13/2023

Field Sample #: 22MTN S-15 (0-6)

Sampled: 7/11/2023 00:00

Sample ID: 23G1806-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.0		% Wt	1		SM 2540G	7/17/23	7/18/23 8:34	ADB

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Project Location: 22 Mountain Rs, Princeton, MA

Sample Description:

Work Order: 23G1806

Date Received: 7/13/2023

Field Sample #: 22MTN S-15 (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1806-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorodecanoic acid (PFDA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
N-EtFOSAA (NEtFOSAA)	0.42	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorodecanesulfonic acid (PFDS)	0.36	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorooctanoic acid (PFOA)	0.29	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorooctanesulfonic acid (PFOS)	2.0	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW
Perfluorononanoic acid (PFNA)	ND	0.26	µg/kg dry	1		SOP-466 PFAS	7/17/23	7/18/23 11:57	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 22 Mountain Rs, Princeton, MA

Sample Description:

Work Order: 23G1806

Date Received: 7/13/2023

Field Sample #: 22MTN S-15 (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1806-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	76.7		% Wt	1		SM 2540G	7/17/23	7/18/23 8:34	ADB

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Sample Extraction Data
Prep Method:% Solids **Analytical Method:**SM 2540G

Lab Number [Field ID]	Batch	Date
23G1806-01 [22MTN S-14 (0-6)]	B346111	07/17/23
23G1806-02 [22MTN S-14 (6-12)]	B346111	07/17/23
23G1806-03 [22MTN S-14 (12-24)]	B346111	07/17/23
23G1806-04 [22MTN S-15 (0-6)]	B346111	07/17/23
23G1806-05 [22MTN S-15 (6-12)]	B346111	07/17/23

Prep Method:SOP 466-PFAAS **Analytical Method:**SOP-466 PFAS

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23G1806-01 [22MTN S-14 (0-6)]	B346073	5.86	5.00	07/17/23
23G1806-02 [22MTN S-14 (6-12)]	B346073	5.73	5.00	07/17/23
23G1806-03 [22MTN S-14 (12-24)]	B346073	5.82	5.00	07/17/23
23G1806-04 [22MTN S-15 (0-6)]	B346073	5.80	5.00	07/17/23
23G1806-05 [22MTN S-15 (6-12)]	B346073	5.72	5.00	07/17/23

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B346073 - SOP 466-PFAAS
Blank (B346073-BLK1)

Prepared: 07/17/23 Analyzed: 07/18/23

Perfluorobutanoic acid (PFBA)	ND	0.20	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.20	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.20	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.20	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.20	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.20	µg/kg wet							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.20	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.20	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg wet							
Perfluorotetradecanoic acid (PFTA)	ND	0.20	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg wet							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.20	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg wet							
Perfluorooctanesulfonamide (FOSA)	ND	0.20	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg wet							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.20	µg/kg wet							
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.20	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg wet							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.20	µg/kg wet							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.20	µg/kg wet							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.20	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.20	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg wet							

LCS (B346073-BS1)

Prepared: 07/17/23 Analyzed: 07/18/23

Perfluorobutanoic acid (PFBA)	2.00	0.20	µg/kg wet	2.19	91.4	71-135
Perfluorobutanesulfonic acid (PFBS)	1.71	0.20	µg/kg wet	1.94	88.1	72-128
Perfluoropentanoic acid (PFPeA)	1.99	0.20	µg/kg wet	2.19	90.6	69-132
Perfluorohexanoic acid (PFHxA)	2.01	0.20	µg/kg wet	2.19	91.6	70-132
11Cl-PF3OUdS (F53B Major)	1.75	0.20	µg/kg wet	2.07	84.9	41.8-128
9Cl-PF3ONS (F53B Minor)	1.90	0.20	µg/kg wet	2.04	93.1	51.1-141
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.92	0.20	µg/kg wet	2.07	92.8	55.2-122
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.95	0.20	µg/kg wet	2.19	89.1	27.6-137
8:2 Fluorotelomersulfonic acid (8:2FTS A)	2.43	0.20	µg/kg wet	2.10	116	65-137
Perfluorodecanoic acid (PFDA)	1.98	0.20	µg/kg wet	2.19	90.2	69-133
Perfluorododecanoic acid (PFDoA)	1.93	0.20	µg/kg wet	2.19	88.2	69-135
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	1.79	0.20	µg/kg wet	1.95	91.5	56.7-133

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
Batch B346073 - SOP 466-PFAAS								
LCS (B346073-BS1)								
				Prepared: 07/17/23 Analyzed: 07/18/23				
Perfluoroheptanesulfonic acid (PFHpS)	2.02	0.20	µg/kg wet	2.10		96.5 70-132		
N-EtFOSAA (NEtFOSAA)	2.18	0.20	µg/kg wet	2.19		99.2 61-139		
N-MeFOSAA (NMeFOSAA)	2.48	0.20	µg/kg wet	2.19		113 63-144		
Perfluorotetradecanoic acid (PFTA)	2.21	0.20	µg/kg wet	2.19		101 69-133		
Perfluorotridecanoic acid (PFTrDA)	2.40	0.20	µg/kg wet	2.19		109 66-139		
4:2 Fluorotelomersulfonic acid (4:2FTS A)	2.04	0.20	µg/kg wet	2.05		99.3 62-145		
Perfluorodecanesulfonic acid (PFDS)	1.70	0.20	µg/kg wet	2.11		80.2 59-134		
Perfluorooctanesulfonamide (FOSA)	2.21	0.20	µg/kg wet	2.19		101 67-137		
Perfluorononanesulfonic acid (PFNS)	2.05	0.20	µg/kg wet	2.10		97.5 69-125		
Perfluoro-1-hexanesulfonamide (FHxSA)	2.10	0.20	µg/kg wet	2.19		95.7 51.4-142		
Perfluoro-1-butanefulfonamide (FBSA)	2.00	0.20	µg/kg wet	2.19		91.3 53.5-129		
Perfluorohexanesulfonic acid (PFHxS)	1.97	0.20	µg/kg wet	2.01		97.9 67-130		
Perfluoro-4-oxapentanoic acid (PFMPA)	2.05	0.20	µg/kg wet	2.19		93.6 57.8-127		
Perfluoro-5-oxahexanoic acid (PFMBA)	2.07	0.20	µg/kg wet	2.19		94.3 56.5-132		
6:2 Fluorotelomersulfonic acid (6:2FTS A)	1.87	0.20	µg/kg wet	2.08		89.9 64-140		
Perfluoropentanesulfonic acid (PFPeS)	2.02	0.20	µg/kg wet	2.06		97.9 73-123		
Perfluoroundecanoic acid (PFUnA)	1.99	0.20	µg/kg wet	2.19		90.8 64-136		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.03	0.20	µg/kg wet	2.19		92.5 54.5-128		
Perfluoroheptanoic acid (PFHpA)	2.11	0.20	µg/kg wet	2.19		96.2 71-131		
Perfluorooctanoic acid (PFOA)	2.08	0.20	µg/kg wet	2.19		94.9 69-133		
Perfluorooctanesulfonic acid (PFOS)	1.91	0.20	µg/kg wet	2.03		94.0 68-136		
Perfluorononanoic acid (PFNA)	1.99	0.20	µg/kg wet	2.19		90.7 72-129		

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
22MTN S-14 (0-6) (23G1806-01)			Lab File ID: 23G1806-01.d		Analyzed: 07/18/23 11:28				
M8FOSA	189176.2	3.980583	177,471.00	3.980583	107	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	26463.15	2.4886	27,615.00	2.496817	96	50 - 150	-0.0082	+/-0.50	
M2PF _{TA}	385445.7	4.329683	415,138.00	4.3297	93	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	65052.95	3.794833	57,791.00	3.794833	113	50 - 150	0.0000	+/-0.50	
MPF _{BA}	231334.3	1.058467	238,033.00	1.058467	97	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	80922.71	2.831117	81,446.00	2.8393	99	50 - 150	-0.0082	+/-0.50	
M6PF _{DA}	472229.8	3.803317	489,526.00	3.803333	96	50 - 150	0.0000	+/-0.50	
M3PF _{BS}	104523.7	1.878383	106,371.00	1.878383	98	50 - 150	0.0000	+/-0.50	
M7PF _{UnA}	423405.4	3.94605	428,294.00	3.94605	99	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	30884.95	3.4373	28,964.00	3.4453	107	50 - 150	-0.0080	+/-0.50	
M5PF _{PeA}	235758.9	1.714833	244,100.00	1.714833	97	50 - 150	0.0000	+/-0.50	
M5PF _{HxA}	398286.4	2.572333	416,365.00	2.57235	96	50 - 150	0.0000	+/-0.50	
M3PF _{HxS}	62401.42	3.2019	63,136.00	3.2019	99	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	398334.1	3.1708	412,002.00	3.170783	97	50 - 150	0.0000	+/-0.50	
M8PFOA	441293.4	3.453817	454,473.00	3.453833	97	50 - 150	0.0000	+/-0.50	
M8PFOS	67228.53	3.644183	65,865.00	3.644183	102	50 - 150	0.0000	+/-0.50	
M9PFNA	415326.9	3.645217	429,522.00	3.645217	97	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	364222.3	4.08865	391,573.00	4.088666	93	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	100591.3	3.953517	111,736.00	3.953517	90	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	104895.2	3.873783	110,063.00	3.881767	95	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
22MTN S-14 (6-12) (23G1806-02)			Lab File ID: 23G1806-02.d			Analyzed: 07/18/23 11:35			
M8FOSA	199824.3	3.980583	177,471.00	3.980583	113	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	31377.11	2.4886	27,615.00	2.496817	114	50 - 150	-0.0082	+/-0.50	
M2PFTA	430658.1	4.329683	415,138.00	4.3297	104	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	72037.53	3.8028	57,791.00	3.794833	125	50 - 150	0.0080	+/-0.50	
MPFBA	256930.5	1.066783	238,033.00	1.058467	108	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	93466.44	2.8393	81,446.00	2.8393	115	50 - 150	0.0000	+/-0.50	
M6PFDA	523852.1	3.803317	489,526.00	3.803333	107	50 - 150	0.0000	+/-0.50	
M3PFBS	116410.6	1.878383	106,371.00	1.878383	109	50 - 150	0.0000	+/-0.50	
M7PFUnA	483742.2	3.94605	428,294.00	3.94605	113	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	36828.14	3.4373	28,964.00	3.4453	127	50 - 150	-0.0080	+/-0.50	
M5PFPeA	263809.5	1.714833	244,100.00	1.714833	108	50 - 150	0.0000	+/-0.50	
M5PFHxA	450946.5	2.564117	416,365.00	2.57235	108	50 - 150	-0.0082	+/-0.50	
M3PFHxS	71371.59	3.201883	63,136.00	3.2019	113	50 - 150	0.0000	+/-0.50	
M4PFHpA	452284.2	3.170783	412,002.00	3.170783	110	50 - 150	0.0000	+/-0.50	
M8PFOA	515844.7	3.453817	454,473.00	3.453833	114	50 - 150	0.0000	+/-0.50	
M8PFOS	73381.7	3.644167	65,865.00	3.644183	111	50 - 150	0.0000	+/-0.50	
M9PFNA	491202.8	3.6452	429,522.00	3.645217	114	50 - 150	0.0000	+/-0.50	
MPFDoA	409378	4.08865	391,573.00	4.088666	105	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	101522.3	3.953517	111,736.00	3.953517	91	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	118210.1	3.881767	110,063.00	3.881767	107	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
22MTN S-14 (12-24) (23G1806-03)									
			Lab File ID: 23G1806-03.d			Analyzed: 07/18/23 11:42			
M8FOSA	189515.8	3.980583	177,471.00	3.980583	107	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	28338.82	2.4804	27,615.00	2.496817	103	50 - 150	-0.0164	+/-0.50	
M2PFTA	395748.2	4.329683	415,138.00	4.3297	95	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	71760.41	3.794833	57,791.00	3.794833	124	50 - 150	0.0000	+/-0.50	
MPFBA	230061	1.058467	238,033.00	1.058467	97	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	77103.5	2.831117	81,446.00	2.8393	95	50 - 150	-0.0082	+/-0.50	
M6PFDA	500447.3	3.79535	489,526.00	3.803333	102	50 - 150	-0.0080	+/-0.50	
M3PFBS	104888.1	1.878383	106,371.00	1.878383	99	50 - 150	0.0000	+/-0.50	
M7PFUnA	459511.4	3.946033	428,294.00	3.94605	107	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	37917.41	3.4373	28,964.00	3.4453	131	50 - 150	-0.0080	+/-0.50	
M5PFPeA	237651.8	1.714833	244,100.00	1.714833	97	50 - 150	0.0000	+/-0.50	
M5PFHxA	403507.4	2.564117	416,365.00	2.57235	97	50 - 150	-0.0082	+/-0.50	
M3PFHxS	62648.53	3.201883	63,136.00	3.2019	99	50 - 150	0.0000	+/-0.50	
M4PFHpA	417610.8	3.170783	412,002.00	3.170783	101	50 - 150	0.0000	+/-0.50	
M8PFOA	456847.4	3.453817	454,473.00	3.453833	101	50 - 150	0.0000	+/-0.50	
M8PFOS	63018.25	3.644167	65,865.00	3.644183	96	50 - 150	0.0000	+/-0.50	
M9PFNA	441964.6	3.6452	429,522.00	3.645217	103	50 - 150	0.0000	+/-0.50	
MPFDoA	368744.7	4.08865	391,573.00	4.088666	94	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	103473	3.953517	111,736.00	3.953517	93	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	114862.8	3.873783	110,063.00	3.881767	104	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
22MTN S-15 (0-6) (23G1806-04)									
			Lab File ID: 23G1806-04.d			Analyzed: 07/18/23 11:50			
M8FOSA	202997.3	3.980583	177,471.00	3.980583	114	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	29476.19	2.4886	27,615.00	2.496817	107	50 - 150	-0.0082	+/-0.50	
M2PFTA	411204.5	4.3297	415,138.00	4.3297	99	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	71368.23	3.794833	57,791.00	3.794833	123	50 - 150	0.0000	+/-0.50	
MPFBA	239559.5	1.058467	238,033.00	1.058467	101	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	76078.87	2.839317	81,446.00	2.8393	93	50 - 150	0.0000	+/-0.50	
M6PFDA	517285.8	3.803333	489,526.00	3.803333	106	50 - 150	0.0000	+/-0.50	
M3PFBS	110812	1.878383	106,371.00	1.878383	104	50 - 150	0.0000	+/-0.50	
M7PFUnA	476112.4	3.95405	428,294.00	3.94605	111	50 - 150	0.0080	+/-0.50	
M2-6:2FTS	38574.4	3.4453	28,964.00	3.4453	133	50 - 150	0.0000	+/-0.50	
M5PFPeA	250510.5	1.714833	244,100.00	1.714833	103	50 - 150	0.0000	+/-0.50	
M5PFHxA	430009.1	2.572333	416,365.00	2.57235	103	50 - 150	0.0000	+/-0.50	
M3PFHxS	66446.81	3.2019	63,136.00	3.2019	105	50 - 150	0.0000	+/-0.50	
M4PFHpA	435698.9	3.1708	412,002.00	3.170783	106	50 - 150	0.0000	+/-0.50	
M8PFOA	487545.3	3.453833	454,473.00	3.453833	107	50 - 150	0.0000	+/-0.50	
M8PFOS	72016.93	3.644183	65,865.00	3.644183	109	50 - 150	0.0000	+/-0.50	
M9PFNA	459812.1	3.645217	429,522.00	3.645217	107	50 - 150	0.0000	+/-0.50	
MPFDoA	399666	4.088666	391,573.00	4.088666	102	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	109968.6	3.953517	111,736.00	3.953517	98	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	123216.6	3.881767	110,063.00	3.881767	112	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
22MTN S-15 (6-12) (23G1806-05)			Lab File ID: 23G1806-05.d			Analyzed: 07/18/23 11:57			
M8FOSA	178288.1	3.980567	177,471.00	3.980583	100	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	23825.63	2.480383	27,615.00	2.496817	86	50 - 150	-0.0164	+/-0.50	
M2PF _{TA}	265482.2	4.329683	415,138.00	4.3297	64	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	62440.43	3.794817	57,791.00	3.794833	108	50 - 150	0.0000	+/-0.50	
MPFBA	192499.3	1.058467	238,033.00	1.058467	81	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	63494.33	2.831117	81,446.00	2.8393	78	50 - 150	-0.0082	+/-0.50	
M6PFDA	418793.3	3.803317	489,526.00	3.803333	86	50 - 150	0.0000	+/-0.50	
M3PFBS	93271.86	1.878383	106,371.00	1.878383	88	50 - 150	0.0000	+/-0.50	
M7PFUnA	384419.8	3.946033	428,294.00	3.94605	90	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	33662.01	3.445283	28,964.00	3.4453	116	50 - 150	0.0000	+/-0.50	
M5PFPeA	197149	1.714833	244,100.00	1.714833	81	50 - 150	0.0000	+/-0.50	
M5PFHxA	348326.6	2.564117	416,365.00	2.57235	84	50 - 150	-0.0082	+/-0.50	
M3PFHxS	53906.49	3.201883	63,136.00	3.2019	85	50 - 150	0.0000	+/-0.50	
M4PFHpA	356085.7	3.170783	412,002.00	3.170783	86	50 - 150	0.0000	+/-0.50	
M8PFOA	405790.3	3.453817	454,473.00	3.453833	89	50 - 150	0.0000	+/-0.50	
M8PFOS	55942.66	3.644167	65,865.00	3.644183	85	50 - 150	0.0000	+/-0.50	
M9PFNA	389578.8	3.6452	429,522.00	3.645217	91	50 - 150	0.0000	+/-0.50	
MPFDoA	304198.5	4.08865	391,573.00	4.088666	78	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	78121.16	3.9535	111,736.00	3.953517	70	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	94506.39	3.873767	110,063.00	3.881767	86	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B346073-BLK1)			Lab File ID: B346073-BLK1.d			Analyzed: 07/18/23 09:32			
M8FOSA	199090.5	3.980583	177,471.00	3.9806	112	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	30529.92	2.496817	27,615.00	2.505033	111	50 - 150	-0.0082	+/-0.50	
M2PFTA	406515.8	4.337817	415,138.00	4.337817	98	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	61546.95	3.8028	57,791.00	3.802817	106	50 - 150	0.0000	+/-0.50	
MPFBA	250880.8	1.066783	238,033.00	1.058467	105	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	84640.75	2.8393	81,446.00	2.847483	104	50 - 150	-0.0082	+/-0.50	
M6PFDA	531442.4	3.803317	489,526.00	3.803333	109	50 - 150	0.0000	+/-0.50	
M3PFBS	117183.9	1.894967	106,371.00	1.886667	110	50 - 150	0.0083	+/-0.50	
M7PFUnA	479017.9	3.954033	428,294.00	3.95405	112	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	33844.62	3.445283	28,964.00	3.4453	117	50 - 150	0.0000	+/-0.50	
M5PFPeA	257310	1.7231	244,100.00	1.714833	105	50 - 150	0.0083	+/-0.50	
M5PFHxA	440819.5	2.58055	416,365.00	2.58055	106	50 - 150	0.0000	+/-0.50	
M3PFHxS	69654.19	3.21025	63,136.00	3.210267	110	50 - 150	0.0000	+/-0.50	
M4PFHpA	446478.3	3.17885	412,002.00	3.178867	108	50 - 150	0.0000	+/-0.50	
M8PFOA	474929.9	3.453817	454,473.00	3.453833	105	50 - 150	0.0000	+/-0.50	
M8PFOS	75053.84	3.644167	65,865.00	3.644183	114	50 - 150	0.0000	+/-0.50	
M9PFNA	466315.8	3.6452	429,522.00	3.645233	109	50 - 150	0.0000	+/-0.50	
MPFDoA	393944.1	4.08865	391,573.00	4.088666	101	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	105867.6	3.9615	111,736.00	3.961517	95	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	113438	3.881767	110,063.00	3.881767	103	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B346073-BS1)			Lab File ID: B346073-BS1.d			Analyzed: 07/18/23 09:25			
M8FOSA	181846.1	3.980583	177,471.00	3.9806	102	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	30109.74	2.496817	27,615.00	2.505033	109	50 - 150	-0.0082	+/-0.50	
M2PFTA	397704.1	4.337817	415,138.00	4.337817	96	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	64767.43	3.8028	57,791.00	3.802817	112	50 - 150	0.0000	+/-0.50	
MPFBA	235346.1	1.066783	238,033.00	1.058467	99	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	80407.55	2.847483	81,446.00	2.847483	99	50 - 150	0.0000	+/-0.50	
M6PFDA	512215.3	3.803333	489,526.00	3.803333	105	50 - 150	0.0000	+/-0.50	
M3PFBS	112337.5	1.894967	106,371.00	1.886667	106	50 - 150	0.0083	+/-0.50	
M7PFUnA	460212.8	3.954033	428,294.00	3.95405	107	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	33943.73	3.4453	28,964.00	3.4453	117	50 - 150	0.0000	+/-0.50	
M5PFPeA	246695.5	1.7231	244,100.00	1.714833	101	50 - 150	0.0083	+/-0.50	
M5PFHxA	420169.7	2.58055	416,365.00	2.58055	101	50 - 150	0.0000	+/-0.50	
M3PFHxS	66191.75	3.210267	63,136.00	3.210267	105	50 - 150	0.0000	+/-0.50	
M4PFHpA	434857.3	3.178867	412,002.00	3.178867	106	50 - 150	0.0000	+/-0.50	
M8PFOA	475397.1	3.453817	454,473.00	3.453833	105	50 - 150	0.0000	+/-0.50	
M8PFOS	68036.71	3.644183	65,865.00	3.644183	103	50 - 150	0.0000	+/-0.50	
M9PFNA	455321.6	3.645217	429,522.00	3.645233	106	50 - 150	0.0000	+/-0.50	
MPFDoA	384915.9	4.08865	391,573.00	4.088666	98	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	102640.2	3.9615	111,736.00	3.961517	92	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	107540	3.881767	110,063.00	3.881767	98	50 - 150	0.0000	+/-0.50	

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>SOP-466 PFAS in Soil</i>	
Perfluorobutanoic acid (PFBA)	NH-P
Perfluorobutanesulfonic acid (PFBS)	NH-P
Perfluoropentanoic acid (PFPeA)	NH-P
Perfluorohexanoic acid (PFHxA)	NH-P
11Cl-PF3OUdS (F53B Major)	NH-P
9Cl-PF3ONS (F53B Minor)	NH-P
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P
Perfluorodecanoic acid (PFDA)	NH-P
Perfluorododecanoic acid (PFDoA)	NH-P
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	NH-P
Perfluoroheptanesulfonic acid (PFHpS)	NH-P
N-EtFOSAA (NEtFOSAA)	NH-P
N-MeFOSAA (NMeFOSAA)	NH-P
Perfluorotetradecanoic acid (PFTA)	NH-P
Perfluorotridecanoic acid (PFTrDA)	NH-P
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P
Perfluorodecanesulfonic acid (PFDS)	NH-P
Perfluorooctanesulfonamide (FOSA)	NH-P
Perfluorononanesulfonic acid (PFNS)	NH-P
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P
Perfluoro-1-butanefulfonamide (FBSA)	NH-P
Perfluorohexanesulfonic acid (PFHxS)	NH-P
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P
Perfluoropentanesulfonic acid (PFPeS)	NH-P
Perfluoroundecanoic acid (PFUnA)	NH-P
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P
Perfluoroheptanoic acid (PFHpA)	NH-P
Perfluorooctanoic acid (PFOA)	NH-P
Perfluorooctanesulfonic acid (PFOS)	NH-P
Perfluorononanoic acid (PFNA)	NH-P

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2023

2351806
12M

Doc # 381 Rev 2_06262019
 http://www.contestlabs.com
 CHAIN OF CUSTODY RECORD
 39 Spruce Street
 East Longmeadow, MA 01028
 Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com
 Tighe & Bond
 120 Front Street, Worcester, MA 01608
 Phone: 508-754-2201
 Project Location: Princeton PFAS Investigation
 Project Name: 22 Mountain Rd, Princeton, MA
 Project Number: P-0534
 Project Manager: M. Scherer
 Con-Test Quote Name/Number:
 Invoice Recipient: Tighe & Bond
 Sampled By: M. Scherer

ANALYSIS REQUESTED

Con-Test Work Order #	Client Sample Id / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFOS/PFOA by isotope dilution (extended list)	Preservation Code	Carrier Use Only	Total Number Of:	
1	22MTN S-14 (0-6)	7/1/23		GRAB	DW	U	1					X				
2	22MTN S-14 (6-12)											X				
3	22MTN S-14 (12-24)											X				
4	22MTN S-15 (0-6)											X				
5	22MTN S-15 (6-12)											X				

Format: PDF EXCEL

Other:

CLP Like Data Pkg Required:

Email To:

Fax To #:

Client Comments:

Relinquished by: (signature) Date/Time: 7/12/23 09:00

Received by: (signature) Date/Time: 7-0-23 9:15

Relinquished by: (signature) Date/Time: 7-13-23 18:05

Received by: (signature) Date/Time: 7/13/23 18:05

Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time:

Relinquished by: (signature) Date/Time:


Received by: (signature) Date/Time:

Special Requirements:

MA RCP Required MCB Certification Form Required CT RCP Required RCP Certification Form Required MA State DWR required

Project Entity: Government Federal City Municipality 21 J Brownfield MWRA School MBTA WRTA Other Chromatogram AIHA-LAP, LLC

Disclaimers: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Tighe and Bond
 Project Princeton PFAS investigation
 MCP/RCP Required NA
 Deliverable Package Requirement N/A
 Location 22 Mountain Rd, Princeton, MA
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time ER 7/13/23 1825
 Back-Sheet By / Date / Time LA 7/14/23 1116
 Temperature Method gln # 5
 Temp < 6°C Actual Temperature 3.0
 Rush Samples: Yes / No / Notify _____
 Short Hold: Yes / No / Notify _____

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Received in Cooler	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Custody Seal: DATE TIME	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Relinquished	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC/Samples Labels Agree	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All Samples in Good Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Samples Received within Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there enough Volume	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proper Media/Container Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Splitting Samples Required	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MS/MSD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Trip Blanks	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lab to Filters	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Legible	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC Included: (Check all included)		
Client <input checked="" type="checkbox"/>	Analysis <input checked="" type="checkbox"/>	Sampler Name <input checked="" type="checkbox"/>
Project <input checked="" type="checkbox"/>	IDs <input checked="" type="checkbox"/>	Collection Date/Time <input checked="" type="checkbox"/>
All Samples Proper pH: <u>N/A</u>	<input type="checkbox"/>	<input type="checkbox"/>

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample	Soils Jars				Ambers				Plastics						VOA Vials					Other / Fill in												
	(Circle Amb/Clear)				1 Liter		250ml		100ml		1 Liter		250ml																			
1	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	BiSulfate	Col/Bact					
2																																
3																																
4																																
5																																
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18																																
19																																
20																																

July 24, 2023

Michael Scherer
Tighe & Bond, Inc. - Worcester
120 Front St.
Worcester, MA 01608-2303

Project Location: 21 Mountain Road, Princeton, MA
Client Job Number:
Project Number: P-0534
Laboratory Work Order Number: 23G1814

Enclosed are results of analyses for samples as received by the laboratory on July 13, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Raymond J. McCarthy
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Tighe & Bond, Inc. - Worcester
 120 Front St.
 Worcester, MA 01608-2303
 ATTN: Michael Scherer

REPORT DATE: 7/24/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P-0534

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23G1814

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 21 Mountain Road, Princeton, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
21 MTN S-8 (0-6)	23G1814-01	Soil		SM 2540G SOP-466 PFAS	
21 MTN S-8 (6-12)	23G1814-02	Soil		SM 2540G SOP-466 PFAS	
21 MTN S-9 (0-6)	23G1814-03	Soil		SM 2540G SOP-466 PFAS	
21 MTN S-10 (0-6)	23G1814-04	Soil		SM 2540G SOP-466 PFAS	
21 MTN S-10 (6-12)	23G1814-05	Soil		SM 2540G SOP-466 PFAS	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SOP-466 PFAS**Qualifications:****MS-19**

Sample to spike ratio is greater than or equal to 4:1. Spiked amount is not representative of the native amount in the sample. Appropriate or meaningful recoveries cannot be calculated.

Analyte & Samples(s) Qualified:**Perfluorooctanesulfonic acid (PFOS)**

23G1814-01[21 MTN S-8 (0-6)], B346163-MS1, B346163-MSD1

MS-22

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

Analyte & Samples(s) Qualified:**4,8-Dioxa-3H-perfluorononanoic acid (ADONA)**

B346163-MSD1

6:2 Fluorotelomersulfonic acid (6:2FTS A)

B346163-MSD1

Perfluorobutanesulfonic acid (PFBS)

B346163-MSD1

Perfluorodecanesulfonic acid (PFDS)

B346163-MSD1

Perfluorodecanoic acid (PFDA)

B346163-MSD1

Perfluorododecanoic acid (PFDoA)

B346163-MSD1

Perfluoroheptanoic acid (PFHpA)

B346163-MSD1

Perfluorohexanesulfonic acid (PFHxS)

B346163-MSD1

Perfluorohexanoic acid (PFHxA)

B346163-MSD1

Perfluorononanesulfonic acid (PFNS)

B346163-MSD1

Perfluorononanoic acid (PFNA)

B346163-MSD1

Perfluorooctanesulfonamide (FOSA)

B346163-MSD1

Perfluorooctanoic acid (PFOA)

B346163-MSD1

Perfluoropentanesulfonic acid (PFPeS)

B346163-MSD1

Perfluoropentanoic acid (PFPeA)

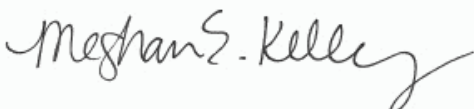
B346163-MSD1

Perfluoroundecanoic acid (PFUnA)

B346163-MSD1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 21 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1814

Date Received: 7/13/2023

Field Sample #: 21 MTN S-8 (0-6)

Sampled: 7/11/2023 00:00

Sample ID: 23G1814-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorodecanoic acid (PFDA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorooctanoic acid (PFOA)	0.70	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorooctanesulfonic acid (PFOS)	10	0.61	µg/kg dry	1	MS-19	SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW
Perfluorononanoic acid (PFNA)	ND	0.61	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:28	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 21 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1814

Date Received: 7/13/2023

Field Sample #: 21 MTN S-8 (0-6)

Sampled: 7/11/2023 00:00

Sample ID: 23G1814-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	69.6		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 21 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1814

Date Received: 7/13/2023

Field Sample #: 21 MTN S-8 (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1814-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorodecanoic acid (PFDA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorooctanoic acid (PFOA)	0.81	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorooctanesulfonic acid (PFOS)	6.9	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW
Perfluorononanoic acid (PFNA)	ND	0.60	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:35	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 21 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1814

Date Received: 7/13/2023

Field Sample #: 21 MTN S-8 (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1814-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	69.9		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 21 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1814

Date Received: 7/13/2023

Field Sample #: 21 MTN S-9 (0-6)

Sampled: 7/11/2023 00:00

Sample ID: 23G1814-03

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorodecanoic acid (PFDA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorohexanesulfonic acid (PFHxS)	1.5	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorooctanoic acid (PFOA)	0.72	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorooctanesulfonic acid (PFOS)	19	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW
Perfluorononanoic acid (PFNA)	ND	0.72	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:42	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 21 Mountain Road, Princeton, MA

Sample Description:

Work Order: 23G1814

Date Received: 7/13/2023

Field Sample #: 21 MTN S-9 (0-6)

Sampled: 7/11/2023 00:00

Sample ID: 23G1814-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	59.8		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 21 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1814

Date Received: 7/13/2023

Field Sample #: 21 MTN S-10 (0-6)

Sampled: 7/11/2023 00:00

Sample ID: 23G1814-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorodecanoic acid (PFDA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorooctanoic acid (PFOA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorooctanesulfonic acid (PFOS)	0.95	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW
Perfluorononanoic acid (PFNA)	ND	0.53	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:50	QNW

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Project Location: 21 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1814

Date Received: 7/13/2023

Field Sample #: 21 MTN S-10 (0-6)

Sampled: 7/11/2023 00:00

Sample ID: 23G1814-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.6		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 21 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1814

Date Received: 7/13/2023

Field Sample #: 21 MTN S-10 (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1814-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorodecanoic acid (PFDA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorooctanoic acid (PFOA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorooctanesulfonic acid (PFOS)	8.0	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW
Perfluorononanoic acid (PFNA)	ND	0.62	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 11:57	QNW

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Project Location: 21 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1814

Date Received: 7/13/2023

Field Sample #: 21 MTN S-10 (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1814-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	69.6		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

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Sample Extraction Data
Prep Method:% Solids **Analytical Method:**SM 2540G

Lab Number [Field ID]	Batch	Date
23G1814-01 [21 MTN S-8 (0-6)]	B346112	07/17/23
23G1814-02 [21 MTN S-8 (6-12)]	B346112	07/17/23
23G1814-03 [21 MTN S-9 (0-6)]	B346112	07/17/23
23G1814-04 [21 MTN S-10 (0-6)]	B346112	07/17/23
23G1814-05 [21 MTN S-10 (6-12)]	B346112	07/17/23

Prep Method:SOP 466-PFAAS **Analytical Method:**SOP-466 PFAS

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23G1814-01 [21 MTN S-8 (0-6)]	B346163	5.87	5.00	07/18/23
23G1814-02 [21 MTN S-8 (6-12)]	B346163	5.89	5.00	07/18/23
23G1814-03 [21 MTN S-9 (0-6)]	B346163	5.78	5.00	07/18/23
23G1814-04 [21 MTN S-10 (0-6)]	B346163	5.85	5.00	07/18/23
23G1814-05 [21 MTN S-10 (6-12)]	B346163	5.71	5.00	07/18/23

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B346163 - SOP 466-PFAAS
Blank (B346163-BLK1)

Prepared: 07/18/23 Analyzed: 07/21/23

Perfluorobutanoic acid (PFBA)	ND	0.43	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.43	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.43	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.43	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.43	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.43	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.43	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.43	µg/kg wet							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.43	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.43	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.43	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.43	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.43	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.43	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.43	µg/kg wet							
Perfluorotetradecanoic acid (PFTA)	ND	0.43	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.43	µg/kg wet							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.43	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.43	µg/kg wet							
Perfluorooctanesulfonamide (FOSA)	ND	0.43	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.43	µg/kg wet							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.43	µg/kg wet							
Perfluoro-1-butanefulfonamide (FBSA)	ND	0.43	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.43	µg/kg wet							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.43	µg/kg wet							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.43	µg/kg wet							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.43	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.43	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.43	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.43	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.43	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.43	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.43	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.43	µg/kg wet							

LCS (B346163-BS1)

Prepared: 07/18/23 Analyzed: 07/21/23

Perfluorobutanoic acid (PFBA)	2.17	0.42	µg/kg wet	2.14	101	71-135
Perfluorobutanesulfonic acid (PFBS)	1.90	0.42	µg/kg wet	1.89	100	72-128
Perfluoropentanoic acid (PFPeA)	2.16	0.42	µg/kg wet	2.14	101	69-132
Perfluorohexanoic acid (PFHxA)	2.13	0.42	µg/kg wet	2.14	99.4	70-132
11Cl-PF3OUdS (F53B Major)	1.75	0.42	µg/kg wet	2.02	86.8	41.8-128
9Cl-PF3ONS (F53B Minor)	1.76	0.42	µg/kg wet	2.00	88.2	51.1-141
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.82	0.42	µg/kg wet	2.02	90.1	55.2-122
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.92	0.42	µg/kg wet	2.14	89.5	27.6-137
8:2 Fluorotelomersulfonic acid (8:2FTS A)	2.06	0.42	µg/kg wet	2.06	100	65-137
Perfluorodecanoic acid (PFDA)	2.25	0.42	µg/kg wet	2.14	105	69-133
Perfluorododecanoic acid (PFDoA)	2.09	0.42	µg/kg wet	2.14	97.5	69-135
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	1.76	0.42	µg/kg wet	1.91	92.5	56.7-133

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B346163 - SOP 466-PFAAS

LCS (B346163-BS1)

Prepared: 07/18/23 Analyzed: 07/21/23

Perfluoroheptanesulfonic acid (PFHpS)	2.03	0.42	µg/kg wet	2.05		99.1	70-132			
N-EtFOSAA (NEtFOSAA)	2.17	0.42	µg/kg wet	2.14		101	61-139			
N-MeFOSAA (NMeFOSAA)	2.16	0.42	µg/kg wet	2.14		101	63-144			
Perfluorotetradecanoic acid (PFTA)	2.16	0.42	µg/kg wet	2.14		101	69-133			
Perfluorotridecanoic acid (PFTTrDA)	2.22	0.42	µg/kg wet	2.14		103	66-139			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	2.14	0.42	µg/kg wet	2.00		107	62-145			
Perfluorodecanesulfonic acid (PFDS)	2.13	0.42	µg/kg wet	2.06		103	59-134			
Perfluorooctanesulfonamide (FOSA)	2.01	0.42	µg/kg wet	2.14		94.0	67-137			
Perfluorononanesulfonic acid (PFNS)	2.01	0.42	µg/kg wet	2.06		97.9	69-125			
Perfluoro-1-hexanesulfonamide (FHxSA)	2.01	0.42	µg/kg wet	2.14		94.0	51.4-142			
Perfluoro-1-butanefulfonamide (FBSA)	1.93	0.42	µg/kg wet	2.14		90.0	53.5-129			
Perfluorohexanesulfonic acid (PFHxS)	1.91	0.42	µg/kg wet	1.96		97.2	67-130			
Perfluoro-4-oxapentanoic acid (PFMPA)	2.15	0.42	µg/kg wet	2.14		100	57.8-127			
Perfluoro-5-oxahexanoic acid (PFMBA)	1.99	0.42	µg/kg wet	2.14		92.9	56.5-132			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	2.11	0.42	µg/kg wet	2.03		104	64-140			
Perfluoropentanesulfonic acid (PFPeS)	2.06	0.42	µg/kg wet	2.01		102	73-123			
Perfluoroundecanoic acid (PFUnA)	2.32	0.42	µg/kg wet	2.14		108	64-136			
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	1.93	0.42	µg/kg wet	2.14		90.1	54.5-128			
Perfluoroheptanoic acid (PFHpA)	2.06	0.42	µg/kg wet	2.14		96.2	71-131			
Perfluorooctanoic acid (PFOA)	2.14	0.42	µg/kg wet	2.14		100	69-133			
Perfluorooctanesulfonic acid (PFOS)	1.80	0.42	µg/kg wet	1.98		91.0	68-136			
Perfluorononanoic acid (PFNA)	2.25	0.42	µg/kg wet	2.14		105	72-129			

Matrix Spike (B346163-MS1)

Source: 23G1814-01

Prepared: 07/18/23 Analyzed: 07/21/23

Perfluorobutanoic acid (PFBA)	3.87	0.63	µg/kg dry	3.16	ND	123	71-135			
Perfluorobutanesulfonic acid (PFBS)	3.35	0.63	µg/kg dry	2.79	ND	120	72-128			
Perfluoropentanoic acid (PFPeA)	3.90	0.63	µg/kg dry	3.16	ND	123	69-132			
Perfluorohexanoic acid (PFHxA)	3.97	0.63	µg/kg dry	3.16	ND	126	70-132			
11Cl-PF3OUdS (F53B Major)	3.33	0.63	µg/kg dry	2.97	ND	112	4.02-158			
9Cl-PF3ONS (F53B Minor)	3.12	0.63	µg/kg dry	2.94	ND	106	52.5-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.32	0.63	µg/kg dry	2.97	ND	112	50.7-124			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	3.50	0.63	µg/kg dry	3.16	ND	111	29.2-146			
8:2 Fluorotelomersulfonic acid (8:2FTS A)	3.69	0.63	µg/kg dry	3.03	ND	122	65-137			
Perfluorodecanoic acid (PFDA)	4.16	0.63	µg/kg dry	3.16	ND	132	69-133			
Perfluorododecanoic acid (PFDoA)	3.88	0.63	µg/kg dry	3.16	ND	123	69-135			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	3.15	0.63	µg/kg dry	2.81	ND	112	60.7-135			
Perfluoroheptanesulfonic acid (PFHpS)	3.47	0.63	µg/kg dry	3.02	ND	115	70-132			
N-EtFOSAA (NEtFOSAA)	3.79	0.63	µg/kg dry	3.16	ND	120	61-139			
N-MeFOSAA (NMeFOSAA)	4.01	0.63	µg/kg dry	3.16	ND	127	63-144			
Perfluorotetradecanoic acid (PFTA)	3.85	0.63	µg/kg dry	3.16	ND	122	69-133			
Perfluorotridecanoic acid (PFTTrDA)	3.92	0.63	µg/kg dry	3.16	ND	124	66-139			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	3.36	0.63	µg/kg dry	2.96	ND	114	62-145			
Perfluorodecanesulfonic acid (PFDS)	3.76	0.63	µg/kg dry	3.04	ND	123	59-134			
Perfluorooctanesulfonamide (FOSA)	3.73	0.63	µg/kg dry	3.16	ND	118	67-137			
Perfluorononanesulfonic acid (PFNS)	3.35	0.63	µg/kg dry	3.03	ND	111	69-125			
Perfluoro-1-hexanesulfonamide (FHxSA)	3.82	0.63	µg/kg dry	3.16	ND	121	18.9-162			
Perfluoro-1-butanefulfonamide (FBSA)	3.50	0.63	µg/kg dry	3.16	ND	111	49.8-135			
Perfluorohexanesulfonic acid (PFHxS)	3.68	0.63	µg/kg dry	2.89	0.593	107	67-130			
Perfluoro-4-oxapentanoic acid (PFMPA)	3.83	0.63	µg/kg dry	3.16	ND	121	62-155			
Perfluoro-5-oxahexanoic acid (PFMBA)	3.52	0.63	µg/kg dry	3.16	ND	112	52.1-148			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B346163 - SOP 466-PFAAS										
Matrix Spike (B346163-MS1)										
Source: 23G1814-01										
Prepared: 07/18/23 Analyzed: 07/21/23										
6:2 Fluorotelomersulfonic acid (6:2FTS A)	3.97	0.63	µg/kg dry	3.00	ND	132	64-140			
Perfluoropentanesulfonic acid (PFPeS)	3.41	0.63	µg/kg dry	2.97	ND	115	73-123			
Perfluoroundecanoic acid (PFUnA)	4.01	0.63	µg/kg dry	3.16	ND	127	64-136			
Nonaffluoro-3,6-dioxaheptanoic acid (NFDHA)	3.50	0.63	µg/kg dry	3.16	ND	111	54.6-133			
Perfluoroheptanoic acid (PFHpA)	3.83	0.63	µg/kg dry	3.16	ND	121	71-131			
Perfluorooctanoic acid (PFOA)	4.52	0.63	µg/kg dry	3.16	0.703	121	69-133			
Perfluorooctanesulfonic acid (PFOS)	11.3	0.63	µg/kg dry	2.92	10.5	29.6 *	68-136			MS-19
Perfluorononanoic acid (PFNA)	4.08	0.63	µg/kg dry	3.16	ND	129	72-129			
Matrix Spike Dup (B346163-MSD1)										
Source: 23G1814-01										
Prepared: 07/18/23 Analyzed: 07/21/23										
Perfluorobutanoic acid (PFBA)	4.11	0.60	µg/kg dry	3.05	ND	135	71-135	6.03	30	
Perfluorobutanesulfonic acid (PFBS)	3.51	0.60	µg/kg dry	2.69	ND	130 *	72-128	4.61	30	MS-22
Perfluoropentanoic acid (PFPeA)	4.10	0.60	µg/kg dry	3.05	ND	135 *	69-132	4.96	30	MS-22
Perfluorohexanoic acid (PFHxA)	4.15	0.60	µg/kg dry	3.05	ND	136 *	70-132	4.54	30	MS-22
11Cl-PF3OUdS (F53B Major)	3.36	0.60	µg/kg dry	2.87	ND	117	4.02-158	0.893	30	
9Cl-PF3ONS (F53B Minor)	3.29	0.60	µg/kg dry	2.84	ND	116	52.5-150	5.17	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.59	0.60	µg/kg dry	2.87	ND	125 *	50.7-124	7.71	30	MS-22
Hexafluoropropylene oxide dimer acid (HFPO-DA)	3.31	0.60	µg/kg dry	3.05	ND	109	29.2-146	5.45	30	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	3.34	0.60	µg/kg dry	2.92	ND	114	65-137	9.79	30	
Perfluorodecanoic acid (PFDA)	4.22	0.60	µg/kg dry	3.05	ND	139 *	69-133	1.40	30	MS-22
Perfluorododecanoic acid (PFDoA)	4.14	0.60	µg/kg dry	3.05	ND	136 *	69-135	6.61	30	MS-22
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	3.34	0.60	µg/kg dry	2.71	ND	123	60.7-135	5.86	30	
Perfluoroheptanesulfonic acid (PFHpS)	3.60	0.60	µg/kg dry	2.91	ND	124	70-132	3.68	30	
N-EtFOSAA (NEtFOSAA)	4.20	0.60	µg/kg dry	3.05	ND	138	61-139	10.2	30	
N-MeFOSAA (NMeFOSAA)	3.93	0.60	µg/kg dry	3.05	ND	129	63-144	2.03	30	
Perfluorotetradecanoic acid (PFTA)	4.02	0.60	µg/kg dry	3.05	ND	132	69-133	4.33	30	
Perfluorotridecanoic acid (PFTrDA)	4.07	0.60	µg/kg dry	3.05	ND	134	66-139	3.58	30	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	3.83	0.60	µg/kg dry	2.85	ND	134	62-145	13.1	30	
Perfluorodecanesulfonic acid (PFDS)	4.12	0.60	µg/kg dry	2.94	ND	140 *	59-134	9.08	30	MS-22
Perfluorooctanesulfonamide (FOSA)	4.20	0.60	µg/kg dry	3.05	ND	138 *	67-137	11.9	30	MS-22
Perfluorononanesulfonic acid (PFNS)	3.73	0.60	µg/kg dry	2.92	ND	128 *	69-125	10.7	30	MS-22
Perfluoro-1-hexanesulfonamide (FHxSA)	4.35	0.60	µg/kg dry	3.05	ND	143	18.9-162	13.1	30	
Perfluoro-1-butanesulfonamide (FBSA)	3.69	0.60	µg/kg dry	3.05	ND	121	49.8-135	5.50	30	
Perfluorohexanesulfonic acid (PFHxS)	4.35	0.60	µg/kg dry	2.79	0.593	135 *	67-130	16.8	30	MS-22
Perfluoro-4-oxapentanoic acid (PFMPA)	3.97	0.60	µg/kg dry	3.05	ND	130	62-155	3.69	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	3.74	0.60	µg/kg dry	3.05	ND	123	52.1-148	5.89	30	
6:2 Fluorotelomersulfonic acid (6:2FTS A)	4.11	0.60	µg/kg dry	2.89	ND	142 *	64-140	3.45	30	MS-22
Perfluoropentanesulfonic acid (PFPeS)	3.59	0.60	µg/kg dry	2.86	ND	125 *	73-123	4.98	30	MS-22
Perfluoroundecanoic acid (PFUnA)	4.31	0.60	µg/kg dry	3.05	ND	142 *	64-136	7.41	30	MS-22
Nonaffluoro-3,6-dioxaheptanoic acid (NFDHA)	3.69	0.60	µg/kg dry	3.05	ND	121	54.6-133	5.11	30	
Perfluoroheptanoic acid (PFHpA)	4.12	0.60	µg/kg dry	3.05	ND	135 *	71-131	7.43	30	MS-22
Perfluorooctanoic acid (PFOA)	4.96	0.60	µg/kg dry	3.05	0.703	140 *	69-133	9.30	30	MS-22
Perfluorooctanesulfonic acid (PFOS)	12.3	0.60	µg/kg dry	2.81	10.5	65.0 *	68-136	8.17	30	MS-19
Perfluorononanoic acid (PFNA)	4.44	0.60	µg/kg dry	3.05	ND	146 *	72-129	8.41	30	MS-22

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-19	Sample to spike ratio is greater than or equal to 4:1. Spiked amount is not representative of the native amount in the sample. Appropriate or meaningful recoveries cannot be calculated.
MS-22	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
21 MTN S-8 (0-6) (23G1814-01)			Lab File ID: 23G1814-01.d			Analyzed: 07/21/23 11:28			
M8FOSA	207622	3.964583	205,556.00	3.964583	101	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	33614.04	2.45575	33,232.00	2.447533	101	50 - 150	0.0082	+/-0.50	
M2PF _T A	445571.5	4.30535	475,158.00	4.30535	94	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	84465.74	3.770917	89,662.00	3.770917	94	50 - 150	0.0000	+/-0.50	
MPFBA	237539.9	1.04185	264,396.00	1.04185	90	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	77793.35	2.798383	91,576.00	2.7902	85	50 - 150	0.0082	+/-0.50	
M6PFDA	529403.6	3.779417	560,613.00	3.779417	94	50 - 150	0.0000	+/-0.50	
M3PFBS	115196	1.853533	119,122.00	1.845233	97	50 - 150	0.0083	+/-0.50	
M7PFUnA	482615	3.92205	498,532.00	3.92205	97	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	43751.57	3.41245	36,358.00	3.41245	120	50 - 150	0.0000	+/-0.50	
M5PFPeA	247048.5	1.681733	274,032.00	1.673467	90	50 - 150	0.0083	+/-0.50	
M5PFHxA	441055.8	2.539483	467,561.00	2.531267	94	50 - 150	0.0082	+/-0.50	
M3PFHxS	68148.34	3.17765	72,987.00	3.177667	93	50 - 150	0.0000	+/-0.50	
M4PFHpA	465482.1	3.14655	484,638.00	3.14655	96	50 - 150	0.0000	+/-0.50	
M8PFOA	506327.8	3.42985	523,961.00	3.42985	97	50 - 150	0.0000	+/-0.50	
M8PFOS	75678.46	3.620217	77,569.00	3.620217	98	50 - 150	0.0000	+/-0.50	
M9PFNA	483941.8	3.62125	495,840.00	3.62125	98	50 - 150	0.0000	+/-0.50	
MPFDoA	442512.5	4.064667	455,789.00	4.064667	97	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	123475.8	3.929517	125,427.00	3.929517	98	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	136530	3.8497	134,422.00	3.8497	102	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
21 MTN S-8 (6-12) (23G1814-02)			Lab File ID: 23G1814-02.d			Analyzed: 07/21/23 11:35			
M8FOSA	210006.2	3.964583	205,556.00	3.964583	102	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	34756.05	2.447533	33,232.00	2.447533	105	50 - 150	0.0000	+/-0.50	
M2PF _{TA}	455878.8	4.30535	475,158.00	4.30535	96	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	92937.61	3.770917	89,662.00	3.770917	104	50 - 150	0.0000	+/-0.50	
MPF _{BA}	248363.3	1.04185	264,396.00	1.04185	94	50 - 150	0.0000	+/-0.50	
M3HF _{PO-DA}	91920	2.798383	91,576.00	2.7902	100	50 - 150	0.0082	+/-0.50	
M6PF _{DA}	534213.4	3.779417	560,613.00	3.779417	95	50 - 150	0.0000	+/-0.50	
M3PF _{BS}	121130.8	1.853533	119,122.00	1.845233	102	50 - 150	0.0083	+/-0.50	
M7PF _{UnA}	489979.9	3.92205	498,532.00	3.92205	98	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	46970.2	3.41245	36,358.00	3.41245	129	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	258546.2	1.681733	274,032.00	1.673467	94	50 - 150	0.0083	+/-0.50	
M5PF _{HxA}	453708.7	2.531267	467,561.00	2.531267	97	50 - 150	0.0000	+/-0.50	
M3PF _{HxS}	75920.2	3.17765	72,987.00	3.177667	104	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	474267.1	3.14655	484,638.00	3.14655	98	50 - 150	0.0000	+/-0.50	
M8PF _{OA}	528074.1	3.42985	523,961.00	3.42985	101	50 - 150	0.0000	+/-0.50	
M8PF _{OS}	77444.9	3.620217	77,569.00	3.620217	100	50 - 150	0.0000	+/-0.50	
M9PF _{NA}	505531.3	3.62125	495,840.00	3.62125	102	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	469873.6	4.064667	455,789.00	4.064667	103	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	133854.8	3.929517	125,427.00	3.929517	107	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	142173.3	3.8497	134,422.00	3.8497	106	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
21 MTN S-9 (0-6) (23G1814-03)			Lab File ID: 23G1814-03.d			Analyzed: 07/21/23 11:42			
M8FOSA	198372.2	3.964583	205,556.00	3.964583	97	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	33522.81	2.447533	33,232.00	2.447533	101	50 - 150	0.0000	+/-0.50	
M2PF _T A	431516.3	4.30535	475,158.00	4.30535	91	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	98259	3.770917	89,662.00	3.770917	110	50 - 150	0.0000	+/-0.50	
MPFBA	234976.6	1.04185	264,396.00	1.04185	89	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	77062.9	2.798383	91,576.00	2.7902	84	50 - 150	0.0082	+/-0.50	
M6PFDA	513262.1	3.779417	560,613.00	3.779417	92	50 - 150	0.0000	+/-0.50	
M3PFBS	115434.4	1.853533	119,122.00	1.845233	97	50 - 150	0.0083	+/-0.50	
M7PFUnA	486365.8	3.92205	498,532.00	3.92205	98	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	51540.47	3.41245	36,358.00	3.41245	142	50 - 150	0.0000	+/-0.50	
M5PFPeA	248936.9	1.681733	274,032.00	1.673467	91	50 - 150	0.0083	+/-0.50	
M5PFHxA	435100.2	2.531267	467,561.00	2.531267	93	50 - 150	0.0000	+/-0.50	
M3PFHxS	70863.39	3.17765	72,987.00	3.177667	97	50 - 150	0.0000	+/-0.50	
M4PFHpA	456531.2	3.14655	484,638.00	3.14655	94	50 - 150	0.0000	+/-0.50	
M8PFOA	512361.9	3.42985	523,961.00	3.42985	98	50 - 150	0.0000	+/-0.50	
M8PFOS	73946.81	3.620217	77,569.00	3.620217	95	50 - 150	0.0000	+/-0.50	
M9PFNA	482614.5	3.62125	495,840.00	3.62125	97	50 - 150	0.0000	+/-0.50	
MPFDoA	433462.9	4.064667	455,789.00	4.064667	95	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	126698.5	3.929517	125,427.00	3.929517	101	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	145437.4	3.85765	134,422.00	3.8497	108	50 - 150	0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
21 MTN S-10 (0-6) (23G1814-04)									
			Lab File ID: 23G1814-04.d			Analyzed: 07/21/23 11:50			
M8FOSA	199423.7	3.964583	205,556.00	3.964583	97	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	34430.11	2.447533	33,232.00	2.447533	104	50 - 150	0.0000	+/-0.50	
M2PF _{TA}	440779.2	4.30535	475,158.00	4.30535	93	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	89389.66	3.770917	89,662.00	3.770917	100	50 - 150	0.0000	+/-0.50	
MPFBA	244451.9	1.04185	264,396.00	1.04185	92	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	88140.05	2.7902	91,576.00	2.7902	96	50 - 150	0.0000	+/-0.50	
M6PFDA	531140.8	3.779417	560,613.00	3.779417	95	50 - 150	0.0000	+/-0.50	
M3PFBS	118936.8	1.845233	119,122.00	1.845233	100	50 - 150	0.0000	+/-0.50	
M7PF _{UnA}	482386.3	3.92205	498,532.00	3.92205	97	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	44886.64	3.41245	36,358.00	3.41245	123	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	255717.5	1.681733	274,032.00	1.673467	93	50 - 150	0.0083	+/-0.50	
M5PF _{HxA}	452244.3	2.531267	467,561.00	2.531267	97	50 - 150	0.0000	+/-0.50	
M3PF _{HxS}	69025.44	3.17765	72,987.00	3.177667	95	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	464491.4	3.14655	484,638.00	3.14655	96	50 - 150	0.0000	+/-0.50	
M8PFOA	521071.7	3.42985	523,961.00	3.42985	99	50 - 150	0.0000	+/-0.50	
M8PFOS	77833.35	3.620217	77,569.00	3.620217	100	50 - 150	0.0000	+/-0.50	
M9PFNA	494058.8	3.62125	495,840.00	3.62125	100	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	446675.1	4.064667	455,789.00	4.064667	98	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	124739	3.929517	125,427.00	3.929517	99	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	140078.1	3.8497	134,422.00	3.8497	104	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
21 MTN S-10 (6-12) (23G1814-05)			Lab File ID: 23G1814-05.d			Analyzed: 07/21/23 11:57			
M8FOSA	189323.7	3.964583	205,556.00	3.964583	92	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	32526.59	2.447533	33,232.00	2.447533	98	50 - 150	0.0000	+/-0.50	
M2PF _{TA}	384203.4	4.30535	475,158.00	4.30535	81	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	93111.73	3.778883	89,662.00	3.770917	104	50 - 150	0.0080	+/-0.50	
MPFBA	223807.1	1.04185	264,396.00	1.04185	85	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	75682.06	2.7902	91,576.00	2.7902	83	50 - 150	0.0000	+/-0.50	
M6PFDA	489372.4	3.779417	560,613.00	3.779417	87	50 - 150	0.0000	+/-0.50	
M3PFBS	110032.1	1.845233	119,122.00	1.845233	92	50 - 150	0.0000	+/-0.50	
M7PF _{UnA}	445763.9	3.92205	498,532.00	3.92205	89	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	44540.63	3.41245	36,358.00	3.41245	123	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	231963.3	1.681733	274,032.00	1.673467	85	50 - 150	0.0083	+/-0.50	
M5PF _{HxA}	409441.7	2.531267	467,561.00	2.531267	88	50 - 150	0.0000	+/-0.50	
M3PF _{HxS}	64917.73	3.17765	72,987.00	3.177667	89	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	432704.2	3.14655	484,638.00	3.14655	89	50 - 150	0.0000	+/-0.50	
M8PFOA	481119.3	3.42985	523,961.00	3.42985	92	50 - 150	0.0000	+/-0.50	
M8PFOS	72601.47	3.620217	77,569.00	3.620217	94	50 - 150	0.0000	+/-0.50	
M9PFNA	448844.9	3.62125	495,840.00	3.62125	91	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	401711.7	4.064667	455,789.00	4.064667	88	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	121446.4	3.929517	125,427.00	3.929517	97	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	137449	3.8497	134,422.00	3.8497	102	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B346163-BLK1)			Lab File ID: B346163-BLK1.d			Analyzed: 07/21/23 11:06			
M8FOSA	206585.3	3.964583	205,556.00	3.964583	101	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	33484.38	2.447533	33,232.00	2.447533	101	50 - 150	0.0000	+/-0.50	
M2PFTA	445693.3	4.30535	475,158.00	4.30535	94	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	84615.45	3.770917	89,662.00	3.770917	94	50 - 150	0.0000	+/-0.50	
MPFBA	252051.4	1.04185	264,396.00	1.04185	95	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	85302.09	2.798383	91,576.00	2.7902	93	50 - 150	0.0082	+/-0.50	
M6PFDA	525135.7	3.779417	560,613.00	3.779417	94	50 - 150	0.0000	+/-0.50	
M3PFBS	120722.5	1.845233	119,122.00	1.845233	101	50 - 150	0.0000	+/-0.50	
M7PFUnA	473838.3	3.92205	498,532.00	3.92205	95	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	40302.69	3.41245	36,358.00	3.41245	111	50 - 150	0.0000	+/-0.50	
M5PFPeA	258289.3	1.681733	274,032.00	1.673467	94	50 - 150	0.0083	+/-0.50	
M5PFHxA	458737.3	2.531267	467,561.00	2.531267	98	50 - 150	0.0000	+/-0.50	
M3PFHxS	77584.26	3.17765	72,987.00	3.177667	106	50 - 150	0.0000	+/-0.50	
M4PFHpA	476660.9	3.14655	484,638.00	3.14655	98	50 - 150	0.0000	+/-0.50	
M8PFOA	519763.3	3.42985	523,961.00	3.42985	99	50 - 150	0.0000	+/-0.50	
M8PFOS	77484.16	3.620217	77,569.00	3.620217	100	50 - 150	0.0000	+/-0.50	
M9PFNA	486693.9	3.62125	495,840.00	3.62125	98	50 - 150	0.0000	+/-0.50	
MPFDoA	421784.2	4.064667	455,789.00	4.064667	93	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	118592.4	3.929517	125,427.00	3.929517	95	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	127582.7	3.8497	134,422.00	3.8497	95	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B346163-BS1)			Lab File ID: B346163-BS1.d			Analyzed: 07/21/23 10:59			
M8FOSA	191563.5	3.964583	205,556.00	3.964583	93	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	32658.45	2.44755	33,232.00	2.447533	98	50 - 150	0.0000	+/-0.50	
M2PFTA	418591.9	4.30535	475,158.00	4.30535	88	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	75927.81	3.770917	89,662.00	3.770917	85	50 - 150	0.0000	+/-0.50	
MPFBA	240038	1.04185	264,396.00	1.04185	91	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	73651.36	2.798383	91,576.00	2.7902	80	50 - 150	0.0082	+/-0.50	
M6PFDA	497649.5	3.779417	560,613.00	3.779417	89	50 - 150	0.0000	+/-0.50	
M3PFBS	113804.2	1.845233	119,122.00	1.845233	96	50 - 150	0.0000	+/-0.50	
M7PFUnA	455927.4	3.92205	498,532.00	3.92205	91	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	40601.8	3.41245	36,358.00	3.41245	112	50 - 150	0.0000	+/-0.50	
M5PFPeA	248785.9	1.673467	274,032.00	1.673467	91	50 - 150	0.0000	+/-0.50	
M5PFHxA	433088.7	2.531267	467,561.00	2.531267	93	50 - 150	0.0000	+/-0.50	
M3PFHxS	66285.9	3.177667	72,987.00	3.177667	91	50 - 150	0.0000	+/-0.50	
M4PFHpA	460149.8	3.14655	484,638.00	3.14655	95	50 - 150	0.0000	+/-0.50	
M8PFOA	500075.6	3.42985	523,961.00	3.42985	95	50 - 150	0.0000	+/-0.50	
M8PFOS	71755.15	3.620217	77,569.00	3.620217	93	50 - 150	0.0000	+/-0.50	
M9PFNA	464765.8	3.62125	495,840.00	3.62125	94	50 - 150	0.0000	+/-0.50	
MPFDoA	415440.8	4.064667	455,789.00	4.064667	91	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	109865.9	3.929517	125,427.00	3.929517	88	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	118675.2	3.85765	134,422.00	3.8497	88	50 - 150	0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike (B346163-MS1)			Lab File ID: B346163-MS1.d			Analyzed: 07/21/23 11:13			
M8FOSA	200351.5	3.964583	205,556.00	3.964583	97	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	36646.82	2.447533	33,232.00	2.447533	110	50 - 150	0.0000	+/-0.50	
M2PFTA	447616.7	4.30535	475,158.00	4.30535	94	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	87266.83	3.770917	89,662.00	3.770917	97	50 - 150	0.0000	+/-0.50	
MPFBA	238978.6	1.04185	264,396.00	1.04185	90	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	81499.45	2.7902	91,576.00	2.7902	89	50 - 150	0.0000	+/-0.50	
M6PFDA	501950.6	3.779417	560,613.00	3.779417	90	50 - 150	0.0000	+/-0.50	
M3PFBS	115846.2	1.853533	119,122.00	1.845233	97	50 - 150	0.0083	+/-0.50	
M7PFUnA	494058.9	3.92205	498,532.00	3.92205	99	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	44167.8	3.41245	36,358.00	3.41245	121	50 - 150	0.0000	+/-0.50	
M5PFPeA	249610.5	1.681733	274,032.00	1.673467	91	50 - 150	0.0083	+/-0.50	
M5PFHxA	438616.4	2.531267	467,561.00	2.531267	94	50 - 150	0.0000	+/-0.50	
M3PFHxS	72903.67	3.177667	72,987.00	3.177667	100	50 - 150	0.0000	+/-0.50	
M4PFHpA	452703.7	3.14655	484,638.00	3.14655	93	50 - 150	0.0000	+/-0.50	
M8PFOA	512646.9	3.42985	523,961.00	3.42985	98	50 - 150	0.0000	+/-0.50	
M8PFOS	75918.57	3.620217	77,569.00	3.620217	98	50 - 150	0.0000	+/-0.50	
M9PFNA	484863.6	3.62125	495,840.00	3.62125	98	50 - 150	0.0000	+/-0.50	
MPFDoA	417387.1	4.064667	455,789.00	4.064667	92	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	122222.2	3.929517	125,427.00	3.929517	97	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	134717.5	3.8497	134,422.00	3.8497	100	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (B346163-MSD1)			Lab File ID: B346163-MSD1.d			Analyzed: 07/21/23 11:21			
M8FOSA	170485.1	3.964583	205,556.00	3.964583	83	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	26457.13	2.44755	33,232.00	2.447533	80	50 - 150	0.0000	+/-0.50	
M2PF _{TA}	372434.6	4.30535	475,158.00	4.30535	78	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	72008.09	3.770917	89,662.00	3.770917	80	50 - 150	0.0000	+/-0.50	
MPFBA	179460.9	1.04185	264,396.00	1.04185	68	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	67225.21	2.7902	91,576.00	2.7902	73	50 - 150	0.0000	+/-0.50	
M6PFDA	421989.2	3.779417	560,613.00	3.779417	75	50 - 150	0.0000	+/-0.50	
M3PFBS	88300.11	1.853533	119,122.00	1.845233	74	50 - 150	0.0083	+/-0.50	
M7PFUnA	408305.3	3.92205	498,532.00	3.92205	82	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	31535.19	3.41245	36,358.00	3.41245	87	50 - 150	0.0000	+/-0.50	
M5PFPeA	187586.8	1.681733	274,032.00	1.673467	68	50 - 150	0.0083	+/-0.50	
M5PFHxA	329734.7	2.539483	467,561.00	2.531267	71	50 - 150	0.0082	+/-0.50	
M3PFHxS	55649.64	3.177667	72,987.00	3.177667	76	50 - 150	0.0000	+/-0.50	
M4PFHpA	338047.5	3.14655	484,638.00	3.14655	70	50 - 150	0.0000	+/-0.50	
M8PFOA	384132.9	3.42985	523,961.00	3.42985	73	50 - 150	0.0000	+/-0.50	
M8PFOS	61232.5	3.620217	77,569.00	3.620217	79	50 - 150	0.0000	+/-0.50	
M9PFNA	378333.8	3.62125	495,840.00	3.62125	76	50 - 150	0.0000	+/-0.50	
MPFDoA	363028.4	4.064667	455,789.00	4.064667	80	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	96276.63	3.929517	125,427.00	3.929517	77	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	107289.5	3.85765	134,422.00	3.8497	80	50 - 150	0.0080	+/-0.50	

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>SOP-466 PFAS in Soil</i>	
Perfluorobutanoic acid (PFBA)	NH-P,PA
Perfluorobutanesulfonic acid (PFBS)	NH-P,PA
Perfluoropentanoic acid (PFPeA)	NH-P,PA
Perfluorohexanoic acid (PFHxA)	NH-P,PA
11Cl-PF3OUdS (F53B Major)	NH-P,PA
9Cl-PF3ONS (F53B Minor)	NH-P,PA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,PA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,PA
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P,PA
Perfluorodecanoic acid (PFDA)	NH-P,PA
Perfluorododecanoic acid (PFDoA)	NH-P,PA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	NH-P,PA
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,PA
N-EtFOSAA (NEtFOSAA)	NH-P,PA
N-MeFOSAA (NMeFOSAA)	NH-P,PA
Perfluorotetradecanoic acid (PFTA)	NH-P,PA
Perfluorotridecanoic acid (PFTrDA)	NH-P,PA
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P,PA
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA
Perfluorooctanesulfonamide (FOSA)	NH-P,PA
Perfluorononanesulfonic acid (PFNS)	NH-P,PA
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P,PA
Perfluoro-1-butananesulfonamide (FBSA)	NH-P,PA
Perfluorohexanesulfonic acid (PFHxS)	NH-P,PA
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P,PA
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P,PA
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P,PA
Perfluoropentanesulfonic acid (PFPeS)	NH-P,PA
Perfluoroundecanoic acid (PFUnA)	NH-P,PA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA
Perfluoroheptanoic acid (PFHpA)	NH-P,PA
Perfluorooctanoic acid (PFOA)	NH-P,PA
Perfluorooctanesulfonic acid (PFOS)	NH-P,PA
Perfluorononanoic acid (PFNA)	NH-P,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024



Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
 East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Page 1 of 1

2361814
 RM

Company Name: Tighe & Bond
 Address: 120 Front Street, Worcester, MA 01608
 Phone: 508-754-2201
 Project Name: Princeton PFAS Investigation
 Project Location: 21 MOUNTAIN ROAD, Princeton, MA
 Project Number: P-0534
 Project Manager: M. Scherer
 Con-Test Quote Name/Number:
 Invoice Recipient: Tighe & Bond
 Sampled By: M. Scherer

Requested Turnaround Time		Disposited Hazard Samples	
7-Day <input type="checkbox"/>	10-Day <input type="checkbox"/>	<input type="radio"/>	Field Filtered
PFAS 10-Day (std) <input checked="" type="checkbox"/>	Due Date:	<input type="radio"/>	Lab to Filter
Rush Approval Required		Orthophosphate Samples	
1-Day <input type="checkbox"/>	3-Day <input type="checkbox"/>	<input type="radio"/>	Field Filtered
2-Day <input type="checkbox"/>	4-Day <input type="checkbox"/>	<input type="radio"/>	Lab to Filter
Data Delivery			
Format:	PDF <input checked="" type="checkbox"/>	EXCEL <input checked="" type="checkbox"/>	
Other:			
CLP Like Data Pkg Required:	<input type="checkbox"/>		
Email To:			
Fax To #:			

ANALYSIS REQUESTED

² Preservation Code

Courier Use Only

Total Number Of:

VIALS _____

GLASS _____

PLASTIC _____

BACTERIA _____

ENCORE _____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepackaged coolers

Edited by M. Scherer

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFOS/PFOA by isotope dilution (extended list)
	21 MTN S-8 (0-6)	7/11/23		GRAB	DW	U			1			X
	21 MTN S-8 (6-12)								1			X
	21 MTN S-9 (0-6)								1			X
	21 MTN S-10 (0-6)								1			X
	21 MTN S-10 (6-12)								1			X

¹ Matrix Codes:
 GW = Ground Water
 WW = Waste Water
 DW = Drinking Water
 A = Air
 S = Soil
 SL = Sludge
 SOL = Solid
 O = Other (please define)

Relinquished by: (signature) [Signature] Date/Time: 7/12/23 09:00
 Received by: (signature) [Signature] Date/Time: 7-13-23
 Relinquished by: (signature) [Signature] Date/Time: 7-13-23
 Received by: (signature) [Signature] Date/Time: 7-13-23
 Relinquished by: (signature) [Signature] Date/Time: 7/13/23 15:25
 Received by: (signature) [Signature] Date/Time: 7/13/23 15:25
 Relinquished by: (signature) [Signature] Date/Time: 7/13/23 15:25
 Received by: (signature) [Signature] Date/Time: 7/13/23 15:25
 Relinquished by: (signature) [Signature] Date/Time: [Signature] Date/Time: [Signature] Date/Time:
 Received by: (signature) [Signature] Date/Time: [Signature] Date/Time: [Signature] Date/Time:

Client Comments:

Detection Limit Requirements	Special Requirements
MA MCP Required <input checked="" type="checkbox"/>	MA MCP Required
MCP Certification Form Required <input type="checkbox"/>	MCP Certification Form Required
CT RCP Required <input type="checkbox"/>	CT RCP Required
RCP Certification Form Required <input type="checkbox"/>	RCP Certification Form Required
Other: <input type="checkbox"/>	MA State DW Required <input type="checkbox"/>
PWSID #	

Project Entity

Government Municipality MWRA WRTA

Federal 21 J School

City Brownfield MBTA

Other Chromatogram AIHA-LAP, LLC


Please use the following codes to indicate possible sample concentration within the Conc Code column above:
 H - High; M - Medium; L - Low; C - Clean; U - Unknown

² Preservation Codes:
 I = Iced
 H = HCL
 M = Methanol
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium Bisulfate
 X = Sodium Hydroxide
 T = Sodium Thiosulfate
 O = Other (please define)

PCB ONLY
 Soxhlet
 Non Soxhlet

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Tight and Bond
 Project Princeton REAS investigation
 MCP/RCP Required NA
 Deliverable Package Requirement VIA
 Location 21 Mumby Road, Princeton, MA
 PWSID# (When Applicable) NA
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time ER 7/13/23 1825
 Back-Sheet By / Date / Time LA 7/14/23 1130
 Temperature Method In # 5
 Temp < 6° C Actual Temperature 3.0
 Rush Samples: Yes ~~NO~~ Notify _____
 Short Hold: Yes / No Notify _____

Login Sample Receipt Checklist – (Rejection Criteria Listing
 – Using Acceptance Policy) Any False statement will be
 brought to the attention of the Client – True or False

	True	False
Received on Ice	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Received in Cooler	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Custody Seal: DATE TIME	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Relinquished	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC/Samples Labels Agree	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All Samples in Good Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Samples Received within Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there enough Volume	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proper Media/Container Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Splitting Samples Required	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MS/MSD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Trip Blanks	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lab to Filters	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Legible	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC Included: (Check all included)		
Client <input checked="" type="checkbox"/>	Analysis <input checked="" type="checkbox"/>	Sampler Name <input checked="" type="checkbox"/>
Project <input checked="" type="checkbox"/>	IDs <input type="checkbox"/>	Collection Date/Time <input checked="" type="checkbox"/>
All Samples Proper pH: <u>N/A</u>	<input type="checkbox"/>	<input type="checkbox"/>

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample	Soils Jars				Ambers				Plastics					VOA Vials					Other / Fill in												
	(Circle Amb/Clear)				1 Liter		250mL		100mL	1 Liter		250mL																			
1	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	BiSulfate	Col/Bact				
2																															
3																															
4																															
5																															
6																															
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18																															
19																															
20																															

July 24, 2023

Michael Scherer
Tighe & Bond, Inc. - Worcester
120 Front St.
Worcester, MA 01608-2303

Project Location: 19 Mountain Road, Princeton, MA
Client Job Number:
Project Number: P-0534
Laboratory Work Order Number: 23G1818

Enclosed are results of analyses for samples as received by the laboratory on July 13, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Raymond J. McCarthy
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

 Tighe & Bond, Inc. - Worcester
 120 Front St.
 Worcester, MA 01608-2303
 ATTN: Michael Scherer

REPORT DATE: 7/24/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P-0534

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23G1818

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

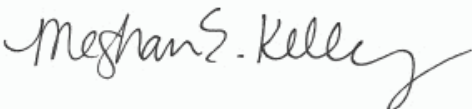
PROJECT LOCATION: 19 Mountain Road, Princeton, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
19 MTN-S1A (6-12)	23G1818-01	Soil		SM 2540G SOP-466 PFAS	
19 MTN-S1A (12-24)	23G1818-02	Soil		SM 2540G SOP-466 PFAS	
19 MTN-S1A (24-36)	23G1818-03	Soil		SM 2540G SOP-466 PFAS	
19 MTN-S3A (6-12)	23G1818-04	Soil		SM 2540G SOP-466 PFAS	
19 MTN-S3A (12-24)	23G1818-05	Soil		SM 2540G SOP-466 PFAS	
19 MTN-S3A (24-48)	23G1818-06	Soil		SM 2540G SOP-466 PFAS	
19 MTN-S3A (48-60)	23G1818-07	Soil		SM 2540G SOP-466 PFAS	
19 MTN-S4A (6-12)	23G1818-08	Soil		SM 2540G SOP-466 PFAS	
19 MTN-S4A (12-24)	23G1818-09	Soil		SM 2540G SOP-466 PFAS	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing. I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S1A (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorodecanoic acid (PFDA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorooctanoic acid (PFOA)	0.67	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorooctanesulfonic acid (PFOS)	0.57	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW
Perfluorononanoic acid (PFNA)	ND	0.57	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:04	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S1A (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	77.4		% Wt	1		SM 2540G	7/17/23	7/17/23 8:46	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S1A (12-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorodecanoic acid (PFDA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorooctanoic acid (PFOA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorooctanesulfonic acid (PFOS)	0.58	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW
Perfluorononanoic acid (PFNA)	ND	0.54	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:11	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA

Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S1A (12-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.2		% Wt	1		SM 2540G	7/17/23	7/18/23 8:34	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S1A (24-36)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-03

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorodecanoic acid (PFDA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorooctanoic acid (PFOA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW
Perfluorononanoic acid (PFNA)	ND	0.56	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:19	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S1A (24-36)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	77.7		% Wt	1		SM 2540G	7/17/23	7/18/23 8:34	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S3A (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorodecanoic acid (PFDA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorooctanoic acid (PFOA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW
Perfluorononanoic acid (PFNA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:26	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S3A (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.3		% Wt	1		SM 2540G	7/17/23	7/18/23 8:34	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S3A (12-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorodecanoic acid (PFDA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorooctanoic acid (PFOA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW
Perfluorononanoic acid (PFNA)	ND	0.55	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 12:33	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S3A (12-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	76.3		% Wt	1		SM 2540G	7/17/23	7/18/23 8:34	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S3A (24-48)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-06

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorodecanoic acid (PFDA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorooctanoic acid (PFOA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW
Perfluorononanoic acid (PFNA)	ND	0.50	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:43	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA

Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S3A (24-48)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.3		% Wt	1		SM 2540G	7/17/23	7/18/23 8:35	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S3A (48-60)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorodecanoic acid (PFDA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorooctanoic acid (PFOA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW
Perfluorononanoic acid (PFNA)	ND	0.51	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:50	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S3A (48-60)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.0		% Wt	1		SM 2540G	7/17/23	7/18/23 8:35	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S4A (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorodecanoic acid (PFDA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorooctanoic acid (PFOA)	0.53	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorooctanesulfonic acid (PFOS)	2.3	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW
Perfluorononanoic acid (PFNA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 13:58	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S4A (6-12)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	79.5		% Wt	1		SM 2540G	7/17/23	7/18/23 8:35	ADB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S4A (12-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-09

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluoropentanoic acid (PFPeA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorohexanoic acid (PFHxA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
11Cl-PF3OUdS (F53B Major)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
9Cl-PF3ONS (F53B Minor)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorodecanoic acid (PFDA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorododecanoic acid (PFDoA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
N-EtFOSAA (NEtFOSAA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
N-MeFOSAA (NMeFOSAA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorotetradecanoic acid (PFTA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorooctanesulfonamide (FOSA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorononanesulfonic acid (PFNS)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluoroundecanoic acid (PFUnA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluoroheptanoic acid (PFHpA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorooctanoic acid (PFOA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorooctanesulfonic acid (PFOS)	0.82	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW
Perfluorononanoic acid (PFNA)	ND	0.59	µg/kg dry	1		SOP-466 PFAS	7/18/23	7/21/23 14:05	QNW

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Project Location: 19 Mountain Road, Princeton, MA Sample Description:

Work Order: 23G1818

Date Received: 7/13/2023

Field Sample #: 19 MTN-S4A (12-24)

Sampled: 7/11/2023 00:00

Sample ID: 23G1818-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	71.8		% Wt	1		SM 2540G	7/17/23	7/18/23 8:35	ADB

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Sample Extraction Data
Prep Method:% Solids Analytical Method:SM 2540G

Lab Number [Field ID]	Batch	Date
23G1818-02 [19 MTN-S1A (12-24)]	B346111	07/17/23
23G1818-03 [19 MTN-S1A (24-36)]	B346111	07/17/23
23G1818-04 [19 MTN-S3A (6-12)]	B346111	07/17/23
23G1818-05 [19 MTN-S3A (12-24)]	B346111	07/17/23
23G1818-06 [19 MTN-S3A (24-48)]	B346111	07/17/23
23G1818-07 [19 MTN-S3A (48-60)]	B346111	07/17/23
23G1818-08 [19 MTN-S4A (6-12)]	B346111	07/17/23
23G1818-09 [19 MTN-S4A (12-24)]	B346111	07/17/23

Prep Method:% Solids Analytical Method:SM 2540G

Lab Number [Field ID]	Batch	Date
23G1818-01 [19 MTN-S1A (6-12)]	B346112	07/17/23

Prep Method:SOP 466-PFAAS Analytical Method:SOP-466 PFAS

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23G1818-01 [19 MTN-S1A (6-12)]	B346163	5.66	5.00	07/18/23
23G1818-02 [19 MTN-S1A (12-24)]	B346163	5.60	5.00	07/18/23
23G1818-03 [19 MTN-S1A (24-36)]	B346163	5.67	5.00	07/18/23
23G1818-04 [19 MTN-S3A (6-12)]	B346163	5.52	5.00	07/18/23
23G1818-05 [19 MTN-S3A (12-24)]	B346163	5.87	5.00	07/18/23
23G1818-06 [19 MTN-S3A (24-48)]	B346163	5.83	5.00	07/18/23
23G1818-07 [19 MTN-S3A (48-60)]	B346163	5.78	5.00	07/18/23
23G1818-08 [19 MTN-S4A (6-12)]	B346163	5.96	5.00	07/18/23
23G1818-09 [19 MTN-S4A (12-24)]	B346163	5.88	5.00	07/18/23

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B346163 - SOP 466-PFAAS
Blank (B346163-BLK1)

Prepared: 07/18/23 Analyzed: 07/21/23

Perfluorobutanoic acid (PFBA)	ND	0.43	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.43	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.43	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.43	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.43	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.43	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.43	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.43	µg/kg wet							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.43	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.43	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.43	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.43	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.43	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.43	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.43	µg/kg wet							
Perfluorotetradecanoic acid (PFTA)	ND	0.43	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.43	µg/kg wet							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.43	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.43	µg/kg wet							
Perfluorooctanesulfonamide (FOSA)	ND	0.43	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.43	µg/kg wet							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.43	µg/kg wet							
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.43	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.43	µg/kg wet							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.43	µg/kg wet							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.43	µg/kg wet							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.43	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.43	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.43	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.43	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.43	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.43	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.43	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.43	µg/kg wet							

LCS (B346163-BS1)

Prepared: 07/18/23 Analyzed: 07/21/23

Perfluorobutanoic acid (PFBA)	2.17	0.42	µg/kg wet	2.14	101	71-135
Perfluorobutanesulfonic acid (PFBS)	1.90	0.42	µg/kg wet	1.89	100	72-128
Perfluoropentanoic acid (PFPeA)	2.16	0.42	µg/kg wet	2.14	101	69-132
Perfluorohexanoic acid (PFHxA)	2.13	0.42	µg/kg wet	2.14	99.4	70-132
11Cl-PF3OUdS (F53B Major)	1.75	0.42	µg/kg wet	2.02	86.8	41.8-128
9Cl-PF3ONS (F53B Minor)	1.76	0.42	µg/kg wet	2.00	88.2	51.1-141
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.82	0.42	µg/kg wet	2.02	90.1	55.2-122
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.92	0.42	µg/kg wet	2.14	89.5	27.6-137
8:2 Fluorotelomersulfonic acid (8:2FTS A)	2.06	0.42	µg/kg wet	2.06	100	65-137
Perfluorodecanoic acid (PFDA)	2.25	0.42	µg/kg wet	2.14	105	69-133
Perfluorododecanoic acid (PFDoA)	2.09	0.42	µg/kg wet	2.14	97.5	69-135
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	1.76	0.42	µg/kg wet	1.91	92.5	56.7-133

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B346163 - SOP 466-PFAAS										
LCS (B346163-BS1)										
Prepared: 07/18/23 Analyzed: 07/21/23										
Perfluoroheptanesulfonic acid (PFHpS)	2.03	0.42	µg/kg wet	2.05		99.1	70-132			
N-EtFOSAA (NEtFOSAA)	2.17	0.42	µg/kg wet	2.14		101	61-139			
N-MeFOSAA (NMeFOSAA)	2.16	0.42	µg/kg wet	2.14		101	63-144			
Perfluorotetradecanoic acid (PFTA)	2.16	0.42	µg/kg wet	2.14		101	69-133			
Perfluorotridecanoic acid (PFTrDA)	2.22	0.42	µg/kg wet	2.14		103	66-139			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	2.14	0.42	µg/kg wet	2.00		107	62-145			
Perfluorodecanesulfonic acid (PFDS)	2.13	0.42	µg/kg wet	2.06		103	59-134			
Perfluorooctanesulfonamide (FOSA)	2.01	0.42	µg/kg wet	2.14		94.0	67-137			
Perfluorononanesulfonic acid (PFNS)	2.01	0.42	µg/kg wet	2.06		97.9	69-125			
Perfluoro-1-hexanesulfonamide (FHxSA)	2.01	0.42	µg/kg wet	2.14		94.0	51.4-142			
Perfluoro-1-butanefulfonamide (FBSA)	1.93	0.42	µg/kg wet	2.14		90.0	53.5-129			
Perfluorohexanesulfonic acid (PFHxS)	1.91	0.42	µg/kg wet	1.96		97.2	67-130			
Perfluoro-4-oxapentanoic acid (PFMPA)	2.15	0.42	µg/kg wet	2.14		100	57.8-127			
Perfluoro-5-oxahexanoic acid (PFMBA)	1.99	0.42	µg/kg wet	2.14		92.9	56.5-132			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	2.11	0.42	µg/kg wet	2.03		104	64-140			
Perfluoropentanesulfonic acid (PFPeS)	2.06	0.42	µg/kg wet	2.01		102	73-123			
Perfluoroundecanoic acid (PFUnA)	2.32	0.42	µg/kg wet	2.14		108	64-136			
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	1.93	0.42	µg/kg wet	2.14		90.1	54.5-128			
Perfluoroheptanoic acid (PFHpA)	2.06	0.42	µg/kg wet	2.14		96.2	71-131			
Perfluorooctanoic acid (PFOA)	2.14	0.42	µg/kg wet	2.14		100	69-133			
Perfluorooctanesulfonic acid (PFOS)	1.80	0.42	µg/kg wet	1.98		91.0	68-136			
Perfluorononanoic acid (PFNA)	2.25	0.42	µg/kg wet	2.14		105	72-129			

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
19 MTN-S1A (6-12) (23G1818-01)			Lab File ID: 23G1818-01.d			Analyzed: 07/21/23 12:04			
M8FOSA	213580.8	3.964583	205,556.00	3.964583	104	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	35531.14	2.447533	33,232.00	2.447533	107	50 - 150	0.0000	+/-0.50	
M2PF _T A	466332.8	4.30535	475,158.00	4.30535	98	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	89718.7	3.770917	89,662.00	3.770917	100	50 - 150	0.0000	+/-0.50	
MPFBA	250980	1.04185	264,396.00	1.04185	95	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	82750.49	2.798383	91,576.00	2.7902	90	50 - 150	0.0082	+/-0.50	
M6PFDA	542039.3	3.779417	560,613.00	3.779417	97	50 - 150	0.0000	+/-0.50	
M3PFBS	121160.3	1.845233	119,122.00	1.845233	102	50 - 150	0.0000	+/-0.50	
M7PFU _n A	515224.9	3.92205	498,532.00	3.92205	103	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	50164.73	3.41245	36,358.00	3.41245	138	50 - 150	0.0000	+/-0.50	
M5PFPeA	257890	1.681733	274,032.00	1.673467	94	50 - 150	0.0083	+/-0.50	
M5PFH _x A	460706.4	2.531267	467,561.00	2.531267	99	50 - 150	0.0000	+/-0.50	
M3PFH _x S	73627.52	3.17765	72,987.00	3.177667	101	50 - 150	0.0000	+/-0.50	
M4PFH _p A	482119.2	3.14655	484,638.00	3.14655	99	50 - 150	0.0000	+/-0.50	
M8PFOA	525312.7	3.42985	523,961.00	3.42985	100	50 - 150	0.0000	+/-0.50	
M8PFOS	75698.45	3.620217	77,569.00	3.620217	98	50 - 150	0.0000	+/-0.50	
M9PFNA	496781.5	3.62125	495,840.00	3.62125	100	50 - 150	0.0000	+/-0.50	
MPFDoA	439371.8	4.064667	455,789.00	4.064667	96	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	131533.8	3.929517	125,427.00	3.929517	105	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	139618.2	3.8497	134,422.00	3.8497	104	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
19 MTN-S1A (12-24) (23G1818-02)			Lab File ID: 23G1818-02.d			Analyzed: 07/21/23 12:11			
M8FOSA	219530.4	3.964583	205,556.00	3.964583	107	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	38362.19	2.447533	33,232.00	2.447533	115	50 - 150	0.0000	+/-0.50	
M2PF _T A	476947	4.30535	475,158.00	4.30535	100	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	91829.77	3.770917	89,662.00	3.770917	102	50 - 150	0.0000	+/-0.50	
MPFBA	266949.6	1.04185	264,396.00	1.04185	101	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	88163.08	2.7902	91,576.00	2.7902	96	50 - 150	0.0000	+/-0.50	
M6PFDA	569511	3.779417	560,613.00	3.779417	102	50 - 150	0.0000	+/-0.50	
M3PFBS	127812.1	1.845233	119,122.00	1.845233	107	50 - 150	0.0000	+/-0.50	
M7PFUnA	531092.1	3.92205	498,532.00	3.92205	107	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	48900.91	3.41245	36,358.00	3.41245	134	50 - 150	0.0000	+/-0.50	
M5PFPeA	275918.1	1.681733	274,032.00	1.673467	101	50 - 150	0.0083	+/-0.50	
M5PFHxA	487424	2.531267	467,561.00	2.531267	104	50 - 150	0.0000	+/-0.50	
M3PFHxS	79080.32	3.17765	72,987.00	3.177667	108	50 - 150	0.0000	+/-0.50	
M4PFHpA	496241.4	3.14655	484,638.00	3.14655	102	50 - 150	0.0000	+/-0.50	
M8PFOA	556072.1	3.421167	523,961.00	3.42985	106	50 - 150	-0.0087	+/-0.50	
M8PFOS	78477.36	3.620217	77,569.00	3.620217	101	50 - 150	0.0000	+/-0.50	
M9PFNA	524718.8	3.62125	495,840.00	3.62125	106	50 - 150	0.0000	+/-0.50	
MPFDoA	471651.3	4.064667	455,789.00	4.064667	103	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	121420.4	3.929517	125,427.00	3.929517	97	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	147579.7	3.8497	134,422.00	3.8497	110	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
19 MTN-S1A (24-36) (23G1818-03)									
			Lab File ID: 23G1818-03.d			Analyzed: 07/21/23 12:19			
M8FOSA	233668.3	3.964583	205,556.00	3.964583	114	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	38002.84	2.447533	33,232.00	2.447533	114	50 - 150	0.0000	+/-0.50	
M2PF _T A	484131.3	4.30535	475,158.00	4.30535	102	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	91495.14	3.770917	89,662.00	3.770917	102	50 - 150	0.0000	+/-0.50	
MPFBA	264806.9	1.04185	264,396.00	1.04185	100	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	87829.56	2.7902	91,576.00	2.7902	96	50 - 150	0.0000	+/-0.50	
M6PFDA	580706.6	3.779417	560,613.00	3.779417	104	50 - 150	0.0000	+/-0.50	
M3PFBS	129698.2	1.845233	119,122.00	1.845233	109	50 - 150	0.0000	+/-0.50	
M7PFUnA	552061.8	3.92205	498,532.00	3.92205	111	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	50139.78	3.41245	36,358.00	3.41245	138	50 - 150	0.0000	+/-0.50	
M5PFPeA	278844.6	1.681733	274,032.00	1.673467	102	50 - 150	0.0083	+/-0.50	
M5PFHxA	486334	2.531267	467,561.00	2.531267	104	50 - 150	0.0000	+/-0.50	
M3PFHxS	78639.91	3.177667	72,987.00	3.177667	108	50 - 150	0.0000	+/-0.50	
M4PFHpA	504371.4	3.14655	484,638.00	3.14655	104	50 - 150	0.0000	+/-0.50	
M8PFOA	577396.9	3.42985	523,961.00	3.42985	110	50 - 150	0.0000	+/-0.50	
M8PFOS	79366.99	3.620217	77,569.00	3.620217	102	50 - 150	0.0000	+/-0.50	
M9PFNA	532263.8	3.62125	495,840.00	3.62125	107	50 - 150	0.0000	+/-0.50	
MPFDoA	452298.1	4.064667	455,789.00	4.064667	99	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	134752.2	3.929517	125,427.00	3.929517	107	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	153167.7	3.8497	134,422.00	3.8497	114	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
19 MTN-S3A (6-12) (23G1818-04)			Lab File ID: 23G1818-04.d			Analyzed: 07/21/23 12:26			
M8FOSA	214304.7	3.964583	205,556.00	3.964583	104	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	38394.09	2.439333	33,232.00	2.447533	116	50 - 150	-0.0082	+/-0.50	
M2PF _{TA}	498179.1	4.30535	475,158.00	4.30535	105	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	91403.99	3.770917	89,662.00	3.770917	102	50 - 150	0.0000	+/-0.50	
MPF _{BA}	260554.1	1.04185	264,396.00	1.04185	99	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	88938.88	2.7902	91,576.00	2.7902	97	50 - 150	0.0000	+/-0.50	
M6PF _{DA}	590693.7	3.771433	560,613.00	3.779417	105	50 - 150	-0.0080	+/-0.50	
M3PF _{BS}	129552.7	1.845233	119,122.00	1.845233	109	50 - 150	0.0000	+/-0.50	
M7PF _{UnA}	549653.6	3.92205	498,532.00	3.92205	110	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	45972.38	3.41245	36,358.00	3.41245	126	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	279588.8	1.673467	274,032.00	1.673467	102	50 - 150	0.0000	+/-0.50	
M5PF _{HxA}	494450.7	2.531267	467,561.00	2.531267	106	50 - 150	0.0000	+/-0.50	
M3PF _{HxS}	76190.59	3.17765	72,987.00	3.177667	104	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	512740.4	3.138483	484,638.00	3.14655	106	50 - 150	-0.0081	+/-0.50	
M8PF _{OA}	560189.1	3.421167	523,961.00	3.42985	107	50 - 150	-0.0087	+/-0.50	
M8PF _{OS}	80305.08	3.620217	77,569.00	3.620217	104	50 - 150	0.0000	+/-0.50	
M9PF _{NA}	542209.3	3.62125	495,840.00	3.62125	109	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	473455.3	4.064667	455,789.00	4.064667	104	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	145859.6	3.929517	125,427.00	3.929517	116	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	146928.8	3.8497	134,422.00	3.8497	109	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
19 MTN-S3A (12-24) (23G1818-05)									
			Lab File ID: 23G1818-05.d			Analyzed: 07/21/23 12:33			
M8FOSA	208728.4	3.964583	205,556.00	3.964583	102	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	34109.97	2.447533	33,232.00	2.447533	103	50 - 150	0.0000	+/-0.50	
M2PF _{TA}	453284.3	4.30535	475,158.00	4.30535	95	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	95512.13	3.770917	89,662.00	3.770917	107	50 - 150	0.0000	+/-0.50	
MPFBA	233100.4	1.04185	264,396.00	1.04185	88	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	77100.99	2.7902	91,576.00	2.7902	84	50 - 150	0.0000	+/-0.50	
M6PFDA	536832.3	3.771433	560,613.00	3.779417	96	50 - 150	-0.0080	+/-0.50	
M3PFBS	115804.1	1.845233	119,122.00	1.845233	97	50 - 150	0.0000	+/-0.50	
M7PFUnA	512380.7	3.92205	498,532.00	3.92205	103	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	45533.24	3.41245	36,358.00	3.41245	125	50 - 150	0.0000	+/-0.50	
M5PFPeA	245738.9	1.681733	274,032.00	1.673467	90	50 - 150	0.0083	+/-0.50	
M5PFHxA	443126.1	2.531267	467,561.00	2.531267	95	50 - 150	0.0000	+/-0.50	
M3PFHxS	70957.27	3.17765	72,987.00	3.177667	97	50 - 150	0.0000	+/-0.50	
M4PFHpA	458124.9	3.138483	484,638.00	3.14655	95	50 - 150	-0.0081	+/-0.50	
M8PFOA	520849.6	3.421167	523,961.00	3.42985	99	50 - 150	-0.0087	+/-0.50	
M8PFOS	76963.22	3.620217	77,569.00	3.620217	99	50 - 150	0.0000	+/-0.50	
M9PFNA	496640.4	3.62125	495,840.00	3.62125	100	50 - 150	0.0000	+/-0.50	
MPFDoA	450367.4	4.064667	455,789.00	4.064667	99	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	123084.6	3.929517	125,427.00	3.929517	98	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	130863.7	3.8497	134,422.00	3.8497	97	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
19 MTN-S3A (24-48) (23G1818-06)			Lab File ID: 23G1818-06.d			Analyzed: 07/21/23 13:43			
M8FOSA	229346.1	3.964583	205,556.00	3.964583	112	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	37309.41	2.45575	33,232.00	2.439333	112	50 - 150	0.0164	+/-0.50	
M2PF _{TA}	488756	4.30535	475,158.00	4.30535	103	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	87519.66	3.778883	89,662.00	3.770917	98	50 - 150	0.0080	+/-0.50	
MPF _{BA}	273434.8	1.04185	264,396.00	1.04185	103	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	83378.53	2.798383	91,576.00	2.7902	91	50 - 150	0.0082	+/-0.50	
M6PF _{DA}	583983.1	3.779417	560,613.00	3.77145	104	50 - 150	0.0080	+/-0.50	
M3PF _{BS}	131545.4	1.853533	119,122.00	1.83695	110	50 - 150	0.0166	+/-0.50	
M7PF _{UnA}	545789.9	3.92205	498,532.00	3.92205	109	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	46623.32	3.41245	36,358.00	3.41245	128	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	283775.6	1.681733	274,032.00	1.673467	104	50 - 150	0.0083	+/-0.50	
M5PF _{HxA}	491786.9	2.539483	467,561.00	2.523067	105	50 - 150	0.0164	+/-0.50	
M3PF _{HxS}	80023	3.17765	72,987.00	3.177667	110	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	508219.9	3.14655	484,638.00	3.138483	105	50 - 150	0.0081	+/-0.50	
M8PF _{OA}	556981.3	3.42985	523,961.00	3.421167	106	50 - 150	0.0087	+/-0.50	
M8PF _{OS}	81964.79	3.620217	77,569.00	3.620217	106	50 - 150	0.0000	+/-0.50	
M9PF _{NA}	529404.4	3.62125	495,840.00	3.62125	107	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	466747.5	4.064667	455,789.00	4.056667	102	50 - 150	0.0080	+/-0.50	
D5-NEtFOSAA	130391.8	3.929517	125,427.00	3.929517	104	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	136058	3.8497	134,422.00	3.8497	101	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
19 MTN-S3A (48-60) (23G1818-07)			Lab File ID: 23G1818-07.d			Analyzed: 07/21/23 13:50			
M8FOSA	236451.7	3.964583	205,556.00	3.964583	115	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	41989.2	2.463967	33,232.00	2.439333	126	50 - 150	0.0246	+/-0.50	
M2PF _T A	523246.7	4.30535	475,158.00	4.30535	110	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	95235.88	3.778883	89,662.00	3.770917	106	50 - 150	0.0080	+/-0.50	
MPFBA	291699.2	1.04185	264,396.00	1.04185	110	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	98418.6	2.798383	91,576.00	2.7902	107	50 - 150	0.0082	+/-0.50	
M6PFDA	611064.8	3.779417	560,613.00	3.77145	109	50 - 150	0.0080	+/-0.50	
M3PFBS	141894.2	1.853533	119,122.00	1.83695	119	50 - 150	0.0166	+/-0.50	
M7PFUnA	583337.8	3.92205	498,532.00	3.92205	117	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	51568.25	3.4205	36,358.00	3.41245	142	50 - 150	0.0080	+/-0.50	
M5PFPeA	309479.6	1.681733	274,032.00	1.673467	113	50 - 150	0.0083	+/-0.50	
M5PFHxA	531797.4	2.539483	467,561.00	2.523067	114	50 - 150	0.0164	+/-0.50	
M3PFHxS	86220.85	3.185733	72,987.00	3.177667	118	50 - 150	0.0081	+/-0.50	
M4PFHpA	550888.5	3.14655	484,638.00	3.138483	114	50 - 150	0.0081	+/-0.50	
M8PFOA	602484.7	3.42985	523,961.00	3.421167	115	50 - 150	0.0087	+/-0.50	
M8PFOS	91059.83	3.620217	77,569.00	3.620217	117	50 - 150	0.0000	+/-0.50	
M9PFNA	578996.1	3.62125	495,840.00	3.62125	117	50 - 150	0.0000	+/-0.50	
MPFDoA	495562.3	4.064667	455,789.00	4.056667	109	50 - 150	0.0080	+/-0.50	
D5-NEtFOSAA	144139.2	3.929517	125,427.00	3.929517	115	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	146021.3	3.8497	134,422.00	3.8497	109	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
19 MTN-S4A (6-12) (23G1818-08)									
			Lab File ID: 23G1818-08.d			Analyzed: 07/21/23 13:58			
M8FOSA	192409.6	3.964583	205,556.00	3.964583	94	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	32058.62	2.447533	33,232.00	2.439333	96	50 - 150	0.0082	+/-0.50	
M2PF _{TA}	413735.8	4.30535	475,158.00	4.30535	87	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	72281.41	3.778883	89,662.00	3.770917	81	50 - 150	0.0080	+/-0.50	
MPFBA	222505	1.04185	264,396.00	1.04185	84	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	74847.55	2.798383	91,576.00	2.7902	82	50 - 150	0.0082	+/-0.50	
M6PFDA	477133.3	3.779417	560,613.00	3.77145	85	50 - 150	0.0080	+/-0.50	
M3PFBS	111536.9	1.853533	119,122.00	1.83695	94	50 - 150	0.0166	+/-0.50	
M7PFUnA	456570.3	3.92205	498,532.00	3.92205	92	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	38521.35	3.41245	36,358.00	3.41245	106	50 - 150	0.0000	+/-0.50	
M5PFPeA	238122.5	1.681733	274,032.00	1.673467	87	50 - 150	0.0083	+/-0.50	
M5PFHxA	407962.7	2.539483	467,561.00	2.523067	87	50 - 150	0.0164	+/-0.50	
M3PFHxS	65146.88	3.177667	72,987.00	3.177667	89	50 - 150	0.0000	+/-0.50	
M4PFHpA	425306.8	3.14655	484,638.00	3.138483	88	50 - 150	0.0081	+/-0.50	
M8PFOA	477571	3.42985	523,961.00	3.421167	91	50 - 150	0.0087	+/-0.50	
M8PFOS	71376.77	3.620217	77,569.00	3.620217	92	50 - 150	0.0000	+/-0.50	
M9PFNA	446825.8	3.62125	495,840.00	3.62125	90	50 - 150	0.0000	+/-0.50	
MPFDoA	386695.6	4.064667	455,789.00	4.056667	85	50 - 150	0.0080	+/-0.50	
D5-NEtFOSAA	108441.1	3.929517	125,427.00	3.929517	86	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	128009.1	3.8497	134,422.00	3.8497	95	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
19 MTN-S4A (12-24) (23G1818-09)			Lab File ID: 23G1818-09.d			Analyzed: 07/21/23 14:05			
M8FOSA	217875	3.964583	205,556.00	3.964583	106	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	36497.13	2.45575	33,232.00	2.439333	110	50 - 150	0.0164	+/-0.50	
M2PF _{TA}	443134.6	4.30535	475,158.00	4.30535	93	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	91775.16	3.770917	89,662.00	3.770917	102	50 - 150	0.0000	+/-0.50	
MPF _{BA}	257522.9	1.04185	264,396.00	1.04185	97	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	92440.09	2.798383	91,576.00	2.7902	101	50 - 150	0.0082	+/-0.50	
M6PF _{DA}	550643.1	3.779417	560,613.00	3.77145	98	50 - 150	0.0080	+/-0.50	
M3PF _{BS}	125409.3	1.853533	119,122.00	1.83695	105	50 - 150	0.0166	+/-0.50	
M7PF _{UnA}	516066.3	3.92205	498,532.00	3.92205	104	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	48308.93	3.41245	36,358.00	3.41245	133	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	272070	1.681733	274,032.00	1.673467	99	50 - 150	0.0083	+/-0.50	
M5PF _{HxA}	471225	2.531267	467,561.00	2.523067	101	50 - 150	0.0082	+/-0.50	
M3PF _{HxS}	73993.99	3.17765	72,987.00	3.177667	101	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	498380.8	3.14655	484,638.00	3.138483	103	50 - 150	0.0081	+/-0.50	
M8PF _{OA}	536168.1	3.42985	523,961.00	3.421167	102	50 - 150	0.0087	+/-0.50	
M8PF _{OS}	81782.78	3.620217	77,569.00	3.620217	105	50 - 150	0.0000	+/-0.50	
M9PF _{NA}	509226.9	3.62125	495,840.00	3.62125	103	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	454191	4.064667	455,789.00	4.056667	100	50 - 150	0.0080	+/-0.50	
D5-NEtFOSAA	133045.2	3.929517	125,427.00	3.929517	106	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	144616.5	3.8497	134,422.00	3.8497	108	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B346163-BLK1)			Lab File ID: B346163-BLK1.d			Analyzed: 07/21/23 11:06			
M8FOSA	206585.3	3.964583	205,556.00	3.964583	101	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	33484.38	2.447533	33,232.00	2.447533	101	50 - 150	0.0000	+/-0.50	
M2PFTA	445693.3	4.30535	475,158.00	4.30535	94	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	84615.45	3.770917	89,662.00	3.770917	94	50 - 150	0.0000	+/-0.50	
MPFBA	252051.4	1.04185	264,396.00	1.04185	95	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	85302.09	2.798383	91,576.00	2.7902	93	50 - 150	0.0082	+/-0.50	
M6PFDA	525135.7	3.779417	560,613.00	3.779417	94	50 - 150	0.0000	+/-0.50	
M3PFBS	120722.5	1.845233	119,122.00	1.845233	101	50 - 150	0.0000	+/-0.50	
M7PFUnA	473838.3	3.92205	498,532.00	3.92205	95	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	40302.69	3.41245	36,358.00	3.41245	111	50 - 150	0.0000	+/-0.50	
M5PFPeA	258289.3	1.681733	274,032.00	1.673467	94	50 - 150	0.0083	+/-0.50	
M5PFHxA	458737.3	2.531267	467,561.00	2.531267	98	50 - 150	0.0000	+/-0.50	
M3PFHxS	77584.26	3.17765	72,987.00	3.177667	106	50 - 150	0.0000	+/-0.50	
M4PFHpA	476660.9	3.14655	484,638.00	3.14655	98	50 - 150	0.0000	+/-0.50	
M8PFOA	519763.3	3.42985	523,961.00	3.42985	99	50 - 150	0.0000	+/-0.50	
M8PFOS	77484.16	3.620217	77,569.00	3.620217	100	50 - 150	0.0000	+/-0.50	
M9PFNA	486693.9	3.62125	495,840.00	3.62125	98	50 - 150	0.0000	+/-0.50	
MPFDoA	421784.2	4.064667	455,789.00	4.064667	93	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	118592.4	3.929517	125,427.00	3.929517	95	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	127582.7	3.8497	134,422.00	3.8497	95	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B346163-BS1)			Lab File ID: B346163-BS1.d			Analyzed: 07/21/23 10:59			
M8FOSA	191563.5	3.964583	205,556.00	3.964583	93	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	32658.45	2.44755	33,232.00	2.447533	98	50 - 150	0.0000	+/-0.50	
M2PFTA	418591.9	4.30535	475,158.00	4.30535	88	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	75927.81	3.770917	89,662.00	3.770917	85	50 - 150	0.0000	+/-0.50	
MPFBA	240038	1.04185	264,396.00	1.04185	91	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	73651.36	2.798383	91,576.00	2.7902	80	50 - 150	0.0082	+/-0.50	
M6PFDA	497649.5	3.779417	560,613.00	3.779417	89	50 - 150	0.0000	+/-0.50	
M3PFBS	113804.2	1.845233	119,122.00	1.845233	96	50 - 150	0.0000	+/-0.50	
M7PFUnA	455927.4	3.92205	498,532.00	3.92205	91	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	40601.8	3.41245	36,358.00	3.41245	112	50 - 150	0.0000	+/-0.50	
M5PFPeA	248785.9	1.673467	274,032.00	1.673467	91	50 - 150	0.0000	+/-0.50	
M5PFHxA	433088.7	2.531267	467,561.00	2.531267	93	50 - 150	0.0000	+/-0.50	
M3PFHxS	66285.9	3.177667	72,987.00	3.177667	91	50 - 150	0.0000	+/-0.50	
M4PFHpA	460149.8	3.14655	484,638.00	3.14655	95	50 - 150	0.0000	+/-0.50	
M8PFOA	500075.6	3.42985	523,961.00	3.42985	95	50 - 150	0.0000	+/-0.50	
M8PFOS	71755.15	3.620217	77,569.00	3.620217	93	50 - 150	0.0000	+/-0.50	
M9PFNA	464765.8	3.62125	495,840.00	3.62125	94	50 - 150	0.0000	+/-0.50	
MPFDoA	415440.8	4.064667	455,789.00	4.064667	91	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	109865.9	3.929517	125,427.00	3.929517	88	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	118675.2	3.85765	134,422.00	3.8497	88	50 - 150	0.0080	+/-0.50	

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>SOP-466 PFAS in Soil</i>	
Perfluorobutanoic acid (PFBA)	NH-P,PA
Perfluorobutanesulfonic acid (PFBS)	NH-P,PA
Perfluoropentanoic acid (PFPeA)	NH-P,PA
Perfluorohexanoic acid (PFHxA)	NH-P,PA
11Cl-PF3OUdS (F53B Major)	NH-P,PA
9Cl-PF3ONS (F53B Minor)	NH-P,PA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,PA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,PA
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P,PA
Perfluorodecanoic acid (PFDA)	NH-P,PA
Perfluorododecanoic acid (PFDoA)	NH-P,PA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	NH-P,PA
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,PA
N-EtFOSAA (NEtFOSAA)	NH-P,PA
N-MeFOSAA (NMeFOSAA)	NH-P,PA
Perfluorotetradecanoic acid (PFTA)	NH-P,PA
Perfluorotridecanoic acid (PFTrDA)	NH-P,PA
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P,PA
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA
Perfluorooctanesulfonamide (FOSA)	NH-P,PA
Perfluorononanesulfonic acid (PFNS)	NH-P,PA
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P,PA
Perfluoro-1-butanesulfonamide (FBSA)	NH-P,PA
Perfluorohexanesulfonic acid (PFHxS)	NH-P,PA
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P,PA
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P,PA
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P,PA
Perfluoropentanesulfonic acid (PFPeS)	NH-P,PA
Perfluoroundecanoic acid (PFUnA)	NH-P,PA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA
Perfluoroheptanoic acid (PFHpA)	NH-P,PA
Perfluorooctanoic acid (PFOA)	NH-P,PA
Perfluorooctanesulfonic acid (PFOS)	NH-P,PA
Perfluorononanoic acid (PFNA)	NH-P,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

2361818

RM

Doc # 381 Rev 2_06262019

Page 1 of 1

39 Spruce Street
East Longmeadow, MA 01028


CHAIN OF CUSTODY RECORD

ANALYSIS REQUESTED

http://www.contestlabs.com

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

Company Name	Address	Phone	Project Name	Project Location	Project Number	Project Manager	Con-Test Quote Name/Number	Sampled By	Beginning Date/Time	Client Sample ID / Description	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFOS/PFOA by isotope dilution (extended list)	Preservation Code	Matrix Codes	Preservation Codes	PCB ONLY
Company Name	120 Front Street, Worcester, MA 01608	508-754-2201	Tighe & Bond	Princeton PFAS Investigation	19 Mountain Road	M. Scherer	P-0534	M. Scherer	7/12/23	19 MTN-S1A (6-12)		GRAB	DW	U						X				
Company Name										19 MTN-S1A (12-24)										X				
Company Name										19 MTN-S1A (24-36)										X				
Company Name										19 MTN-S3A (6-12)										X				
Company Name										19 MTN-S3A (12-24)										X				
Company Name										19 MTN-S3A (24-48)										X				
Company Name										19 MTN-S3A (48-60)										X				
Company Name										19 MTN-S4A (6-12)										X				
Company Name										19 MTN-S4A (12-24)										X				

	DC#_ Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Tight and Bond
 Project Princeton PEAS investigation
 MCP/RCP Required MA MLP
 Deliverable Package Requirement N/A
 Location 19 Mountain Road
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time ER 7/13/23 1825
 Back-Sheet By / Date / Time LA 7/14/23 1139
 Temperature Method gun # 5
 Temp < 6° C Actual Temperature 2.3
 Rush Samples: Yes No Notify _____
 Short Hold: Yes / No Notify _____

Login Sample Receipt Checklist – (Rejection Criteria Listing
 – Using Acceptance Policy) Any False statement will be
 brought to the attention of the Client – True or False

	True	False
Received on Ice	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Received in Cooler	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Custody Seal: DATE TIME	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Relinquished	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC/Samples Labels Agree	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All Samples in Good Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Samples Received within Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there enough Volume	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proper Media/Container Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Splitting Samples Required	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MS/MSD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Trip Blanks	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lab to Filters	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Legible	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC Included: (Check all included)		
Client <input checked="" type="checkbox"/>	Analysis <input checked="" type="checkbox"/>	Sampler Name <input checked="" type="checkbox"/>
Project <input checked="" type="checkbox"/>	IDs <input checked="" type="checkbox"/>	Collection Date/Time <input checked="" type="checkbox"/>
All Samples Proper pH:	<u>N/A</u> <input type="checkbox"/>	<input type="checkbox"/>

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.



DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	Sample																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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January 20, 2023

Michael Scherer
Tighe & Bond, Inc. - Worcester
120 Front St.
Worcester, MA 01608-2303

Project Location: 29 Mountain
Client Job Number:
Project Number: P-0534
Laboratory Work Order Number: 23A0474

Enclosed are results of analyses for samples as received by the laboratory on January 5, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Tighe & Bond, Inc. - Worcester
120 Front St.
Worcester, MA 01608-2303
ATTN: Michael Scherer

REPORT DATE: 1/20/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P-0534

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23A0474

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 29 Mountain

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
29 MOUNTAIN S-1	23A0474-01	Soil		SM 2540G SOP-466 PFAS	
29 MOUNTAIN S-2	23A0474-02	Soil		SM 2540G SOP-466 PFAS	
FIELD BLANK	23A0474-03	Water		SOP-454 PFAS	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SM 2540G

Qualifications:

H-03

Sample received after recommended holding time was exceeded.

Analyte & Samples(s) Qualified:

% Solids

23A0474-01[29 MOUNTAIN S-1], 23A0474-02[29 MOUNTAIN S-2]

SOP-454 PFAS

Qualifications:

L-01

Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

Perfluoroundecanoic acid (PFUnA)

B327866-BS1

L-02

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

Analyte & Samples(s) Qualified:

N-MeFOSAA (NMeFOSAA)

B327866-BS1, B327866-BSD1

S-29

Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

M2-4:2FTS

23A0474-03[FIELD BLANK]

M2-6:2FTS

23A0474-03[FIELD BLANK]

M2-8:2FTS

23A0474-03[FIELD BLANK]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 29 Mountain

Sample Description:

Work Order: 23A0474

Date Received: 1/5/2023

Field Sample #: 29 MOUNTAIN S-1

Sampled: 12/20/2022 10:30

Sample ID: 23A0474-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorobutanesulfonic acid (PFBS)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluoropentanoic acid (PFPeA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorohexanoic acid (PFHxA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
11Cl-PF3OUdS (F53B Major)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
9Cl-PF3ONS (F53B Minor)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorodecanoic acid (PFDA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorododecanoic acid (PFDoA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
N-EtFOSAA (NEtFOSAA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
N-MeFOSAA (NMeFOSAA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorotetradecanoic acid (PFTA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorotridecanoic acid (PFTrDA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorodecanesulfonic acid (PFDS)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorooctanesulfonamide (FOSA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorononanesulfonic acid (PFNS)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluoroundecanoic acid (PFUnA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluoroheptanoic acid (PFHpA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorooctanoic acid (PFOA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorooctanesulfonic acid (PFOS)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB
Perfluorononanoic acid (PFNA)	ND	0.71	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 19:59	RRB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 29 Mountain

Sample Description:

Work Order: 23A0474

Date Received: 1/5/2023

Field Sample #: 29 MOUNTAIN S-1

Sampled: 12/20/2022 10:30

Sample ID: 23A0474-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	60.8		% Wt	1	H-03	SM 2540G	1/17/23	1/17/23 11:17	WDC

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 29 Mountain

Sample Description:

Work Order: 23A0474

Date Received: 1/5/2023

Field Sample #: 29 MOUNTAIN S-2

Sampled: 12/20/2022 10:30

Sample ID: 23A0474-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorobutanesulfonic acid (PFBS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluoropentanoic acid (PFPeA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorohexanoic acid (PFHxA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
11Cl-PF3OUdS (F53B Major)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
9Cl-PF3ONS (F53B Minor)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorodecanoic acid (PFDA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorododecanoic acid (PFDoA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
N-EtFOSAA (NEtFOSAA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
N-MeFOSAA (NMeFOSAA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorotetradecanoic acid (PFTA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorotridecanoic acid (PFTrDA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorodecanesulfonic acid (PFDS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorooctanesulfonamide (FOSA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorononanesulfonic acid (PFNS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluoro-1-butanefulfonamide (FBSA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluoroundecanoic acid (PFUnA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluoroheptanoic acid (PFHpA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorooctanoic acid (PFOA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorooctanesulfonic acid (PFOS)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB
Perfluorononanoic acid (PFNA)	ND	0.52	µg/kg dry	1		SOP-466 PFAS	1/16/23	1/18/23 20:07	RRB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 29 Mountain

Sample Description:

Work Order: 23A0474

Date Received: 1/5/2023

Field Sample #: 29 MOUNTAIN S-2

Sampled: 12/20/2022 10:30

Sample ID: 23A0474-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.2		% Wt	1	H-03	SM 2540G	1/17/23	1/17/23 11:17	WDC

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 29 Mountain

Sample Description:

Work Order: 23A0474

Date Received: 1/5/2023

Field Sample #: FIELD BLANK

Sampled: 12/20/2022 10:30

Sample ID: 23A0474-03

Sample Matrix: Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluoropentanoic acid (PFPeA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorohexanoic acid (PFHxA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorodecanoic acid (PFDA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorotridecanoic acid (PFTTrDA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorodecanesulfonic acid (PFDS)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorooctanesulfonamide (FOSA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorononanesulfonic acid (PFNS)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluoro-1-butanefulfonamide (FBSA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluoroheptanoic acid (PFHpA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorooctanoic acid (PFOA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB
Perfluorononanoic acid (PFNA)	ND	1.8	ng/L	1		SOP-454 PFAS	1/9/23	1/13/23 21:43	RRB

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Sample Extraction Data
Prep Method: % Solids Analytical Method: SM 2540G

Lab Number [Field ID]	Batch	Date
23A0474-01 [29 MOUNTAIN S-1]	B328926	01/17/23
23A0474-02 [29 MOUNTAIN S-2]	B328926	01/17/23

Prep Method: SOP 454-PFAAS Analytical Method: SOP-454 PFAS

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23A0474-03 [FIELD BLANK]	B327866	279	1.00	01/09/23

Prep Method: SOP 465-PFAAS Analytical Method: SOP-466 PFAS

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23A0474-01 [29 MOUNTAIN S-1]	B328603	5.74	5.00	01/16/23
23A0474-02 [29 MOUNTAIN S-2]	B328603	5.85	5.00	01/16/23

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B327866 - SOP 454-PFAAS
Blank (B327866-BLK1)

Prepared: 01/09/23 Analyzed: 01/13/23

Perfluorobutanoic acid (PFBA)	ND	1.7	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.7	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	1.7	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.7	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.7	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.7	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.7	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.7	ng/L							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.7	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.7	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.7	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	1.7	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.7	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.7	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.7	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.7	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	ng/L							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.7	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.7	ng/L							
Perfluorooctanesulfonamide (FOSA)	ND	1.7	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.7	ng/L							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.7	ng/L							
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.7	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.7	ng/L							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.7	ng/L							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.7	ng/L							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.7	ng/L							
Perfluoropetanesulfonic acid (PFPeS)	ND	1.7	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.7	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.7	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.7	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.7	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.7	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.7	ng/L							

LCS (B327866-BS1)

Prepared: 01/09/23 Analyzed: 01/13/23

Perfluorobutanoic acid (PFBA)	10.2	1.8	ng/L	8.98	114	73-129
Perfluorobutanesulfonic acid (PFBS)	8.72	1.8	ng/L	7.94	110	72-130
Perfluoropentanoic acid (PFPeA)	10.3	1.8	ng/L	8.98	114	72-129
Perfluorohexanoic acid (PFHxA)	10.6	1.8	ng/L	8.98	119	72-129
11Cl-PF3OUdS (F53B Major)	9.66	1.8	ng/L	8.46	114	55.1-141
9Cl-PF3ONS (F53B Minor)	9.19	1.8	ng/L	8.37	110	59.6-146
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	10.2	1.8	ng/L	8.46	120	60.3-131
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.15	1.8	ng/L	8.98	102	37.6-167
8:2 Fluorotelomersulfonic acid (8:2FTS A)	9.43	1.8	ng/L	8.62	109	67-138
Perfluorodecanoic acid (PFDA)	9.22	1.8	ng/L	8.98	103	71-129
Perfluorododecanoic acid (PFDoA)	11.0	1.8	ng/L	8.98	123	72-134
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	9.29	1.8	ng/L	7.99	116	49.4-154

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B327866 - SOP 454-PFAAS										
LCS (B327866-BS1)										
					Prepared: 01/09/23 Analyzed: 01/13/23					
Perfluoroheptanesulfonic acid (PFHpS)	10.8	1.8	ng/L	8.57		125	69-134			
N-EtFOSAA (NEtFOSAA)	10.2	1.8	ng/L	8.98		114	61-135			
N-MeFOSAA (NMeFOSAA)	12.7	1.8	ng/L	8.98		142 *	65-136			L-02
Perfluorotetradecanoic acid (PFTA)	11.4	1.8	ng/L	8.98		127	71-132			
Perfluorotridecanoic acid (PFTTrDA)	11.9	1.8	ng/L	8.98		133	65-144			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	9.01	1.8	ng/L	8.39		107	63-143			
Perfluorodecanesulfonic acid (PFDS)	8.73	1.8	ng/L	8.66		101	53-142			
Perfluorooctanesulfonamide (FOSA)	11.1	1.8	ng/L	8.98		123	67-137			
Perfluorononanesulfonic acid (PFNS)	9.31	1.8	ng/L	8.62		108	69-127			
Perfluoro-1-hexanesulfonamide (FHxSA)	10.0	1.8	ng/L	8.98		112	61.7-156			
Perfluoro-1-butanefulfonamide (FBSA)	10.0	1.8	ng/L	8.98		112	61.3-145			
Perfluorohexanesulfonic acid (PFHxS)	10.2	1.8	ng/L	8.21		124	68-131			
Perfluoro-4-oxapentanoic acid (PFMPA)	10.9	1.8	ng/L	8.98		121	59.8-147			
Perfluoro-5-oxahexanoic acid (PFMBA)	11.1	1.8	ng/L	8.98		123	59.5-146			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	10.2	1.8	ng/L	8.53		119	64-140			
Perfluoropetanesulfonic acid (PFPeS)	10.2	1.8	ng/L	8.44		120	71-127			
Perfluoroundecanoic acid (PFUnA)	12.1	1.8	ng/L	8.98		134 *	69-133			L-01
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	11.3	1.8	ng/L	8.98		125	58.5-143			
Perfluoroheptanoic acid (PFHpA)	10.1	1.8	ng/L	8.98		112	72-130			
Perfluorooctanoic acid (PFOA)	9.48	1.8	ng/L	8.98		106	71-133			
Perfluorooctanesulfonic acid (PFOS)	9.85	1.8	ng/L	8.30		119	65-140			
Perfluorononanoic acid (PFNA)	11.6	1.8	ng/L	8.98		129	69-130			
LCS Dup (B327866-BS1)										
					Prepared: 01/09/23 Analyzed: 01/13/23					
Perfluorobutanoic acid (PFBA)	10.1	1.8	ng/L	9.24		109	73-129	1.23	30	
Perfluorobutanesulfonic acid (PFBS)	8.92	1.8	ng/L	8.18		109	72-130	2.26	30	
Perfluoropentanoic acid (PFPeA)	10.2	1.8	ng/L	9.24		111	72-129	0.492	30	
Perfluorohexanoic acid (PFHxA)	10.7	1.8	ng/L	9.24		116	72-129	0.787	30	
11Cl-PF3OUdS (F53B Major)	8.69	1.8	ng/L	8.71		99.8	55.1-141	10.5	30	
9Cl-PF3ONS (F53B Minor)	9.29	1.8	ng/L	8.61		108	59.6-146	1.06	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.74	1.8	ng/L	8.71		112	60.3-131	4.27	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.89	1.8	ng/L	9.24		96.2	37.6-167	2.92	30	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	12.0	1.8	ng/L	8.87		136	67-138	24.3	30	
Perfluorodecanoic acid (PFDA)	10.1	1.8	ng/L	9.24		110	71-129	9.48	30	
Perfluorododecanoic acid (PFDoA)	11.3	1.8	ng/L	9.24		122	72-134	2.72	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	9.30	1.8	ng/L	8.23		113	49.4-154	0.114	30	
Perfluoroheptanesulfonic acid (PFHpS)	10.4	1.8	ng/L	8.83		118	69-134	3.38	30	
N-EtFOSAA (NEtFOSAA)	10.9	1.8	ng/L	9.24		118	61-135	6.54	30	
N-MeFOSAA (NMeFOSAA)	13.1	1.8	ng/L	9.24		142 *	65-136	3.04	30	L-02
Perfluorotetradecanoic acid (PFTA)	12.0	1.8	ng/L	9.24		130	71-132	5.02	30	
Perfluorotridecanoic acid (PFTTrDA)	11.7	1.8	ng/L	9.24		127	65-144	2.10	30	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	9.04	1.8	ng/L	8.64		105	63-143	0.286	30	
Perfluorodecanesulfonic acid (PFDS)	7.86	1.8	ng/L	8.92		88.2	53-142	10.5	30	
Perfluorooctanesulfonamide (FOSA)	11.3	1.8	ng/L	9.24		123	67-137	2.13	30	
Perfluorononanesulfonic acid (PFNS)	8.98	1.8	ng/L	8.87		101	69-127	3.66	30	
Perfluoro-1-hexanesulfonamide (FHxSA)	10.3	1.8	ng/L	9.24		112	61.7-156	3.02	30	
Perfluoro-1-butanefulfonamide (FBSA)	10.2	1.8	ng/L	9.24		110	61.3-145	1.71	30	
Perfluorohexanesulfonic acid (PFHxS)	9.59	1.8	ng/L	8.46		113	68-131	5.70	30	
Perfluoro-4-oxapentanoic acid (PFMPA)	11.0	1.8	ng/L	9.24		119	59.8-147	1.24	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	11.2	1.8	ng/L	9.24		121	59.5-146	0.848	30	

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B327866 - SOP 454-PFAAS
LCS Dup (B327866-BSD1)

Prepared: 01/09/23 Analyzed: 01/13/23

6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.58	1.8	ng/L	8.78		109	64-140	5.97	30	
Perfluoropentanesulfonic acid (PFPeS)	9.60	1.8	ng/L	8.69		111	71-127	5.68	30	
Perfluoroundecanoic acid (PFUnA)	11.8	1.8	ng/L	9.24		127	69-133	2.40	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	11.6	1.8	ng/L	9.24		125	58.5-143	2.66	30	
Perfluoroheptanoic acid (PFHpA)	10.2	1.8	ng/L	9.24		110	72-130	0.812	30	
Perfluorooctanoic acid (PFOA)	9.44	1.8	ng/L	9.24		102	71-133	0.420	30	
Perfluorooctanesulfonic acid (PFOS)	9.28	1.8	ng/L	8.55		109	65-140	5.94	30	
Perfluorononanoic acid (PFNA)	10.9	1.8	ng/L	9.24		117	69-130	6.24	30	

Batch B328603 - SOP 465-PFAAS
Blank (B328603-BLK1)

Prepared: 01/16/23 Analyzed: 01/18/23

Perfluorobutanoic acid (PFBA)	ND	0.44	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.44	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.44	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.44	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.44	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.44	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.44	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.44	µg/kg wet							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.44	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.44	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.44	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.44	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.44	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.44	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.44	µg/kg wet							
Perfluorotetradecanoic acid (PFTA)	ND	0.44	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.44	µg/kg wet							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.44	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.44	µg/kg wet							
Perfluorooctanesulfonamide (FOSA)	ND	0.44	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.44	µg/kg wet							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.44	µg/kg wet							
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.44	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.44	µg/kg wet							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.44	µg/kg wet							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.44	µg/kg wet							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.44	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.44	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.44	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.44	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.44	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.44	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.44	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.44	µg/kg wet							

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B328603 - SOP 465-PFAAS										
LCS (B328603-BS1)										
Prepared: 01/16/23 Analyzed: 01/18/23										
Perfluorobutanoic acid (PFBA)	2.24	0.43	µg/kg wet	2.19		102	71-135			
Perfluorobutanesulfonic acid (PFBS)	1.95	0.43	µg/kg wet	1.94		101	72-128			
Perfluoropentanoic acid (PFPeA)	2.23	0.43	µg/kg wet	2.19		102	69-132			
Perfluorohexanoic acid (PFHxA)	2.19	0.43	µg/kg wet	2.19		100	70-132			
11Cl-PF3OUdS (F53B Major)	1.89	0.43	µg/kg wet	2.06		91.7	41.8-128			
9Cl-PF3ONS (F53B Minor)	1.87	0.43	µg/kg wet	2.04		91.8	51.1-141			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.05	0.43	µg/kg wet	2.06		99.3	55.2-122			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.87	0.43	µg/kg wet	2.19		85.5	27.6-137			
8:2 Fluorotelomersulfonic acid (8:2FTS A)	2.25	0.43	µg/kg wet	2.10		107	65-137			
Perfluorodecanoic acid (PFDA)	2.32	0.43	µg/kg wet	2.19		106	69-133			
Perfluorododecanoic acid (PFDoA)	2.14	0.43	µg/kg wet	2.19		97.5	69-135			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	2.13	0.43	µg/kg wet	1.95		109	56.7-133			
Perfluoroheptanesulfonic acid (PFHpS)	1.92	0.43	µg/kg wet	2.09		91.9	70-132			
N-EtFOSAA (NEtFOSAA)	2.32	0.43	µg/kg wet	2.19		106	61-139			
N-MeFOSAA (NMeFOSAA)	2.69	0.43	µg/kg wet	2.19		123	63-144			
Perfluorotetradecanoic acid (PFTA)	2.14	0.43	µg/kg wet	2.19		97.9	69-133			
Perfluorotridecanoic acid (PFTrDA)	2.13	0.43	µg/kg wet	2.19		97.4	66-139			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	2.02	0.43	µg/kg wet	2.05		98.6	62-145			
Perfluorodecanesulfonic acid (PFDS)	2.03	0.43	µg/kg wet	2.11		96.2	59-134			
Perfluorooctanesulfonamide (FOSA)	1.90	0.43	µg/kg wet	2.19		86.9	67-137			
Perfluorononanesulfonic acid (PFNS)	2.15	0.43	µg/kg wet	2.10		102	69-125			
Perfluoro-1-hexanesulfonamide (FHxSA)	2.78	0.43	µg/kg wet	2.19		127	51.4-142			
Perfluoro-1-butanesulfonamide (FBSA)	2.44	0.43	µg/kg wet	2.19		111	53.5-129			
Perfluorohexanesulfonic acid (PFHxS)	2.11	0.43	µg/kg wet	2.01		105	67-130			
Perfluoro-4-oxapentanoic acid (PFMPA)	2.45	0.43	µg/kg wet	2.19		112	57.8-127			
Perfluoro-5-oxahexanoic acid (PFMBA)	2.55	0.43	µg/kg wet	2.19		116	56.5-132			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	2.08	0.43	µg/kg wet	2.08		100	64-140			
Perfluoropentanesulfonic acid (PFPeS)	2.15	0.43	µg/kg wet	2.06		104	73-123			
Perfluoroundecanoic acid (PFUnA)	2.19	0.43	µg/kg wet	2.19		99.9	64-136			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.58	0.43	µg/kg wet	2.19		118	54.5-128			
Perfluoroheptanoic acid (PFHpA)	2.22	0.43	µg/kg wet	2.19		101	71-131			
Perfluorooctanoic acid (PFOA)	2.20	0.43	µg/kg wet	2.19		101	69-133			
Perfluorooctanesulfonic acid (PFOS)	1.96	0.43	µg/kg wet	2.02		97.0	68-136			
Perfluorononanoic acid (PFNA)	2.05	0.43	µg/kg wet	2.19		93.5	72-129			

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QUALITY CONTROL
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B328926 - % Solids										
Duplicate (B328926-DUP3)										
			Source: 23A0474-01		Prepared & Analyzed: 01/17/23					
% Solids	60.4		% Wt		60.8			0.647	10	
Duplicate (B328926-DUP4)										
			Source: 23A0474-02		Prepared & Analyzed: 01/17/23					
% Solids	77.5		% Wt		81.2			4.64	10	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-03	Sample received after recommended holding time was exceeded.
L-01	Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
S-29	Extracted Internal Standard is outside of control limits.

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
29 MOUNTAIN S-1 (23A0474-01)			Lab File ID: 23A0474-01.d			Analyzed: 01/18/23 19:59			
M8FOSA	454854	4.076483	561,068.00	4.0765	81	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	123222.2	2.670717	216,189.00	2.670717	57	50 - 150	0.0000	+/-0.50	
M2PF _T A	1124663	4.402783	1,551,168.00	4.4109	73	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	208643.5	3.875067	196,734.00	3.875067	106	50 - 150	0.0000	+/-0.50	
MPFBA	572318.9	1.13325	722,975.00	1.13325	79	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	123261.6	2.978433	175,160.00	2.970317	70	50 - 150	0.0081	+/-0.50	
M6PFDA	793067.2	3.875583	1,000,087.00	3.875583	79	50 - 150	0.0000	+/-0.50	
M3PFBS	154696.6	2.044217	188,299.00	2.035933	82	50 - 150	0.0083	+/-0.50	
M7PFUnA	1095397	4.025967	1,285,812.00	4.025967	85	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	115701.4	3.5256	131,914.00	3.5256	88	50 - 150	0.0000	+/-0.50	
M5PFPeA	479419.8	1.849383	598,852.00	1.849383	80	50 - 150	0.0000	+/-0.50	
M5PFHxA	838644	2.7554	1,077,517.00	2.7554	78	50 - 150	0.0000	+/-0.50	
M3PFHxS	144814	3.308383	192,419.00	3.300333	75	50 - 150	0.0080	+/-0.50	
M4PFHpA	919515.6	3.27725	1,220,774.00	3.27725	75	50 - 150	0.0000	+/-0.50	
M8PFOA	870947.3	3.534133	1,175,467.00	3.534133	74	50 - 150	0.0000	+/-0.50	
M8PFOS	162203.5	3.71625	203,715.00	3.71625	80	50 - 150	0.0000	+/-0.50	
M9PFNA	787249.4	3.71725	1,054,218.00	3.71725	75	50 - 150	0.0000	+/-0.50	
MPFDoA	1058144	4.161183	1,303,969.00	4.1612	81	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	274048.5	4.033433	285,562.00	4.033433	96	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	308705.3	3.95385	323,087.00	3.953867	96	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
29 MOUNTAIN S-2 (23A0474-02)									
			Lab File ID: 23A0474-02.d			Analyzed: 01/18/23 20:07			
M8FOSA	439388.4	4.0765	561,068.00	4.0765	78	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	131324.6	2.670717	216,189.00	2.670717	61	50 - 150	0.0000	+/-0.50	
M2PF _T A	1113544	4.402783	1,551,168.00	4.4109	72	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	148588.1	3.875067	196,734.00	3.875067	76	50 - 150	0.0000	+/-0.50	
MPFBA	560709.9	1.13325	722,975.00	1.13325	78	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	117680.1	2.978433	175,160.00	2.970317	67	50 - 150	0.0081	+/-0.50	
M6PFDA	810048.6	3.875583	1,000,087.00	3.875583	81	50 - 150	0.0000	+/-0.50	
M3PFBS	154365.2	2.035933	188,299.00	2.035933	82	50 - 150	0.0000	+/-0.50	
M7PFUnA	1001956	4.025967	1,285,812.00	4.025967	78	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	90992.68	3.5256	131,914.00	3.5256	69	50 - 150	0.0000	+/-0.50	
M5PFPeA	469947.4	1.849383	598,852.00	1.849383	78	50 - 150	0.0000	+/-0.50	
M5PFHxA	824426.3	2.7554	1,077,517.00	2.7554	77	50 - 150	0.0000	+/-0.50	
M3PFHxS	143382.5	3.300333	192,419.00	3.300333	75	50 - 150	0.0000	+/-0.50	
M4PFHpA	914455.4	3.27725	1,220,774.00	3.27725	75	50 - 150	0.0000	+/-0.50	
M8PFOA	838895.4	3.534133	1,175,467.00	3.534133	71	50 - 150	0.0000	+/-0.50	
M8PFOS	159824.3	3.71625	203,715.00	3.71625	78	50 - 150	0.0000	+/-0.50	
M9PFNA	775481.9	3.71725	1,054,218.00	3.71725	74	50 - 150	0.0000	+/-0.50	
MPFDoA	1019051	4.1612	1,303,969.00	4.1612	78	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	234927	4.033433	285,562.00	4.033433	82	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	268607.5	3.953867	323,087.00	3.953867	83	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
FIELD BLANK (23A0474-03)			Lab File ID: 23A0474-03.d			Analyzed: 01/13/23 21:43			
M8FOSA	285225	4.044517	453,554.00	4.044517	63	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	72979.67	2.6531	155,840.00	2.644867	47	50 - 150	0.0082	+/-0.50	*
M2PFTA	714249.5	4.402783	1,116,530.00	4.402783	64	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	68873.9	3.866833	147,915.00	3.866833	47	50 - 150	0.0000	+/-0.50	*
MPFBA	480026.9	1.116633	553,693.00	1.116633	87	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	115405.8	2.9622	132,245.00	2.9622	87	50 - 150	0.0000	+/-0.50	
M6PFDA	617888.3	3.867333	794,702.00	3.867333	78	50 - 150	0.0000	+/-0.50	
M3PFBS	125868.7	2.019367	147,764.00	2.019367	85	50 - 150	0.0000	+/-0.50	
M7PFUnA	740103.9	4.017967	1,029,083.00	4.017967	72	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	42328.48	3.509617	98,500.00	3.509617	43	50 - 150	0.0000	+/-0.50	*
M5PFPeA	383439.3	1.8328	471,858.00	1.8328	81	50 - 150	0.0000	+/-0.50	
M5PFHxA	688009.5	2.73905	852,074.00	2.73905	81	50 - 150	0.0000	+/-0.50	
M3PFHxS	102160.9	3.2923	138,982.00	3.28425	74	50 - 150	0.0080	+/-0.50	
M4PFHpA	723043.7	3.25995	938,339.00	3.25995	77	50 - 150	0.0000	+/-0.50	
M8PFOA	607270	3.526133	875,199.00	3.51815	69	50 - 150	0.0080	+/-0.50	
M8PFOS	118431.9	3.708283	166,627.00	3.708283	71	50 - 150	0.0000	+/-0.50	
M9PFNA	641579.6	3.709283	854,408.00	3.709283	75	50 - 150	0.0000	+/-0.50	
MPFDoA	663512.3	4.161183	980,445.00	4.1612	68	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	159740.5	4.025434	240,778.00	4.025434	66	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	186581.3	3.945867	274,999.00	3.945867	68	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B327866-BLK1)			Lab File ID: B327866-BLK1.d			Analyzed: 01/13/23 19:55			
M8FOSA	321800.8	4.044517	453,554.00	4.044517	71	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	120170.6	2.6531	155,840.00	2.644867	77	50 - 150	0.0082	+/-0.50	
M2PFTA	596829.8	4.402783	1,116,530.00	4.402783	53	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	106793.5	3.866833	147,915.00	3.866833	72	50 - 150	0.0000	+/-0.50	
MPFBA	503508.4	1.116633	553,693.00	1.116633	91	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	123020.2	2.9622	132,245.00	2.9622	93	50 - 150	0.0000	+/-0.50	
M6PFDA	639490.9	3.867333	794,702.00	3.867333	80	50 - 150	0.0000	+/-0.50	
M3PFBS	141466.3	2.02765	147,764.00	2.019367	96	50 - 150	0.0083	+/-0.50	
M7PFUnA	798996.9	4.017967	1,029,083.00	4.017967	78	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	74523.41	3.509617	98,500.00	3.509617	76	50 - 150	0.0000	+/-0.50	
M5PFPeA	428630.4	1.8328	471,858.00	1.8328	91	50 - 150	0.0000	+/-0.50	
M5PFHxA	756211.4	2.747217	852,074.00	2.73905	89	50 - 150	0.0082	+/-0.50	
M3PFHxS	121318.8	3.2923	138,982.00	3.2923	87	50 - 150	0.0000	+/-0.50	
M4PFHpA	811147.7	3.25995	938,339.00	3.25995	86	50 - 150	0.0000	+/-0.50	
M8PFOA	753935.1	3.526133	875,199.00	3.526133	86	50 - 150	0.0000	+/-0.50	
M8PFOS	128253.6	3.708283	166,627.00	3.708283	77	50 - 150	0.0000	+/-0.50	
M9PFNA	680151.9	3.709283	854,408.00	3.709283	80	50 - 150	0.0000	+/-0.50	
MPFDoA	661929.7	4.161183	980,445.00	4.1612	68	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	184406.6	4.025434	240,778.00	4.025434	77	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	207890.4	3.945867	274,999.00	3.945867	76	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B327866-BS1)			Lab File ID: B327866-BS1.d			Analyzed: 01/13/23 19:41			
M8FOSA	321940.5	4.044517	453,554.00	4.044517	71	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	117158.4	2.6531	155,840.00	2.644867	75	50 - 150	0.0082	+/-0.50	
M2PFTA	667664.4	4.402783	1,116,530.00	4.402783	60	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	100450.1	3.866833	147,915.00	3.866833	68	50 - 150	0.0000	+/-0.50	
MPFBA	485179.2	1.116633	553,693.00	1.116633	88	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	132379.3	2.9622	132,245.00	2.9622	100	50 - 150	0.0000	+/-0.50	
M6PFDA	644840.8	3.867333	794,702.00	3.867333	81	50 - 150	0.0000	+/-0.50	
M3PFBS	132559.5	2.02765	147,764.00	2.019367	90	50 - 150	0.0083	+/-0.50	
M7PFUnA	729380.6	4.017967	1,029,083.00	4.017967	71	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	67856.34	3.509617	98,500.00	3.509617	69	50 - 150	0.0000	+/-0.50	
M5PFPeA	415360	1.8328	471,858.00	1.8328	88	50 - 150	0.0000	+/-0.50	
M5PFHxA	738397	2.73905	852,074.00	2.73905	87	50 - 150	0.0000	+/-0.50	
M3PFHxS	111105.3	3.2923	138,982.00	3.2923	80	50 - 150	0.0000	+/-0.50	
M4PFHpA	788179.6	3.25995	938,339.00	3.25995	84	50 - 150	0.0000	+/-0.50	
M8PFOA	704787.3	3.526133	875,199.00	3.526133	81	50 - 150	0.0000	+/-0.50	
M8PFOS	132549.6	3.708283	166,627.00	3.708283	80	50 - 150	0.0000	+/-0.50	
M9PFNA	667295.3	3.709283	854,408.00	3.709283	78	50 - 150	0.0000	+/-0.50	
MPFDoA	719327.4	4.1612	980,445.00	4.1612	73	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	163486.2	4.025434	240,778.00	4.025434	68	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	206303.3	3.945867	274,999.00	3.945867	75	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS Dup (B327866-BSD1)			Lab File ID: B327866-BSD1.d			Analyzed: 01/13/23 19:48			
M8FOSA	332054.4	4.044517	453,554.00	4.044517	73	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	124660.3	2.6531	155,840.00	2.644867	80	50 - 150	0.0082	+/-0.50	
M2PF _{TA}	737314.9	4.402783	1,116,530.00	4.402783	66	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	97525.8	3.866833	147,915.00	3.866833	66	50 - 150	0.0000	+/-0.50	
MPFBA	497573.9	1.116633	553,693.00	1.116633	90	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	120325.4	2.9622	132,245.00	2.9622	91	50 - 150	0.0000	+/-0.50	
M6PFDA	672129.7	3.867333	794,702.00	3.867333	85	50 - 150	0.0000	+/-0.50	
M3PFBS	137680.8	2.02765	147,764.00	2.019367	93	50 - 150	0.0083	+/-0.50	
M7PFUnA	781373.6	4.017967	1,029,083.00	4.017967	76	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	73641.38	3.509617	98,500.00	3.509617	75	50 - 150	0.0000	+/-0.50	
M5PFPeA	429971.1	1.8328	471,858.00	1.8328	91	50 - 150	0.0000	+/-0.50	
M5PFHxA	760437.8	2.73905	852,074.00	2.73905	89	50 - 150	0.0000	+/-0.50	
M3PFHxS	120353.9	3.2923	138,982.00	3.2923	87	50 - 150	0.0000	+/-0.50	
M4PFHpA	802782.9	3.25995	938,339.00	3.25995	86	50 - 150	0.0000	+/-0.50	
M8PFOA	755428.1	3.526133	875,199.00	3.526133	86	50 - 150	0.0000	+/-0.50	
M8PFOS	140088.8	3.708283	166,627.00	3.708283	84	50 - 150	0.0000	+/-0.50	
M9PFNA	696892.2	3.709283	854,408.00	3.709283	82	50 - 150	0.0000	+/-0.50	
MPFDoA	723842.4	4.1612	980,445.00	4.1612	74	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	172868.5	4.02545	240,778.00	4.025434	72	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	213799.3	3.945867	274,999.00	3.945867	78	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B328603-BLK1)			Lab File ID: B328603-BLK1.d			Analyzed: 01/18/23 19:31			
M8FOSA	515400.3	4.076483	561,068.00	4.0765	92	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	179555.5	2.670717	216,189.00	2.670717	83	50 - 150	0.0000	+/-0.50	
M2PFTA	1338483	4.4109	1,551,168.00	4.4109	86	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	174434	3.875067	196,734.00	3.875067	89	50 - 150	0.0000	+/-0.50	
MPFBA	661650.1	1.13325	722,975.00	1.13325	92	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	141420.7	2.970317	175,160.00	2.970317	81	50 - 150	0.0000	+/-0.50	
M6PFDA	897032.8	3.875583	1,000,087.00	3.875583	90	50 - 150	0.0000	+/-0.50	
M3PFBS	180634.4	2.044217	188,299.00	2.035933	96	50 - 150	0.0083	+/-0.50	
M7PFUnA	1161330	4.025967	1,285,812.00	4.025967	90	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	116654.7	3.5256	131,914.00	3.5256	88	50 - 150	0.0000	+/-0.50	
M5PFPeA	559215.7	1.849383	598,852.00	1.849383	93	50 - 150	0.0000	+/-0.50	
M5PFHxA	986126.8	2.7554	1,077,517.00	2.7554	92	50 - 150	0.0000	+/-0.50	
M3PFHxS	168586.2	3.300333	192,419.00	3.300333	88	50 - 150	0.0000	+/-0.50	
M4PFHpA	1092958	3.27725	1,220,774.00	3.27725	90	50 - 150	0.0000	+/-0.50	
M8PFOA	962822.5	3.534133	1,175,467.00	3.534133	82	50 - 150	0.0000	+/-0.50	
M8PFOS	190597.9	3.71625	203,715.00	3.71625	94	50 - 150	0.0000	+/-0.50	
M9PFNA	917081.1	3.71725	1,054,218.00	3.71725	87	50 - 150	0.0000	+/-0.50	
MPFDoA	1174603	4.169267	1,303,969.00	4.1612	90	50 - 150	0.0081	+/-0.50	
D5-NEtFOSAA	285920.9	4.033433	285,562.00	4.033433	100	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	313120.8	3.95385	323,087.00	3.953867	97	50 - 150	0.0000	+/-0.50	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

INTERNAL STANDARD AREA AND RT SUMMARY
SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B328603-BS1)			Lab File ID: B328603-BS1.d			Analyzed: 01/18/23 19:23			
M8FOSA	635037.8	4.0765	561,068.00	4.0765	113	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	211926.4	2.670717	216,189.00	2.670717	98	50 - 150	0.0000	+/-0.50	
M2PFTA	1459734	4.402783	1,551,168.00	4.4109	94	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	191537.6	3.875067	196,734.00	3.875067	97	50 - 150	0.0000	+/-0.50	
MPFBA	774196	1.13325	722,975.00	1.13325	107	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	222588	2.978433	175,160.00	2.970317	127	50 - 150	0.0081	+/-0.50	
M6PFDA	1057114	3.875583	1,000,087.00	3.875583	106	50 - 150	0.0000	+/-0.50	
M3PFBS	209413.5	2.044217	188,299.00	2.035933	111	50 - 150	0.0083	+/-0.50	
M7PFUnA	1375720	4.025967	1,285,812.00	4.025967	107	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	124866.4	3.5256	131,914.00	3.5256	95	50 - 150	0.0000	+/-0.50	
M5PFPeA	643499	1.849383	598,852.00	1.849383	107	50 - 150	0.0000	+/-0.50	
M5PFHxA	1156527	2.7554	1,077,517.00	2.7554	107	50 - 150	0.0000	+/-0.50	
M3PFHxS	195360.8	3.300333	192,419.00	3.300333	102	50 - 150	0.0000	+/-0.50	
M4PFHpA	1275284	3.27725	1,220,774.00	3.27725	104	50 - 150	0.0000	+/-0.50	
M8PFOA	1129664	3.534133	1,175,467.00	3.534133	96	50 - 150	0.0000	+/-0.50	
M8PFOS	222781.3	3.71625	203,715.00	3.71625	109	50 - 150	0.0000	+/-0.50	
M9PFNA	1118517	3.71725	1,054,218.00	3.71725	106	50 - 150	0.0000	+/-0.50	
MPFDoA	1359532	4.1612	1,303,969.00	4.1612	104	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	307954.3	4.033433	285,562.00	4.033433	108	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	335867.7	3.95385	323,087.00	3.953867	104	50 - 150	0.0000	+/-0.50	

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>SOP-454 PFAS in Water</i>	
Perfluorobutanoic acid (PFBA)	NH-P
Perfluorobutanesulfonic acid (PFBS)	NH-P
Perfluoropentanoic acid (PFPeA)	NH-P
Perfluorohexanoic acid (PFHxA)	NH-P
11Cl-PF3OUdS (F53B Major)	NH-P
9Cl-PF3ONS (F53B Minor)	NH-P
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P
Perfluorodecanoic acid (PFDA)	NH-P
Perfluorododecanoic acid (PFDoA)	NH-P
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	NH-P
Perfluoroheptanesulfonic acid (PFHpS)	NH-P
N-EtFOSAA (NEtFOSAA)	NH-P
N-MeFOSAA (NMeFOSAA)	NH-P
Perfluorotetradecanoic acid (PFTA)	NH-P
Perfluorotridecanoic acid (PFTrDA)	NH-P
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P
Perfluorodecanesulfonic acid (PFDS)	NH-P
Perfluorooctanesulfonamide (FOSA)	NH-P
Perfluorononanesulfonic acid (PFNS)	NH-P
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P
Perfluoro-1-butanesulfonamide (FBSA)	NH-P
Perfluorohexanesulfonic acid (PFHxS)	NH-P
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P
Perfluoropetanesulfonic acid (PFPeS)	NH-P
Perfluoroundecanoic acid (PFUnA)	NH-P
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P
Perfluoroheptanoic acid (PFHpA)	NH-P
Perfluorooctanoic acid (PFOA)	NH-P
Perfluorooctanesulfonic acid (PFOS)	NH-P
Perfluorononanoic acid (PFNA)	NH-P
<i>SOP-466 PFAS in Soil</i>	
Perfluorobutanoic acid (PFBA)	NH-P
Perfluorobutanesulfonic acid (PFBS)	NH-P
Perfluoropentanoic acid (PFPeA)	NH-P
Perfluorohexanoic acid (PFHxA)	NH-P
11Cl-PF3OUdS (F53B Major)	NH-P
9Cl-PF3ONS (F53B Minor)	NH-P
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P
Perfluorodecanoic acid (PFDA)	NH-P
Perfluorododecanoic acid (PFDoA)	NH-P

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SOP-466 PFAS in Soil</i>	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P
Perfluoroheptanesulfonic acid (PFHpS)	NH-P
N-EtFOSAA (NEtFOSAA)	NH-P
N-MeFOSAA (NMeFOSAA)	NH-P
Perfluorotetradecanoic acid (PFTA)	NH-P
Perfluorotridecanoic acid (PFTrDA)	NH-P
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P
Perfluorodecanesulfonic acid (PFDS)	NH-P
Perfluorooctanesulfonamide (FOSA)	NH-P
Perfluorononanesulfonic acid (PFNS)	NH-P
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P
Perfluoro-1-butanesulfonamide (FBSA)	NH-P
Perfluorohexanesulfonic acid (PFHxS)	NH-P
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P
Perfluoropetanesulfonic acid (PFPeS)	NH-P
Perfluoroundecanoic acid (PFUnA)	NH-P
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P
Perfluoroheptanoic acid (PFHpA)	NH-P
Perfluorooctanoic acid (PFOA)	NH-P
Perfluorooctanesulfonic acid (PFOS)	NH-P
Perfluorononanoic acid (PFNA)	NH-P

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2023

23A0474

Doc # 381 Rev 2_06262019

Phone: 413-525-2332
 Fax: 413-525-6405



Company Name: Tighe & Bond
 Address: 120 Front Street, Worcester, MA 01608

Phone: 508-754-2201
 Project Name: Princeton Residential Well Sampling
 Project Location: Princeton, MA

Project Number: P-0534
 Project Manager: M. Scherer

Con-Test Quote Name/Number: Tighe & Bond
 Invoice Recipient: M. Scherer

Sampled By: M. Scherer

39 Spruce Street
 East Longmeadow, MA 01028

CHAIR OF CUSTODY RECORD

Requested Turnaround Time: 10-Day 15-Day 20-Day 30-Day 45-Day 60-Day 90-Day 120-Day Due Date: _____

Rush Approval Required: Field Filtered Lab to Filter

Orthophosphate Samples: 1-Day 2-Day 3-Day 4-Day Field Filtered Lab to Filter

Data Delivery: PDF EXCEL

ANALYSIS REQUESTED

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Expiring Date/Time	COMP/GRAB	Matrix Code	Conc. Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
	29 MOUNTAIN S-1	12/10/22	1030	GRAB	5	U			1		
	29 MOUNTAIN S-2								1		
	FIELD BOWL								1		

7-Day	10-Day	15-Day	20-Day	30-Day	45-Day	60-Day	90-Day	120-Day
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Requested Turnaround Time	Disolved Metals Samples	Orthophosphate Samples	Special Requirements
10-Day	Field Filtered	Field Filtered	MA MCP Required <input checked="" type="checkbox"/> MCP Certification Form Required <input type="checkbox"/> CT RCP Required <input type="checkbox"/> RCP Certification Form Required <input type="checkbox"/> MA State DW Required <input type="checkbox"/>

Client Comments:

Received by: (signature) *M. Scherer* Date/Time: 11/26/22 0800

Received by: (signature) *Debra Belland* Date/Time: 1-5-23 0917

Received by: (signature) *Debra Belland* Date/Time: 1-5-23 1410

Received by: (signature) *William Mahan* Date/Time: 1-5-23 2300

Received by: (signature) _____ Date/Time: _____

Received by: (signature) _____ Date/Time: _____

Received by: (signature) _____ Date/Time: _____

Received by: (signature) _____ Date/Time: _____

Lab Comments:

Project Entity: Government Federal City Municipality: 21 J Brownfield
 MWRA School MBTA WRTA AHA-LAP, LLC

Other: Chromatogram PCB ONLY Soxhlet Non Soxhlet

Preservation Codes:
 I = Iced
 H = HCL
 M = Methanol
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium Bisulfate
 X = Sodium Hydroxide
 T = Thiourea
 O = Other (please define)

Matrix Codes:
 GW = Ground Water
 WW = Waste Water
 DW = Drinking Water
 A = Air
 S = Soil
 SL = Sludge
 SOL = Solid
 O = Other (please define)

Preservation Codes:
 I = Iced
 H = HCL
 M = Methanol
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium Bisulfate
 X = Sodium Hydroxide
 T = Thiourea
 O = Other (please define)

7 Preservation Code: _____
 Total Number Of: _____
 VIALS _____
 GLASS _____
 PLASTIC _____
 BACTERIA _____
 ENCORE _____

Glassware in the fridge? Y N
 Glassware in freezer? Y N
 Prepackaged Coolers? Y N
 *Contest is not responsible for missing samples from prepackaged coolers

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com



Doc# 277 Rev 6 July 2022

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client Tighe Bond

Received By AAM Date 1-5-23 Time _____

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____

Were samples within Temperature? Within 2-6°C Direct From Sample F Ambient _____ Melted Ice _____

By Gun # 3 Actual Temp - 2.3°C

By Blank # _____ Actual Temp - _____

Was Custody Seal In tact? NIA Were Samples Tampered with? F

Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all Client? T Analysis? T Sampler Name? T

pertinent Information? Project? T ID's? T Collection Dates/Times? T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? NIA

Are there Rushes? F Who was notified? NIA

Are there Short Holds? F Who was notified? NIA

Samples are received within holding time? T Is there enough Volume? T

Is there Headspace where applicable? NIA MS/MSD? F

Proper Media/Containers Used? T splitting samples require F

Were trip blanks received? F On COC? NIA

Do All Samples Have the proper pH? NIA Acid _____ Base _____

Unp-	1 Liter Amb.	1 Liter Plastic	16 oz Amb.
HCL-	500 mL Amb.	500 mL Plastic	8oz Amb/Clear
Meoh-	250 mL Amb.	250 mL Plastic	4oz Amb/Clear
Bisulfate-	Col./Bacteria	Flashpoint	2oz Amb/Clear
DI-	Other Plastic	Other Glass	Encore
Thiosulfate-	SOC Kit	Plastic Bag	Frozen:
Sulfuric-	Perchlorate	Ziplock	

Unusable Media

Unp-	1 Liter Amb.	1 Liter Plastic	16 oz Amb.
HCL-	500 mL Amb.	500 mL Plastic	8oz Amb/Clear
Meoh-	250 mL Amb.	250 mL Plastic	4oz Amb/Clear
Bisulfate-	Col./Bacteria	Flashpoint	2oz Amb/Clear
DI-	Other Plastic	Other Glass	Encore
Thiosulfate-	SOC Kit	Plastic Bag	Frozen:
Sulfuric-	Perchlorate	Ziplock	

Comments:

[Empty box for comments]

October 6, 2023

Michael Scherer
Tighe & Bond, Inc. - Worcester
120 Front St.
Worcester, MA 01608-2303

Project Location: Penceton, MA
Client Job Number:
Project Number: P-0534
Laboratory Work Order Number: 23I3147

Enclosed are results of analyses for samples as received by the laboratory on September 25, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Raymond J. McCarthy
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Tighe & Bond, Inc. - Worcester
 120 Front St.
 Worcester, MA 01608-2303
 ATTN: Michael Scherer

REPORT DATE: 10/6/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P-0534

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 2313147

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Pencilton, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Runoff INF	2313147-01	Ground Water		SOP-454 PFAS	
Runoff MID	2313147-02	Ground Water		SOP-454 PFAS	
Runoff EFF	2313147-03	Ground Water		SOP-454 PFAS	
Field Blank	2313147-04	Field Blank		SOP-454 PFAS	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SOP-454 PFAS**Qualifications:**

L-01

Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:**N-EtFOSAA (NEtFOSAA)**B352508-BS1

PF-17

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

Analyte & Samples(s) Qualified:**M2-6:2FTS**

23I3147-01[Runoff INF]

M2-8:2FTS23I3147-01[Runoff INF]

PF-19

Sample re-analyzed at a dilution that was re-fortified with internal standard.

Analyte & Samples(s) Qualified:**Perfluorohexanesulfonic acid (PFHxS)**

23I3147-01RE1[Runoff INF]

Perfluorooctanesulfonic acid (PFOS)23I3147-01RE1[Runoff INF]

S-29

Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:**M2PFTA**

23I3147-02[Runoff MID]

M8FOSA

23I3147-01[Runoff INF]

MPFBA23I3147-01[Runoff INF]

V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:**11Cl-PF3OUdS (F53B Major)**

S094346-CCV2

9Cl-PF3ONS (F53B Minor)

S094346-CCV2

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Penceton, MA

Sample Description:

Work Order: 2313147

Date Received: 9/25/2023

Field Sample #: Runoff INF

Sampled: 9/13/2023 13:00

Sample ID: 2313147-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	12	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorobutanesulfonic acid (PFBS)	13	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluoropentanoic acid (PFPeA)	7.3	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorohexanoic acid (PFHxA)	15	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorodecanoic acid (PFDA)	2.8	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluoroheptanesulfonic acid (PFHpS)	17	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorotridecanoic acid (PFTTrDA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorodecanesulfonic acid (PFDS)	2.6	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorooctanesulfonamide (FOSA)	2.6	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorononanesulfonic acid (PFNS)	5.0	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	27	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluoro-1-butanefulfonamide (FBSA)	6.9	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorohexanesulfonic acid (PFHxS)	240	18	ng/L	10	PF-19	SOP-454 PFAS	9/20/23	10/6/23 13:13	RRB
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluoropentanesulfonic acid (PFPeS)	15	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluoroheptanoic acid (PFHpA)	8.0	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorooctanoic acid (PFOA)	20	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW
Perfluorooctanesulfonic acid (PFOS)	840	18	ng/L	10	PF-19	SOP-454 PFAS	9/20/23	10/6/23 13:13	RRB
Perfluorononanoic acid (PFNA)	3.6	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:09	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Penceton, MA

Sample Description:

Work Order: 2313147

Date Received: 9/25/2023

Field Sample #: Runoff MID

Sampled: 9/13/2023 13:00

Sample ID: 2313147-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorotridecanoic acid (PFTTrDA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorohexanesulfonic acid (PFHxS)	10	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorooctanesulfonic acid (PFOS)	47	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:16	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Pencilton, MA

Sample Description:

Work Order: 2313147

Date Received: 9/25/2023

Field Sample #: Runoff EFF

Sampled: 9/13/2023 13:00

Sample ID: 2313147-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorotridecanoic acid (PFTTrDA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:24	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Penceton, MA

Sample Description:

Work Order: 2313147

Date Received: 9/25/2023

Field Sample #: Field Blank

Sampled: 9/13/2023 13:00

Sample ID: 2313147-04

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluoropentanoic acid (PFPeA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorohexanoic acid (PFHxA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorodecanoic acid (PFDA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorotridecanoic acid (PFTTrDA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorooctanesulfonamide (FOSA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorononanesulfonic acid (PFNS)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluoro-1-butanefulfonamide (FBSA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluoroheptanoic acid (PFHpA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorooctanoic acid (PFOA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW
Perfluorononanoic acid (PFNA)	ND	1.8	ng/L	1		SOP-454 PFAS	9/20/23	10/3/23 2:32	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SOP 454-PFAAS Analytical Method:SOP-454 PFAS

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23I3147-01 [Runoff INF]	B352508	277	1.00	09/20/23
23I3147-01RE1 [Runoff INF]	B352508	277	1.00	09/20/23
23I3147-02 [Runoff MID]	B352508	268	1.00	09/20/23
23I3147-03 [Runoff EFF]	B352508	267	1.00	09/20/23
23I3147-04 [Field Blank]	B352508	270	1.00	09/20/23

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B352508 - SOP 454-PFAAS
Blank (B352508-BLK1)

Prepared: 09/20/23 Analyzed: 10/04/23

Perfluorobutanoic acid (PFBA)	ND	1.8	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	1.8	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.8	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	1.8	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.8	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	ng/L							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.8	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.8	ng/L							
Perfluorooctanesulfonamide (FOSA)	ND	1.8	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.8	ng/L							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.8	ng/L							
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.8	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	ng/L							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.8	ng/L							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.8	ng/L							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.8	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.8	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.8	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	ng/L							

LCS (B352508-BS1)

Prepared: 09/20/23 Analyzed: 10/04/23

Perfluorobutanoic acid (PFBA)	11.2	1.8	ng/L	9.18	121	73-129
Perfluorobutanesulfonic acid (PFBS)	9.70	1.8	ng/L	8.13	119	72-130
Perfluoropentanoic acid (PFPeA)	11.0	1.8	ng/L	9.18	119	72-129
Perfluorohexanoic acid (PFHxA)	10.8	1.8	ng/L	9.18	118	72-129
11Cl-PF3OUdS (F53B Major)	9.82	1.8	ng/L	8.65	114	43.3-138
9Cl-PF3ONS (F53B Minor)	10.0	1.8	ng/L	8.56	117	52-140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.89	1.8	ng/L	8.65	91.2	53.7-152
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.15	1.8	ng/L	9.18	88.8	42.1-145
8:2 Fluorotelomersulfonic acid (8:2FTS A)	10.8	1.8	ng/L	8.82	123	67-138
Perfluorodecanoic acid (PFDA)	11.3	1.8	ng/L	9.18	123	71-129
Perfluorododecanoic acid (PFDoA)	10.5	1.8	ng/L	9.18	115	72-134
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	9.60	1.8	ng/L	8.17	118	52.7-147

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch B352508 - SOP 454-PFAAS									
LCS (B352508-BS1)									
					Prepared: 09/20/23 Analyzed: 10/04/23				
Perfluoroheptanesulfonic acid (PFHpS)	10.3	1.8	ng/L	8.77		117	69-134		
N-EtFOSAA (NEtFOSAA)	13.5	1.8	ng/L	9.18		147 *	61-135		L-01
N-MeFOSAA (NMeFOSAA)	11.4	1.8	ng/L	9.18		124	65-136		
Perfluorotetradecanoic acid (PFTA)	9.34	1.8	ng/L	9.18		102	71-132		
Perfluorotridecanoic acid (PFTrDA)	10.1	1.8	ng/L	9.18		110	65-144		
4:2 Fluorotelomersulfonic acid (4:2FTS A)	10.2	1.8	ng/L	8.59		118	63-143		
Perfluorodecanesulfonic acid (PFDS)	10.3	1.8	ng/L	8.86		116	53-142		
Perfluorooctanesulfonamide (FOSA)	10.7	1.8	ng/L	9.18		117	67-137		
Perfluorononanesulfonic acid (PFNS)	9.28	1.8	ng/L	8.82		105	69-127		
Perfluoro-1-hexanesulfonamide (FHxSA)	8.20	1.8	ng/L	9.18		89.2	50-150		
Perfluoro-1-butanefulfonamide (FBSA)	8.45	1.8	ng/L	9.18		92.0	50-150		
Perfluorohexanesulfonic acid (PFHxS)	9.72	1.8	ng/L	8.40		116	68-131		
Perfluoro-4-oxapentanoic acid (PFMPA)	9.27	1.8	ng/L	9.18		101	53.8-150		
Perfluoro-5-oxahexanoic acid (PFMBA)	8.28	1.8	ng/L	9.18		90.1	54.5-152		
6:2 Fluorotelomersulfonic acid (6:2FTS A)	11.0	1.8	ng/L	8.72		127	64-140		
Perfluoropentanesulfonic acid (PFPeS)	10.3	1.8	ng/L	8.63		119	71-127		
Perfluoroundecanoic acid (PFUnA)	11.9	1.8	ng/L	9.18		129	69-133		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	9.76	1.8	ng/L	9.18		106	50.5-159		
Perfluoroheptanoic acid (PFHpA)	11.1	1.8	ng/L	9.18		120	72-130		
Perfluorooctanoic acid (PFOA)	11.0	1.8	ng/L	9.18		120	71-133		
Perfluorooctanesulfonic acid (PFOS)	10.8	1.8	ng/L	8.49		127	65-140		
Perfluorononanoic acid (PFNA)	10.3	1.8	ng/L	9.18		113	69-130		

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-01	Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
PF-17	Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.
PF-19	Sample re-analyzed at a dilution that was re-fortified with internal standard.
S-29	Extracted Internal Standard is outside of control limits.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Runoff INF (23I3147-01)									
			Lab File ID: 23I3147-01.d			Analyzed: 10/03/23 02:09			
M8FOSA	303460.6	4.020566	673,280.00	4.02855	45	50 - 150	-0.0080	+/-0.50	*
M2-4:2FTS	184017.2	2.4886	153,050.00	2.505033	120	50 - 150	-0.0164	+/-0.50	
M2PFTA	1300372	4.321567	2,334,348.00	4.3297	56	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	263353.3	3.802817	153,760.00	3.802817	171	50 - 150	0.0000	+/-0.50	*
MPFBA	559106.1	1.066783	1,180,550.00	1.075083	47	50 - 150	-0.0083	+/-0.50	*
M3HFPO-DA	159597	2.831117	235,887.00	2.847483	68	50 - 150	-0.0164	+/-0.50	
M6PFDA	881695.6	3.803333	1,109,807.00	3.803333	79	50 - 150	0.0000	+/-0.50	
M3PFBS	221769.4	1.886683	341,870.00	1.911533	65	50 - 150	-0.0248	+/-0.50	
M7PFUnA	1254820	3.94605	1,463,041.00	3.94605	86	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	255052.1	3.4453	115,179.00	3.4453	221	50 - 150	0.0000	+/-0.50	*
M5PFPeA	584773	1.706567	893,660.00	1.731383	65	50 - 150	-0.0248	+/-0.50	
M5PFHxA	911183	2.572333	1,393,400.00	2.596983	65	50 - 150	-0.0246	+/-0.50	
M3PFHxS	213358.4	3.218333	293,650.00	3.21835	73	50 - 150	0.0000	+/-0.50	
M4PFHpA	1093050	3.178867	1,473,961.00	3.18695	74	50 - 150	-0.0081	+/-0.50	
M8PFOA	1295749	3.453817	1,576,386.00	3.46195	82	50 - 150	-0.0081	+/-0.50	
M8PFOS	167247.9	3.644183	237,299.00	3.652167	70	50 - 150	-0.0080	+/-0.50	
M9PFNA	777287.6	3.645217	1,114,088.00	3.653217	70	50 - 150	-0.0080	+/-0.50	
MPFDoA	1430152	4.080667	1,842,307.00	4.088666	78	50 - 150	-0.0080	+/-0.50	
D5-NEtFOSAA	289700.2	3.953517	303,249.00	3.953517	96	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	293965.9	3.873783	337,277.00	3.881767	87	50 - 150	-0.0080	+/-0.50	
Runoff INF (23I3147-01RE1)									
			Lab File ID: 23I3147-01RE1.d			Analyzed: 10/06/23 13:13			
M3PFHxS	215232.2	3.2345	281,022.00	3.234517	77	50 - 150	0.0000	+/-0.50	
M8PFOS	180258.1	3.66015	236,109.00	3.66815	76	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Runoff MID (23I3147-02)			Lab File ID: 23I3147-02.d			Analyzed: 10/03/23 02:16			
M8FOSA	461148.7	4.02055	673,280.00	4.02855	68	50 - 150	-0.0080	+/-0.50	
M2-4:2FTS	131657.1	2.496817	153,050.00	2.505033	86	50 - 150	-0.0082	+/-0.50	
M2PF _T A	608709.8	4.321567	2,334,348.00	4.3297	26	50 - 150	-0.0081	+/-0.50	*
M2-8:2FTS	159894.3	3.8028	153,760.00	3.802817	104	50 - 150	0.0000	+/-0.50	
MPFBA	907412.6	1.075083	1,180,550.00	1.075083	77	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	214145.6	2.8393	235,887.00	2.847483	91	50 - 150	-0.0082	+/-0.50	
M6PFDA	971457.7	3.803317	1,109,807.00	3.803333	88	50 - 150	0.0000	+/-0.50	
M3PFBS	273197.7	1.894967	341,870.00	1.911533	80	50 - 150	-0.0166	+/-0.50	
M7PFU _n A	1174618	3.94605	1,463,041.00	3.94605	80	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	150073.6	3.4453	115,179.00	3.4453	130	50 - 150	0.0000	+/-0.50	
M5PFPeA	732859.6	1.7231	893,660.00	1.731383	82	50 - 150	-0.0083	+/-0.50	
M5PFH _x A	1122997	2.58055	1,393,400.00	2.596983	81	50 - 150	-0.0164	+/-0.50	
M3PFH _x S	248558.8	3.218333	293,650.00	3.21835	85	50 - 150	0.0000	+/-0.50	
M4PFH _p A	1247601	3.178867	1,473,961.00	3.18695	85	50 - 150	-0.0081	+/-0.50	
M8PFOA	1478858	3.46195	1,576,386.00	3.46195	94	50 - 150	0.0000	+/-0.50	
M8PFOS	189625.5	3.644183	237,299.00	3.652167	80	50 - 150	-0.0080	+/-0.50	
M9PFNA	962914.8	3.645217	1,114,088.00	3.653217	86	50 - 150	-0.0080	+/-0.50	
MPFDoA	1210208	4.080667	1,842,307.00	4.088666	66	50 - 150	-0.0080	+/-0.50	
D5-NEtFOSAA	249876.8	3.953517	303,249.00	3.953517	82	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	291137.2	3.873783	337,277.00	3.881767	86	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Runoff EFF (23I3147-03)			Lab File ID: 23I3147-03.d			Analyzed: 10/03/23 02:24			
M8FOSA	406929	4.02055	673,280.00	4.02855	60	50 - 150	-0.0080	+/-0.50	
M2-4:2FTS	116501.8	2.496833	153,050.00	2.505033	76	50 - 150	-0.0082	+/-0.50	
M2PFTA	2274392	4.321567	2,334,348.00	4.3297	97	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	139105.3	3.8028	153,760.00	3.802817	90	50 - 150	0.0000	+/-0.50	
MPFBA	1244683	1.075083	1,180,550.00	1.075083	105	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	231224.5	2.8393	235,887.00	2.847483	98	50 - 150	-0.0082	+/-0.50	
M6PFDA	1113286	3.803317	1,109,807.00	3.803333	100	50 - 150	0.0000	+/-0.50	
M3PFBS	323747	1.90325	341,870.00	1.911533	95	50 - 150	-0.0083	+/-0.50	
M7PFUnA	1390455	3.94605	1,463,041.00	3.94605	95	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	111900.3	3.4453	115,179.00	3.4453	97	50 - 150	0.0000	+/-0.50	
M5PFPeA	844291.3	1.723117	893,660.00	1.731383	94	50 - 150	-0.0083	+/-0.50	
M5PFHxA	1309114	2.588767	1,393,400.00	2.596983	94	50 - 150	-0.0082	+/-0.50	
M3PFHxS	280696.2	3.218333	293,650.00	3.21835	96	50 - 150	0.0000	+/-0.50	
M4PFHpA	1415233	3.18695	1,473,961.00	3.18695	96	50 - 150	0.0000	+/-0.50	
M8PFOA	1626045	3.46195	1,576,386.00	3.46195	103	50 - 150	0.0000	+/-0.50	
M8PFOS	217516.4	3.644183	237,299.00	3.652167	92	50 - 150	-0.0080	+/-0.50	
M9PFNA	1126879	3.645217	1,114,088.00	3.653217	101	50 - 150	-0.0080	+/-0.50	
MPFDoA	1691254	4.080667	1,842,307.00	4.088666	92	50 - 150	-0.0080	+/-0.50	
D5-NEtFOSAA	262489.2	3.953517	303,249.00	3.953517	87	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	304564.4	3.873783	337,277.00	3.881767	90	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Field Blank (2313147-04)			Lab File ID: 2313147-04.d			Analyzed: 10/03/23 02:32			
M8FOSA	522765.3	4.020566	673,280.00	4.02855	78	50 - 150	-0.0080	+/-0.50	
M2-4:2FTS	112879.9	2.496833	153,050.00	2.505033	74	50 - 150	-0.0082	+/-0.50	
M2PF _T A	1757656	4.321583	2,334,348.00	4.3297	75	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	134249.3	3.802817	153,760.00	3.802817	87	50 - 150	0.0000	+/-0.50	
MPFBA	1244065	1.075083	1,180,550.00	1.075083	105	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	235037.5	2.839317	235,887.00	2.847483	100	50 - 150	-0.0082	+/-0.50	
M6PFDA	1005567	3.803333	1,109,807.00	3.803333	91	50 - 150	0.0000	+/-0.50	
M3PFBS	317951.9	1.90325	341,870.00	1.911533	93	50 - 150	-0.0083	+/-0.50	
M7PFUnA	1207135	3.946067	1,463,041.00	3.94605	83	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	106396.9	3.4453	115,179.00	3.4453	92	50 - 150	0.0000	+/-0.50	
M5PFPeA	829348.4	1.7231	893,660.00	1.731383	93	50 - 150	-0.0083	+/-0.50	
M5PFHxA	1234738	2.588767	1,393,400.00	2.596983	89	50 - 150	-0.0082	+/-0.50	
M3PFHxS	263772.2	3.21835	293,650.00	3.21835	90	50 - 150	0.0000	+/-0.50	
M4PFHpA	1306471	3.18695	1,473,961.00	3.18695	89	50 - 150	0.0000	+/-0.50	
M8PFOA	1439981	3.461967	1,576,386.00	3.46195	91	50 - 150	0.0000	+/-0.50	
M8PFOS	206957.4	3.6442	237,299.00	3.652167	87	50 - 150	-0.0080	+/-0.50	
M9PFNA	1032697	3.645233	1,114,088.00	3.653217	93	50 - 150	-0.0080	+/-0.50	
MPFDoA	1442768	4.080683	1,842,307.00	4.088666	78	50 - 150	-0.0080	+/-0.50	
D5-NEtFOSAA	260706.5	3.953533	303,249.00	3.953517	86	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	280219.9	3.8738	337,277.00	3.881767	83	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B352508-BLK1)			Lab File ID: B352508-BLK1.d			Analyzed: 10/04/23 10:30			
M8FOSA	534583.5	4.02055	608,759.00	4.02055	88	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	150872.8	2.5543	153,326.00	2.562517	98	50 - 150	-0.0082	+/-0.50	
M2PFTA	2364578	4.354067	2,591,570.00	4.354067	91	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	175792	3.827067	170,096.00	3.827067	103	50 - 150	0.0000	+/-0.50	
MPFBA	1175997	1.0917	1,167,773.00	1.100017	101	50 - 150	-0.0083	+/-0.50	
M3HFPO-DA	220871.7	2.8884	221,694.00	2.896583	100	50 - 150	-0.0082	+/-0.50	
M6PFDA	1035290	3.82755	1,154,485.00	3.827567	90	50 - 150	0.0000	+/-0.50	
M3PFBS	301600.5	1.944683	276,059.00	1.95315	109	50 - 150	-0.0085	+/-0.50	
M7PFUnA	1370025	3.970017	1,473,612.00	3.978017	93	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	146407.7	3.4694	117,714.00	3.4694	124	50 - 150	0.0000	+/-0.50	
M5PFPeA	912177.6	1.766017	847,074.00	1.7743	108	50 - 150	-0.0083	+/-0.50	
M5PFHxA	1358707	2.646767	1,335,060.00	2.646767	102	50 - 150	0.0000	+/-0.50	
M3PFHxS	264756.2	3.242583	259,138.00	3.242583	102	50 - 150	0.0000	+/-0.50	
M4PFHpA	1425987	3.21145	1,457,383.00	3.21145	98	50 - 150	0.0000	+/-0.50	
M8PFOA	1620216	3.4859	1,593,269.00	3.4859	102	50 - 150	0.0000	+/-0.50	
M8PFOS	204532.1	3.668133	219,776.00	3.668133	93	50 - 150	0.0000	+/-0.50	
M9PFNA	1116593	3.669167	1,104,239.00	3.669167	101	50 - 150	0.0000	+/-0.50	
MPFDoA	1699002	4.112633	1,939,189.00	4.112633	88	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	279168.4	3.9775	306,548.00	3.985483	91	50 - 150	-0.0080	+/-0.50	
D3-NMeFOSAA	311999.6	3.897717	349,587.00	3.905917	89	50 - 150	-0.0082	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY
SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B352508-BS1)			Lab File ID: B352508-BS1.d			Analyzed: 10/04/23 10:22			
M8FOSA	440991.2	4.02055	608,759.00	4.02055	72	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	124897.2	2.5543	153,326.00	2.562517	81	50 - 150	-0.0082	+/-0.50	
M2PF _T A	1670227	4.35405	2,591,570.00	4.354067	64	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	133015.9	3.827067	170,096.00	3.827067	78	50 - 150	0.0000	+/-0.50	
MPFBA	959437.4	1.0917	1,167,773.00	1.100017	82	50 - 150	-0.0083	+/-0.50	
M3HFPO-DA	178143.3	2.8884	221,694.00	2.896583	80	50 - 150	-0.0082	+/-0.50	
M6PFDA	885335	3.82755	1,154,485.00	3.827567	77	50 - 150	0.0000	+/-0.50	
M3PFBS	245601.6	1.95315	276,059.00	1.95315	89	50 - 150	0.0000	+/-0.50	
M7PFU _n A	1108916	3.970017	1,473,612.00	3.978017	75	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	110636	3.4694	117,714.00	3.4694	94	50 - 150	0.0000	+/-0.50	
M5PFPeA	746227.5	1.766017	847,074.00	1.7743	88	50 - 150	-0.0083	+/-0.50	
M5PFH _x A	1102644	2.646767	1,335,060.00	2.646767	83	50 - 150	0.0000	+/-0.50	
M3PFH _x S	201827.1	3.242583	259,138.00	3.242583	78	50 - 150	0.0000	+/-0.50	
M4PFH _p A	1169717	3.21145	1,457,383.00	3.21145	80	50 - 150	0.0000	+/-0.50	
M8PFOA	1312521	3.485883	1,593,269.00	3.4859	82	50 - 150	0.0000	+/-0.50	
M8PFOS	162188.8	3.668133	219,776.00	3.668133	74	50 - 150	0.0000	+/-0.50	
M9PFNA	965869.9	3.669167	1,104,239.00	3.669167	87	50 - 150	0.0000	+/-0.50	
MPFDoA	1404562	4.112633	1,939,189.00	4.112633	72	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	218894.9	3.977483	306,548.00	3.985483	71	50 - 150	-0.0080	+/-0.50	
D3-NMeFOSAA	262881.5	3.9059	349,587.00	3.905917	75	50 - 150	0.0000	+/-0.50	

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>SOP-454 PFAS in Water</i>	
Perfluorobutanoic acid (PFBA)	NH-P,PA,NY
Perfluorobutanesulfonic acid (PFBS)	NH-P,PA,NY
Perfluoropentanoic acid (PFPeA)	NH-P,PA,NY
Perfluorohexanoic acid (PFHxA)	NH-P,PA,NY
11Cl-PF3OUdS (F53B Major)	NH-P,PA,NY
9Cl-PF3ONS (F53B Minor)	NH-P,PA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,PA,NY
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,PA,NY
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P,PA
Perfluorodecanoic acid (PFDA)	NH-P,PA,NY
Perfluorododecanoic acid (PFDoA)	NH-P,PA,NY
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	NH-P,PA,NY
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,PA,NY
N-EtFOSAA (NEtFOSAA)	NH-P,PA,NY
N-MeFOSAA (NMeFOSAA)	NH-P,PA,NY
Perfluorotetradecanoic acid (PFTA)	NH-P,PA,NY
Perfluorotridecanoic acid (PFTrDA)	NH-P,PA,NY
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P,PA,NY
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA
Perfluorooctanesulfonamide (FOSA)	NH-P,PA
Perfluorononanesulfonic acid (PFNS)	NH-P,PA
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P,PA
Perfluoro-1-butanesulfonamide (FBSA)	NH-P,PA
Perfluorohexanesulfonic acid (PFHxS)	NH-P,PA,NY
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P,PA,NY
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P,PA,NY
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P,PA,NY
Perfluoropentanesulfonic acid (PFPeS)	NH-P,PA,NY
Perfluoroundecanoic acid (PFUnA)	NH-P,PA,NY
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA
Perfluoroheptanoic acid (PFHpA)	NH-P,PA,NY
Perfluorooctanoic acid (PFOA)	NH-P,PA,NY
Perfluorooctanesulfonic acid (PFOS)	NH-P,PA,NY
Perfluorononanoic acid (PFNA)	NH-P,PA,NY

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

2315147 RJM

Company Name: Pace Analytical
Address: 126 Forest St., Suite 704, Westchester, MA
Phone: 508-752-2201
Project Name: Project 2018-7-7-75
Project Location: Lawrence, MA
Project Number: 25-0534
Project Manager: MS
Pace Quote Name/Number:
Invoice Recipient: T+4
Sampled By: H.S.

Requested Turnaround Time: 7-Day 10-Day
PFAS 10-Day (std): **Due Date:**
1-Day: **3-Day:**
2-Day: **4-Day:**
Format: PDF EXCEL
Other: SOXHLET NON SOXHLET
CLP Like Data Pkg Required:
Email To:
Fax To #:

Beginning Date/Time	Ending Date/Time	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
9/16/23	9/16/23	G	H	2				
9/16/23	9/16/23	G	L	2				
9/16/23	9/16/23	G	L	2				
9/16/23	9/16/23	G	L	1				

Requested Analysis: Dissolved Metals Samples
 Field Filtered Lab to Filter
 Orthophosphate Samples
 Field Filtered Lab to Filter

Special Requirements:
 MA MCP Required
 MA Certification Form Required
 CT RCP Required
 RCP Certification Form Required
 MA State DW Required

Client Comments: Please Contact Ted Pias/BSP

Relinquished by (signature): [Signature] **Date/Time:** 9/16/23 12:00
Received by (signature): [Signature] **Date/Time:** 9/16/23 12:14
Relinquished by (signature): [Signature] **Date/Time:** 9/16/23 12:00
Received by (signature): [Signature] **Date/Time:** 9/16/23 12:14
Relinquished by (signature): [Signature] **Date/Time:** 9/16/23 12:00
Received by (signature): [Signature] **Date/Time:** 9/16/23 12:14

Project Entity: Government Federal City
Municipality: 21 J Brownfield
MWRA School MBTA:
WRTA:
Other: Chromatogram AMA-LAP, LLC

Analyses Requested:

Preservation Codes:
 I = Iced
 H = HCL
 M = Methanol
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium Bisulfate
 X = Sodium Hydroxide
 T = Sodium Thiosulfate
 O = Other (please define)

Matrix Codes:
 GW = Ground Water
 WW = Waste Water
 DW = Drinking Water
 A = Air
 S = Sludge
 SOL = Solid
 O = Other (please define)

Preservation Codes:
 I = Iced
 H = HCL
 M = Methanol
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium Bisulfate
 X = Sodium Hydroxide
 T = Sodium Thiosulfate
 O = Other (please define)

Disclaimers: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Sample	Soils Jars (Circle Amb/Clear)				Ambers				Plastics						VOA Vials					Other / Fill in			
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter	250mL	100mL	1 Liter	500mL	250mL						Unpreserved	HCl	MeOH	D.I. Water	BiSulfate	Col/Bact		
1																							
2																							
3																							
4																							
5																							
6																							
7																							
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18																							
19																							
20																							

DC# Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Page 2

September 20, 2021

Michael Scherer
Tighe & Bond, Inc. - Worcester
120 Front St.
Worcester, MA 01608-2303

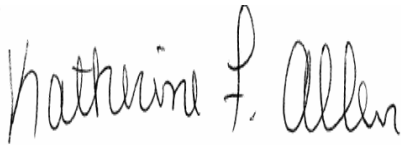
Project Location: Town Hall Campus, Princeton, MA
Client Job Number:
Project Number: P-0534017
Laboratory Work Order Number: 21H1474

Enclosed are results of analyses for samples received by the laboratory on August 27, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman
Project Manager



QA Officer
Katherine Allen



Laboratory Manager
Daren Damboragian



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Tighe & Bond, Inc. - Worcester
120 Front St.
Worcester, MA 01608-2303
ATTN: Michael Scherer

REPORT DATE: 9/20/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P-0534017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21H1474

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Town Hall Campus, Princeton, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
S-1	21H1474-01	Soil		SM 2540G SOP-466 PFAS	
S-2	21H1474-02	Soil		SM 2540G SOP-466 PFAS	
S-3	21H1474-03	Soil		SM 2540G SOP-466 PFAS	
S-4	21H1474-04	Soil		SM 2540G SOP-466 PFAS	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

REVISION: 9/20/2021 report down to the MDL

SOP-466 PFAS

Qualifications:

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

9CI-PF3ONS (F53B Major)

S063145-CCV2

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Town Hall Campus, Princeton, M

Sample Description:

Work Order: 21H1474

Date Received: 8/27/2021

Field Sample #: S-1

Sampled: 8/24/2021 10:05

Sample ID: 21H1474-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.47	0.063	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorobutanesulfonic acid (PFBS)	ND	0.47	0.072	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluoropentanoic acid (PFPeA)	ND	0.47	0.072	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorohexanoic acid (PFHxA)	ND	0.47	0.088	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
11Cl-PF3OUdS (F53B Minor)	ND	0.47	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
9Cl-PF3ONS (F53B Major)	ND	0.47	0.12	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.47	0.15	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.47	0.23	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.47	0.12	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorodecanoic acid (PFDA)	ND	0.47	0.061	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorododecanoic acid (PFDoA)	ND	0.47	0.072	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.47	0.078	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.47	0.14	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
N-EtFOSAA	ND	0.47	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
N-MeFOSAA	ND	0.47	0.086	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorotetradecanoic acid (PFTA)	ND	0.47	0.090	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorotridecanoic acid (PFTrDA)	ND	0.47	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.47	0.087	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorodecanesulfonic acid (PFDS)	ND	0.47	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorooctanesulfonamide (FOSA)	ND	0.47	0.092	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorononanesulfonic acid (PFNS)	ND	0.47	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.47	0.14	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.47	0.15	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorohexanesulfonic acid (PFHxS)	ND	0.47	0.075	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.47	0.089	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.47	0.087	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.47	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluoropentanesulfonic acid (PFPeS)	ND	0.47	0.069	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluoroundecanoic acid (PFUnA)	ND	0.47	0.086	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.47	0.073	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluoroheptanoic acid (PFHpA)	ND	0.47	0.068	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorooctanoic acid (PFOA)	ND	0.47	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorooctanesulfonic acid (PFOS)	ND	0.47	0.064	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH
Perfluorononanoic acid (PFNA)	ND	0.47	0.078	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:22	BLH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Town Hall Campus, Princeton, M

Sample Description:

Work Order: 21H1474

Date Received: 8/27/2021

Field Sample #: S-1

Sampled: 8/24/2021 10:05

Sample ID: 21H1474-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.8		% Wt	1		SM 2540G	9/16/21	9/18/21 12:30	GLH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Town Hall Campus, Princeton, M

Sample Description:

Work Order: 21H1474

Date Received: 8/27/2021

Field Sample #: S-2

Sampled: 8/24/2021 10:20

Sample ID: 21H1474-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	0.28	0.47	0.063	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorobutanesulfonic acid (PFBS)	ND	0.47	0.073	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluoropentanoic acid (PFPeA)	0.092	0.47	0.073	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorohexanoic acid (PFHxA)	ND	0.47	0.089	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
11Cl-PF3OUdS (F53B Minor)	ND	0.47	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
9Cl-PF3ONS (F53B Major)	ND	0.47	0.12	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.47	0.15	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.47	0.23	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.47	0.12	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorodecanoic acid (PFDA)	0.088	0.47	0.061	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorododecanoic acid (PFDoA)	ND	0.47	0.073	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.47	0.078	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.47	0.14	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
N-EtFOSAA	ND	0.47	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
N-MeFOSAA	ND	0.47	0.087	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorotetradecanoic acid (PFTA)	ND	0.47	0.091	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorotridecanoic acid (PFTrDA)	ND	0.47	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.47	0.088	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorodecanesulfonic acid (PFDS)	ND	0.47	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorooctanesulfonamide (FOSA)	ND	0.47	0.093	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorononanesulfonic acid (PFNS)	ND	0.47	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.47	0.14	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.47	0.15	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorohexanesulfonic acid (PFHxS)	ND	0.47	0.076	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.47	0.090	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.47	0.088	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.47	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluoropentanesulfonic acid (PFPeS)	ND	0.47	0.070	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluoroundecanoic acid (PFUnA)	0.099	0.47	0.087	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.47	0.074	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluoroheptanoic acid (PFHpA)	ND	0.47	0.069	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorooctanoic acid (PFOA)	ND	0.47	0.14	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorooctanesulfonic acid (PFOS)	0.30	0.47	0.064	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH
Perfluorononanoic acid (PFNA)	ND	0.47	0.078	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:37	BLH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Town Hall Campus, Princeton, M

Sample Description:

Work Order: 21H1474

Date Received: 8/27/2021

Field Sample #: S-2

Sampled: 8/24/2021 10:20

Sample ID: 21H1474-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.1		% Wt	1		SM 2540G	9/16/21	9/18/21 12:30	GLH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Town Hall Campus, Princeton, M

Sample Description:

Work Order: 21H1474

Date Received: 8/27/2021

Field Sample #: S-3

Sampled: 8/24/2021 10:35

Sample ID: 21H1474-03

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	0.18	0.58	0.078	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorobutanesulfonic acid (PFBS)	ND	0.58	0.089	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluoropentanoic acid (PFPeA)	ND	0.58	0.089	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorohexanoic acid (PFHxA)	ND	0.58	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
11Cl-PF3OUdS (F53B Minor)	ND	0.58	0.16	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
9Cl-PF3ONS (F53B Major)	ND	0.58	0.15	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.58	0.19	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.58	0.28	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.58	0.15	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorodecanoic acid (PFDA)	0.20	0.58	0.075	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorododecanoic acid (PFDoA)	ND	0.58	0.089	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.58	0.096	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.58	0.17	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
N-EtFOSAA	ND	0.58	0.16	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
N-MeFOSAA	ND	0.58	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorotetradecanoic acid (PFTA)	ND	0.58	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorotridecanoic acid (PFTrDA)	ND	0.58	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.58	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorodecanesulfonic acid (PFDS)	0.23	0.58	0.14	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorooctanesulfonamide (FOSA)	ND	0.58	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorononanesulfonic acid (PFNS)	ND	0.58	0.16	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.58	0.18	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.58	0.19	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorohexanesulfonic acid (PFHxS)	ND	0.58	0.093	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.58	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.58	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.58	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluoropentanesulfonic acid (PFPeS)	ND	0.58	0.085	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluoroundecanoic acid (PFUnA)	0.19	0.58	0.11	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.58	0.091	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluoroheptanoic acid (PFHpA)	0.098	0.58	0.084	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorooctanoic acid (PFOA)	ND	0.58	0.17	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorooctanesulfonic acid (PFOS)	0.95	0.58	0.079	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH
Perfluorononanoic acid (PFNA)	0.17	0.58	0.096	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:44	BLH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Town Hall Campus, Princeton, M

Sample Description:

Work Order: 21H1474

Date Received: 8/27/2021

Sampled: 8/24/2021 10:35

Field Sample #: S-3

Sample ID: 21H1474-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	68.1		% Wt	1		SM 2540G	9/16/21	9/18/21 12:30	GLH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Town Hall Campus, Princeton, M

Sample Description:

Work Order: 21H1474

Date Received: 8/27/2021

Field Sample #: S-4

Sampled: 8/24/2021 10:50

Sample ID: 21H1474-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	0.10	0.47	0.063	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorobutanesulfonic acid (PFBS)	ND	0.47	0.072	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluoropentanoic acid (PFPeA)	ND	0.47	0.072	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorohexanoic acid (PFHxA)	ND	0.47	0.088	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
11Cl-PF3OUdS (F53B Minor)	ND	0.47	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
9Cl-PF3ONS (F53B Major)	ND	0.47	0.12	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.47	0.15	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.47	0.23	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.47	0.12	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorodecanoic acid (PFDA)	ND	0.47	0.061	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorododecanoic acid (PFDoA)	ND	0.47	0.072	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.47	0.077	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.47	0.14	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
N-EtFOSAA	ND	0.47	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
N-MeFOSAA	ND	0.47	0.086	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorotetradecanoic acid (PFTA)	ND	0.47	0.090	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorotridecanoic acid (PFTTrDA)	ND	0.47	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.47	0.087	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorodecanesulfonic acid (PFDS)	ND	0.47	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorooctanesulfonamide (FOSA)	ND	0.47	0.092	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorononanesulfonic acid (PFNS)	ND	0.47	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.47	0.14	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.47	0.15	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorohexanesulfonic acid (PFHxS)	ND	0.47	0.075	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.47	0.089	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.47	0.087	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.47	0.11	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluoropentanesulfonic acid (PFPeS)	ND	0.47	0.069	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluoroundecanoic acid (PFUnA)	ND	0.47	0.086	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.47	0.073	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluoroheptanoic acid (PFHpA)	ND	0.47	0.068	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorooctanoic acid (PFOA)	ND	0.47	0.13	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorooctanesulfonic acid (PFOS)	0.099	0.47	0.064	µg/kg dry	1	J	SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH
Perfluorononanoic acid (PFNA)	ND	0.47	0.077	µg/kg dry	1		SOP-466 PFAS	9/7/21	9/9/21 15:52	BLH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Town Hall Campus, Princeton, M

Sample Description:

Work Order: 21H1474

Date Received: 8/27/2021

Sampled: 8/24/2021 10:50

Field Sample #: S-4

Sample ID: 21H1474-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.2		% Wt	1		SM 2540G	9/16/21	9/18/21 12:30	GLH

Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
21H1474-01 [S-1]	B290378	09/16/21
21H1474-02 [S-2]	B290378	09/16/21
21H1474-03 [S-3]	B290378	09/16/21
21H1474-04 [S-4]	B290378	09/16/21

Prep Method: SOP 465-PFAAS-SOP-466 PFAS

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21H1474-01 [S-1]	B289344	5.70	5.00	09/07/21
21H1474-02 [S-2]	B289344	5.64	5.00	09/07/21
21H1474-03 [S-3]	B289344	5.68	5.00	09/07/21
21H1474-04 [S-4]	B289344	5.76	5.00	09/07/21

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B289344 - SOP 465-PFAAS

Blank (B289344-BLK1)

Prepared: 09/07/21 Analyzed: 09/09/21

Perfluorobutanoic acid (PFBA)	ND	0.38	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.38	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.38	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.38	µg/kg wet							
11Cl-PF3OUdS (F53B Minor)	ND	0.38	µg/kg wet							
9Cl-PF3ONS (F53B Major)	ND	0.38	µg/kg wet							
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.38	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.38	µg/kg wet							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	0.38	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.38	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.38	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.38	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.38	µg/kg wet							
N-EtFOSAA	ND	0.38	µg/kg wet							
N-MeFOSAA	ND	0.38	µg/kg wet							
Perfluorotetradecanoic acid (PFTA)	ND	0.38	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.38	µg/kg wet							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	0.38	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.38	µg/kg wet							
Perfluorooctanesulfonamide (FOSA)	ND	0.38	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.38	µg/kg wet							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	0.38	µg/kg wet							
Perfluoro-1-butanesulfonamide (FBSA)	ND	0.38	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.38	µg/kg wet							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.38	µg/kg wet							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.38	µg/kg wet							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	0.38	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.38	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.38	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.38	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.38	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.38	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.38	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.38	µg/kg wet							

LCS (B289344-BS1)

Prepared: 09/07/21 Analyzed: 09/09/21

Perfluorobutanoic acid (PFBA)	2.27	0.39	µg/kg wet	2.19	104	71-135
Perfluorobutanesulfonic acid (PFBS)	1.98	0.39	µg/kg wet	1.93	103	72-128
Perfluoropentanoic acid (PFPeA)	2.20	0.39	µg/kg wet	2.19	101	69-132
Perfluorohexanoic acid (PFHxA)	2.25	0.39	µg/kg wet	2.19	103	70-132
11Cl-PF3OUdS (F53B Minor)	2.13	0.39	µg/kg wet	2.06	103	50-150
9Cl-PF3ONS (F53B Major)	2.35	0.39	µg/kg wet	2.04	115	50-150
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	2.04	0.39	µg/kg wet	2.06	98.9	50-150
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.01	0.39	µg/kg wet	2.19	92.1	50-150
8:2 Fluorotelomersulfonic acid (8:2FTS A)	2.17	0.39	µg/kg wet	2.10	103	65-137
Perfluorodecanoic acid (PFDA)	2.26	0.39	µg/kg wet	2.19	104	69-133
Perfluorododecanoic acid (PFDoA)	2.27	0.39	µg/kg wet	2.19	104	69-135
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	1.70	0.39	µg/kg wet	1.95	87.1	50-150

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B289344 - SOP 465-PFAAS

LCS (B289344-BS1)

Prepared: 09/07/21 Analyzed: 09/09/21

Perfluoroheptanesulfonic acid (PFHpS)	1.89	0.39	µg/kg wet	2.09		90.4	70-132			
N-EtFOSAA	2.60	0.39	µg/kg wet	2.19		119	61-139			
N-MeFOSAA	2.70	0.39	µg/kg wet	2.19		124	63-144			
Perfluorotetradecanoic acid (PFTA)	2.10	0.39	µg/kg wet	2.19		96.1	69-133			
Perfluorotridecanoic acid (PFTrDA)	2.20	0.39	µg/kg wet	2.19		100	66-139			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	2.22	0.39	µg/kg wet	2.05		108	62-145			
Perfluorodecanesulfonic acid (PFDS)	2.41	0.39	µg/kg wet	2.11		114	59-134			
Perfluorooctanesulfonamide (FOSA)	2.32	0.39	µg/kg wet	2.19		106	67-137			
Perfluorononanesulfonic acid (PFNS)	2.22	0.39	µg/kg wet	2.10		106	69-125			
Perfluoro-1-hexanesulfonamide (FHxSA)	2.22	0.39	µg/kg wet	2.19		102	50-150			
Perfluoro-1-butanesulfonamide (FBSA)	2.43	0.39	µg/kg wet	2.19		111	50-150			
Perfluorohexanesulfonic acid (PFHxS)	2.08	0.39	µg/kg wet	1.99		104	67-130			
Perfluoro-4-oxapentanoic acid (PFMPA)	2.17	0.39	µg/kg wet	2.19		99.4	50-150			
Perfluoro-5-oxahexanoic acid (PFMBA)	2.06	0.39	µg/kg wet	2.19		94.2	50-150			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	2.26	0.39	µg/kg wet	2.08		109	64-140			
Perfluoropetanesulfonic acid (PFPeS)	2.05	0.39	µg/kg wet	2.06		99.8	73-123			
Perfluoroundecanoic acid (PFUnA)	2.25	0.39	µg/kg wet	2.19		103	64-136			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.92	0.39	µg/kg wet	2.19		87.8	50-150			
Perfluoroheptanoic acid (PFHpA)	2.24	0.39	µg/kg wet	2.19		102	71-131			
Perfluorooctanoic acid (PFOA)	2.23	0.39	µg/kg wet	2.19		102	69-133			
Perfluorooctanesulfonic acid (PFOS)	2.13	0.39	µg/kg wet	2.02		105	68-136			
Perfluorononanoic acid (PFNA)	2.21	0.39	µg/kg wet	2.19		101	72-129			

Note: Blank Subtraction is not performed unless otherwise noted

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
RL	Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
LCS Dup	Duplicate Laboratory Control Sample
MS	Matrix Spike Sample
MS Dup	Duplicate Matrix Spike Sample
REC	Recovery
QC	Quality Control
ppbv	Parts per billion volume
EPA	United States Environmental Protection Agency
% REC	Percent Recovery
ND	Not Detected
N/A	Not Applicable
DL	Detection Limit
NC	Not Calculated
LFB/LCS	Lab Fortified Blank/Lab Control Sample
ORP	Oxidation-Reduction Potential
wet	Not dry weight corrected
% wt	Percent weight
Kg	Kilogram
g	Gram
mg	Milligram
µg	Microgram
ng	Nanogram
L	Liter
mL	Milliliter
µL	Microliter
m3	Cubic Meter
EPH	Extractable Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons
APH	Air Petroleum Hydrocarbons
FID	Flame Ionization Detector
PID	Photo Ionization Detector
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

ANALYST

RAP	Raisa A. Petraitis
JFC	James F. Constantino
JLH	Jessica L. Hoffman
GLH	Gabrielle L Howe
EGR	Evet G Rivera
DRL	Daniel R Letendre

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (S062953-ICV1)			Lab File ID: ICV1.d			Analyzed: 08/31/21 13:44			
M8FOSA	304994	4.02055	330569.3	4.02055	92	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	199090.5	2.5543	223527.9	2.5461	89	50 - 150	0.0082	+/-0.50	
M2PFtA	1126812	4.345933	1201475	4.345933	94	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	141589.4	3.827067	158939.7	3.82705	89	50 - 150	0.0000	+/-0.50	
MPFBA	466657.1	1.100017	535407.8	1.100017	87	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	188896	2.880217	198256.4	2.880217	95	50 - 150	0.0000	+/-0.50	
M6PFDA	608387.6	3.82755	655772.6	3.82755	93	50 - 150	0.0000	+/-0.50	
M3PFBS	133977.4	1.944683	152733.7	1.944683	88	50 - 150	0.0000	+/-0.50	
M7PFUnA	775407.6	3.970017	970086.3	3.970017	80	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	104304.1	3.477383	118652.9	3.469383	88	50 - 150	0.0080	+/-0.50	
M5PFPeA	475852.5	1.766017	542954.1	1.766017	88	50 - 150	0.0000	+/-0.50	
M5PFHxA	701470.5	2.638533	806083	2.629833	87	50 - 150	0.0087	+/-0.50	
M3PFHxS	93841.17	3.250667	113465.7	3.242583	83	50 - 150	0.0081	+/-0.50	
M4PFHpA	661459.3	3.21145	788599.9	3.21145	84	50 - 150	0.0000	+/-0.50	
M8PFOA	637503.4	3.485883	731896.8	3.485883	87	50 - 150	0.0000	+/-0.50	
M8PFOS	102805.8	3.676117	115760.4	3.676117	89	50 - 150	0.0000	+/-0.50	
M9PFNA	527643.1	3.67715	590592.1	3.669167	89	50 - 150	0.0080	+/-0.50	
MPFDoA	869874.6	4.104633	958941.3	4.104633	91	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	212063.7	3.977483	232413.1	3.977483	91	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	252600.2	3.9059	271353	3.897717	93	50 - 150	0.0082	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Instrument Blank (S063145-IBL1)									
			Lab File ID: IBL1090821.d			Analyzed: 09/09/21 13:21			
M8FOSA	265140.1	4.01255	330569.3	4.02055	80	50 - 150	-0.0080	+/-0.50	
M2-4:2FTS	169554.6	2.52145	223527.9	2.5461	76	50 - 150	-0.0246	+/-0.50	
M2PF _{TA}	972009.4	4.3378	1201475	4.345933	81	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	119687.3	3.818733	158939.7	3.82705	75	50 - 150	-0.0083	+/-0.50	
MPFBA	404096.4	1.0917	535407.8	1.100017	75	50 - 150	-0.0083	+/-0.50	
M3HFPO-DA	181997.6	2.855667	198256.4	2.880217	92	50 - 150	-0.0246	+/-0.50	
M6PFDA	500044.1	3.81925	655772.6	3.82755	76	50 - 150	-0.0083	+/-0.50	
M3PFBS	116590.8	1.928117	152733.7	1.944683	76	50 - 150	-0.0166	+/-0.50	
M7PFU _{nA}	699423.4	3.962017	970086.3	3.970017	72	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	95030.95	3.4614	118652.9	3.469383	80	50 - 150	-0.0080	+/-0.50	
M5PFPeA	417188.7	1.749417	542954.1	1.766017	77	50 - 150	-0.0166	+/-0.50	
M5PFH _x A	605036.9	2.6134	806083	2.629833	75	50 - 150	-0.0164	+/-0.50	
M3PFH _x S	82464.59	3.2345	113465.7	3.242583	73	50 - 150	-0.0081	+/-0.50	
M4PFH _p A	578126.9	3.203083	788599.9	3.21145	73	50 - 150	-0.0084	+/-0.50	
M8PFOA	576354.9	3.4779	731896.8	3.485883	79	50 - 150	-0.0080	+/-0.50	
M8PFOS	83041.7	3.668117	115760.4	3.676117	72	50 - 150	-0.0080	+/-0.50	
M9PFNA	430848.3	3.669167	590592.1	3.669167	73	50 - 150	0.0000	+/-0.50	
MPFD _o A	756304.9	4.096633	958941.3	4.104633	79	50 - 150	-0.0080	+/-0.50	
d5-NEtFOSAA	170706.9	3.969483	232413.1	3.977483	73	50 - 150	-0.0080	+/-0.50	
d3-NMeFOSAA	210335.8	3.889733	271353	3.897717	78	50 - 150	-0.0080	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S063145-CCV1)			Lab File ID: CCV1090821.d			Analyzed: 09/09/21 13:29			
M8FOSA	283179.8	4.01255	330569.3	4.02055	86	50 - 150	-0.0080	+/-0.50	
M2-4:2FTS	171285.8	2.52145	223527.9	2.5461	77	50 - 150	-0.0246	+/-0.50	
M2PFTA	996284.1	4.3378	1201475	4.345933	83	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	121601.6	3.818733	158939.7	3.82705	77	50 - 150	-0.0083	+/-0.50	
MPFBA	428104.1	1.0917	535407.8	1.100017	80	50 - 150	-0.0083	+/-0.50	
M3HFPO-DA	193827.6	2.86385	198256.4	2.880217	98	50 - 150	-0.0164	+/-0.50	
M6PFDA	499654.7	3.81925	655772.6	3.82755	76	50 - 150	-0.0083	+/-0.50	
M3PFBS	122515.7	1.928117	152733.7	1.944683	80	50 - 150	-0.0166	+/-0.50	
M7PFUnA	690149.1	3.962017	970086.3	3.970017	71	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	95220.45	3.469383	118652.9	3.469383	80	50 - 150	0.0000	+/-0.50	
M5PFPeA	430934.7	1.749417	542954.1	1.766017	79	50 - 150	-0.0166	+/-0.50	
M5PFHxA	630356.5	2.6134	806083	2.629833	78	50 - 150	-0.0164	+/-0.50	
M3PFHxS	87782.41	3.2345	113465.7	3.242583	77	50 - 150	-0.0081	+/-0.50	
M4PFHpA	600206	3.203083	788599.9	3.21145	76	50 - 150	-0.0084	+/-0.50	
M8PFOA	578970.1	3.4779	731896.8	3.485883	79	50 - 150	-0.0080	+/-0.50	
M8PFOS	91282	3.668133	115760.4	3.676117	79	50 - 150	-0.0080	+/-0.50	
M9PFNA	448415.6	3.669167	590592.1	3.669167	76	50 - 150	0.0000	+/-0.50	
MPFDoA	754263.1	4.096633	958941.3	4.104633	79	50 - 150	-0.0080	+/-0.50	
d5-NEtFOSAA	184598.9	3.969483	232413.1	3.977483	79	50 - 150	-0.0080	+/-0.50	
d3-NMeFOSAA	201419.3	3.889733	271353	3.897717	74	50 - 150	-0.0080	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B289344-BS1) Lab File ID: B289344-BS1.d Analyzed: 09/09/21 13:48									
M8FOSA	295085.3	4.01255	283179.8	4.01255	104	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	183002.8	2.537883	171285.8	2.52145	107	50 - 150	0.0164	+/-0.50	
M2PFTA	1108902	4.3378	996284.1	4.3378	111	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	124174.7	3.818733	121601.6	3.818733	102	50 - 150	0.0000	+/-0.50	
MPFBA	455264.9	1.100017	428104.1	1.0917	106	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	187286.3	2.872033	193827.6	2.86385	97	50 - 150	0.0082	+/-0.50	
M6PFDA	568462.7	3.81925	499654.7	3.81925	114	50 - 150	0.0000	+/-0.50	
M3PFBS	137014.6	1.9364	122515.7	1.928117	112	50 - 150	0.0083	+/-0.50	
M7PFUnA	794896.4	3.962017	690149.1	3.962017	115	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	91518.22	3.469383	95220.45	3.469383	96	50 - 150	0.0000	+/-0.50	
M5PFPeA	487543.6	1.757717	430934.7	1.749417	113	50 - 150	0.0083	+/-0.50	
M5PFHxA	716476.4	2.621617	630356.5	2.6134	114	50 - 150	0.0082	+/-0.50	
M3PFHxS	97212.3	3.242583	87782.41	3.2345	111	50 - 150	0.0081	+/-0.50	
M4PFHpA	697585.9	3.203083	600206	3.203083	116	50 - 150	0.0000	+/-0.50	
M8PFOA	630491.6	3.4779	578970.1	3.4779	109	50 - 150	0.0000	+/-0.50	
M8PFOS	102409.8	3.668133	91282	3.668133	112	50 - 150	0.0000	+/-0.50	
M9PFNA	506070.6	3.669167	448415.6	3.669167	113	50 - 150	0.0000	+/-0.50	
MPFDoA	856386.3	4.104633	754263.1	4.096633	114	50 - 150	0.0080	+/-0.50	
d5-NEtFOSAA	202953.9	3.969483	184598.9	3.969483	110	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	237417.7	3.897717	201419.3	3.889733	118	50 - 150	0.0080	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B289344-BLK1)			Lab File ID: B289344-BLK1.d			Analyzed: 09/09/21 13:56			
M8FOSA	284670.8	4.01255	283179.8	4.01255	101	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	180869.1	2.529667	171285.8	2.52145	106	50 - 150	0.0082	+/-0.50	
M2PFTA	1081648	4.3378	996284.1	4.3378	109	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	129311.3	3.818733	121601.6	3.818733	106	50 - 150	0.0000	+/-0.50	
MPFBA	442772.5	1.100017	428104.1	1.0917	103	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	201318.1	2.86385	193827.6	2.86385	104	50 - 150	0.0000	+/-0.50	
M6PFDA	562380.6	3.81925	499654.7	3.81925	113	50 - 150	0.0000	+/-0.50	
M3PFBS	131778.6	1.9364	122515.7	1.928117	108	50 - 150	0.0083	+/-0.50	
M7PFUnA	792489.6	3.962017	690149.1	3.962017	115	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	105673.3	3.469383	95220.45	3.469383	111	50 - 150	0.0000	+/-0.50	
M5PFPeA	471090.1	1.757717	430934.7	1.749417	109	50 - 150	0.0083	+/-0.50	
M5PFHxA	689878.3	2.621617	630356.5	2.6134	109	50 - 150	0.0082	+/-0.50	
M3PFHxS	93666.22	3.2345	87782.41	3.2345	107	50 - 150	0.0000	+/-0.50	
M4PFHpA	655270.1	3.203083	600206	3.203083	109	50 - 150	0.0000	+/-0.50	
M8PFOA	594055.5	3.4779	578970.1	3.4779	103	50 - 150	0.0000	+/-0.50	
M8PFOS	96029.23	3.668133	91282	3.668133	105	50 - 150	0.0000	+/-0.50	
M9PFNA	491716.6	3.669167	448415.6	3.669167	110	50 - 150	0.0000	+/-0.50	
MPFDoA	802788.8	4.104633	754263.1	4.096633	106	50 - 150	0.0080	+/-0.50	
d5-NEtFOSAA	175942.7	3.969483	184598.9	3.969483	95	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	237639.1	3.897717	201419.3	3.889733	118	50 - 150	0.0080	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<p>S-1 (21H1474-01) Lab File ID: 21H1474-01.d Analyzed: 09/09/21 15:22</p>									
M8FOSA	240140.1	4.01255	283179.8	4.01255	85	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	128474.5	2.537883	171285.8	2.52145	75	50 - 150	0.0164	+/-0.50	
M2PFTA	871373.9	4.3378	996284.1	4.3378	87	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	105584.5	3.818733	121601.6	3.818733	87	50 - 150	0.0000	+/-0.50	
MPFBA	369708.6	1.100017	428104.1	1.0917	86	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	174983.1	2.86385	193827.6	2.86385	90	50 - 150	0.0000	+/-0.50	
M6PFDA	490030.9	3.81925	499654.7	3.81925	98	50 - 150	0.0000	+/-0.50	
M3PFBS	112410.6	1.9364	122515.7	1.928117	92	50 - 150	0.0083	+/-0.50	
M7PFUnA	680260.1	3.962017	690149.1	3.962017	99	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	88886.92	3.469383	95220.45	3.469383	93	50 - 150	0.0000	+/-0.50	
M5PFPeA	405176.9	1.757717	430934.7	1.749417	94	50 - 150	0.0083	+/-0.50	
M5PFHxA	582115.2	2.621617	630356.5	2.6134	92	50 - 150	0.0082	+/-0.50	
M3PFHxS	79640.8	3.242583	87782.41	3.2345	91	50 - 150	0.0081	+/-0.50	
M4PFHpA	562312.3	3.203083	600206	3.203083	94	50 - 150	0.0000	+/-0.50	
M8PFOA	533083.7	3.4779	578970.1	3.4779	92	50 - 150	0.0000	+/-0.50	
M8PFOS	89138.82	3.668117	91282	3.668133	98	50 - 150	0.0000	+/-0.50	
M9PFNA	426629.4	3.669167	448415.6	3.669167	95	50 - 150	0.0000	+/-0.50	
MPFDoA	689945.4	4.104633	754263.1	4.096633	91	50 - 150	0.0080	+/-0.50	
d5-NEtFOSAA	171746.6	3.969483	184598.9	3.969483	93	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	188632.3	3.897717	201419.3	3.889733	94	50 - 150	0.0080	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S063145-CCV2)			Lab File ID: CCV2090921.d			Analyzed: 09/09/21 15:29			
M8FOSA	275273.9	4.01255	283179.8	4.01255	97	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	171403.5	2.529667	171285.8	2.52145	100	50 - 150	0.0082	+/-0.50	
M2PFtA	995939.2	4.3378	996284.1	4.3378	100	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	131168.2	3.818733	121601.6	3.818733	108	50 - 150	0.0000	+/-0.50	
MPFBA	401598.9	1.100017	428104.1	1.0917	94	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	168245.6	2.86385	193827.6	2.86385	87	50 - 150	0.0000	+/-0.50	
M6PFDA	490787.8	3.81925	499654.7	3.81925	98	50 - 150	0.0000	+/-0.50	
M3PFBS	114940	1.928117	122515.7	1.928117	94	50 - 150	0.0000	+/-0.50	
M7PFUnA	734700.5	3.962017	690149.1	3.962017	106	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	97414.25	3.469383	95220.45	3.469383	102	50 - 150	0.0000	+/-0.50	
M5PFPeA	406699.7	1.757717	430934.7	1.749417	94	50 - 150	0.0083	+/-0.50	
M5PFHxA	596188.8	2.6134	630356.5	2.6134	95	50 - 150	0.0000	+/-0.50	
M3PFHxS	80129.29	3.242583	87782.41	3.2345	91	50 - 150	0.0081	+/-0.50	
M4PFHpA	557237.9	3.203083	600206	3.203083	93	50 - 150	0.0000	+/-0.50	
M8PFOA	542761.1	3.4779	578970.1	3.4779	94	50 - 150	0.0000	+/-0.50	
M8PFOS	82333.21	3.668133	91282	3.668133	90	50 - 150	0.0000	+/-0.50	
M9PFNA	421646.7	3.669167	448415.6	3.669167	94	50 - 150	0.0000	+/-0.50	
MPFDoA	709111.8	4.104633	754263.1	4.096633	94	50 - 150	0.0080	+/-0.50	
d5-NEtFOSAA	167168.4	3.969483	184598.9	3.969483	91	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	212531.3	3.897717	201419.3	3.889733	106	50 - 150	0.0080	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
S-2 (21H1474-02)			Lab File ID: 21H1474-02.d			Analyzed: 09/09/21 15:37			
M8FOSA	254277.1	4.01255	275273.9	4.01255	92	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	132680.3	2.537883	171403.5	2.529667	77	50 - 150	0.0082	+/-0.50	
M2PFTA	910715.3	4.3378	995939.2	4.3378	91	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	103730.4	3.818733	131168.2	3.818733	79	50 - 150	0.0000	+/-0.50	
MPFBA	371647.3	1.100017	401598.9	1.100017	93	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	168571.5	2.86385	168245.6	2.86385	100	50 - 150	0.0000	+/-0.50	
M6PFDA	515812.1	3.81925	490787.8	3.81925	105	50 - 150	0.0000	+/-0.50	
M3PFBS	115649.8	1.9364	114940	1.928117	101	50 - 150	0.0083	+/-0.50	
M7PFUnA	688000.6	3.962017	734700.5	3.962017	94	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	75049.94	3.469383	97414.25	3.469383	77	50 - 150	0.0000	+/-0.50	
M5PFPeA	410898.1	1.757717	406699.7	1.757717	101	50 - 150	0.0000	+/-0.50	
M5PFHxA	595406.2	2.621617	596188.8	2.6134	100	50 - 150	0.0082	+/-0.50	
M3PFHxS	83037.32	3.242583	80129.29	3.242583	104	50 - 150	0.0000	+/-0.50	
M4PFHpA	567820.4	3.203083	557237.9	3.203083	102	50 - 150	0.0000	+/-0.50	
M8PFOA	541792.5	3.4779	542761.1	3.4779	100	50 - 150	0.0000	+/-0.50	
M8PFOS	87519.15	3.668133	82333.21	3.668133	106	50 - 150	0.0000	+/-0.50	
M9PFNA	460373.5	3.669167	421646.7	3.669167	109	50 - 150	0.0000	+/-0.50	
MPFDoA	729444.3	4.104633	709111.8	4.104633	103	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	161275.8	3.969483	167168.4	3.969483	96	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	193981.7	3.897717	212531.3	3.897717	91	50 - 150	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<p>S-3 (21H1474-03) Lab File ID: 21H1474-03.d Analyzed: 09/09/21 15:44</p>									
M8FOSA	253844.3	4.01255	275273.9	4.01255	92	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	120625.2	2.537883	171403.5	2.529667	70	50 - 150	0.0082	+/-0.50	
M2PFTA	780273.6	4.3378	995939.2	4.3378	78	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	102340	3.82705	131168.2	3.818733	78	50 - 150	0.0083	+/-0.50	
MPFBA	363969.9	1.100017	401598.9	1.100017	91	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	161882.2	2.872033	168245.6	2.86385	96	50 - 150	0.0082	+/-0.50	
M6PFDA	480758.3	3.81925	490787.8	3.81925	98	50 - 150	0.0000	+/-0.50	
M3PFBS	108593.9	1.9364	114940	1.928117	94	50 - 150	0.0083	+/-0.50	
M7PFUnA	661855.1	3.970017	734700.5	3.962017	90	50 - 150	0.0080	+/-0.50	
M2-6:2FTS	73138.29	3.469383	97414.25	3.469383	75	50 - 150	0.0000	+/-0.50	
M5PFPeA	391537.3	1.757717	406699.7	1.757717	96	50 - 150	0.0000	+/-0.50	
M5PFHxA	564396.6	2.621617	596188.8	2.6134	95	50 - 150	0.0082	+/-0.50	
M3PFHxS	75615.85	3.242583	80129.29	3.242583	94	50 - 150	0.0000	+/-0.50	
M4PFHpA	548580.4	3.203083	557237.9	3.203083	98	50 - 150	0.0000	+/-0.50	
M8PFOA	504481.9	3.4779	542761.1	3.4779	93	50 - 150	0.0000	+/-0.50	
M8PFOS	85204.11	3.668133	82333.21	3.668133	103	50 - 150	0.0000	+/-0.50	
M9PFNA	418615.5	3.669167	421646.7	3.669167	99	50 - 150	0.0000	+/-0.50	
MPFDoA	677612.6	4.104633	709111.8	4.104633	96	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	147772.1	3.969483	167168.4	3.969483	88	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	191464.9	3.897717	212531.3	3.897717	90	50 - 150	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
S-4 (21H1474-04) Lab File ID: 21H1474-04.d Analyzed: 09/09/21 15:52									
M8FOSA	266844.9	4.01255	275273.9	4.01255	97	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	124413.9	2.537883	171403.5	2.529667	73	50 - 150	0.0082	+/-0.50	
M2PFTA	970265.4	4.3378	995939.2	4.3378	97	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	109056.4	3.818733	131168.2	3.818733	83	50 - 150	0.0000	+/-0.50	
MPFBA	382411.6	1.100017	401598.9	1.100017	95	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	165425.8	2.872033	168245.6	2.86385	98	50 - 150	0.0082	+/-0.50	
M6PFDA	502885.9	3.81925	490787.8	3.81925	102	50 - 150	0.0000	+/-0.50	
M3PFBS	113811.2	1.9364	114940	1.928117	99	50 - 150	0.0083	+/-0.50	
M7PFUnA	686458	3.970017	734700.5	3.962017	93	50 - 150	0.0080	+/-0.50	
M2-6:2FTS	76512.05	3.469383	97414.25	3.469383	79	50 - 150	0.0000	+/-0.50	
M5PFPeA	414124.2	1.757717	406699.7	1.757717	102	50 - 150	0.0000	+/-0.50	
M5PFHxA	591937.3	2.621617	596188.8	2.6134	99	50 - 150	0.0082	+/-0.50	
M3PFHxS	80409.28	3.242583	80129.29	3.242583	100	50 - 150	0.0000	+/-0.50	
M4PFHpA	567656.8	3.203083	557237.9	3.203083	102	50 - 150	0.0000	+/-0.50	
M8PFOA	565095.4	3.4779	542761.1	3.4779	104	50 - 150	0.0000	+/-0.50	
M8PFOS	83669.36	3.668117	82333.21	3.668133	102	50 - 150	0.0000	+/-0.50	
M9PFNA	447387.6	3.669167	421646.7	3.669167	106	50 - 150	0.0000	+/-0.50	
MPFDoA	695439.7	4.104633	709111.8	4.104633	98	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	170419.4	3.969483	167168.4	3.969483	102	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	196229.4	3.897717	212531.3	3.897717	92	50 - 150	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-466 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S063145-CCV3)			Lab File ID: CCV3090921.d			Analyzed: 09/09/21 16:49			
M8FOSA	248109.1	4.01255	275273.9	4.01255	90	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	162030.6	2.529667	171403.5	2.529667	95	50 - 150	0.0000	+/-0.50	
M2PF _{TA}	975259.8	4.3378	995939.2	4.3378	98	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	126725.3	3.818733	131168.2	3.818733	97	50 - 150	0.0000	+/-0.50	
MPF _{BA}	400021.1	1.100017	401598.9	1.100017	100	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	164950.4	2.86385	168245.6	2.86385	98	50 - 150	0.0000	+/-0.50	
M6PF _{DA}	489289.1	3.81925	490787.8	3.81925	100	50 - 150	0.0000	+/-0.50	
M3PF _{BS}	112807.2	1.928117	114940	1.928117	98	50 - 150	0.0000	+/-0.50	
M7PF _{UnA}	756198	3.962017	734700.5	3.962017	103	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	98041.66	3.4694	97414.25	3.469383	101	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	402340.3	1.749417	406699.7	1.757717	99	50 - 150	-0.0083	+/-0.50	
M5PF _{HxA}	584998.7	2.6134	596188.8	2.6134	98	50 - 150	0.0000	+/-0.50	
M3PF _{HxS}	83156.85	3.2345	80129.29	3.242583	104	50 - 150	-0.0081	+/-0.50	
M4PF _{HpA}	557700.4	3.203083	557237.9	3.203083	100	50 - 150	0.0000	+/-0.50	
M8PF _{OA}	535182.1	3.4779	542761.1	3.4779	99	50 - 150	0.0000	+/-0.50	
M8PF _{OS}	86298.61	3.668133	82333.21	3.668133	105	50 - 150	0.0000	+/-0.50	
M9PF _{NA}	444464.8	3.669167	421646.7	3.669167	105	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	735074.9	4.096633	709111.8	4.104633	104	50 - 150	-0.0080	+/-0.50	
d5-NEtFOSAA	172904.6	3.969483	167168.4	3.969483	103	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	207878.3	3.897717	212531.3	3.897717	98	50 - 150	0.0000	+/-0.50	

CONTINUING CALIBRATION CHECK
SOP-466 PFAS

S063145-CCV1

COMPOUND	TYPE	CONC. (ng/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Perfluorobutanoic acid (PFBA)	A	500	519	0.8546449	0.8959625		3.8	30
Perfluorobutanesulfonic acid (PFBS)	A	444	465	1.007311	1.063296		4.7	30
Perfluoropentanoic acid (PFPeA)	A	500	498	0.9389823	0.9478638		-0.3	30
Perfluorohexanoic acid (PFHxA)	A	500	536	0.8564872	0.9241851		7.2	30
11Cl-PF3OUdS (F53B Minor)	A	472	493	2.048636	2.192827		4.6	30
9Cl-PF3ONS (F53B Major)	A	466	542	4.459666	4.696981		16.2	30
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	A	472	501	1.580113	1.734212		6.1	30
Hexafluoropropylene oxide dimer acid (HFPO-DA)	A	500	411	0.1501413	0.1209989		-17.7	30
8:2 Fluorotelomersulfonic acid (8:2FTS A)	A	480	541	0.8733067	1.183471		12.7	30
Perfluorodecanoic acid (PFDA)	A	500	518	0.8931719	0.9704664		3.6	30
Perfluorododecanoic acid (PFDoA)	A	500	503	0.9030851	0.9659852		0.7	30
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEES)	A	445	419	6.620525	6.327465		-5.9	30
Perfluoroheptanesulfonic acid (PFHpS)	A	476	461	0.5239373	0.5216293		-3.2	30
N-EtFOSAA	A	500	534	0.8606614	0.9295077		6.9	30
N-MeFOSAA	A	500	623	0.8138191	1.003038		24.6	30
Perfluorotetradecanoic acid (PFTA)	A	500	540	0.9267805	1.030436		8.1	30
Perfluorotridecanoic acid (PFTrDA)	A	500	500	1.038657	1.103212		0.03	30
4:2 Fluorotelomersulfonic acid (4:2FTS A)	A	468	527	1.098446	1.350267		12.7	30
Perfluorodecanesulfonic acid (PFDS)	A	482	555	0.6004454	0.6427981		15.2	30
Perfluorooctanesulfonamide (FOSA)	A	500	497	0.8380831	0.8234574		-0.5	30
Perfluorononanesulfonic acid (PFNS)	A	481	470	0.3563489	0.3629995		-2.3	30
Perfluoro-1-hexanesulfonamide (FHxSA)	A	500	514	0.3876955	0.4127552		2.9	30
Perfluoro-1-butanesulfonamide (FBSA)	A	500	538	0.3601304	0.3875063		7.7	30
Perfluorohexanesulfonic acid (PFHxS)	A	457	427	0.9718027	0.9099853		-6.6	30
Perfluoro-4-oxapentanoic acid (PFMPA)	A	500	492	0.6672115	0.6818391		-1.6	30
Perfluoro-5-oxahexanoic acid (PFMBA)	A	500	489	1.032492	1.053659		-2.2	30
6:2 Fluorotelomersulfonic acid (6:2FTS A)	A	476	477	0.9799093	1.088254		0.3	30
Perfluoropentanesulfonic acid (PFPeS)	A	470	485	1.06916	1.111205		3.1	30
Perfluoroundecanoic acid (PFUnA)	A	500	554	0.8649995	0.9883148		10.8	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	A	500	491	0.5878176	0.6034425		-1.7	30
Perfluoroheptanoic acid (PFHpA)	A	500	553	0.9184038	1.033271		10.6	30
Perfluorooctanoic acid (PFOA)	A	500	482	0.9573613	0.9017713		-3.6	30
Perfluorooctanesulfonic acid (PFOS)	A	464	477	0.9449598	0.9455039		2.7	30
Perfluorononanoic acid (PFNA)	A	500	484	0.9510789	0.948118		-3.1	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
SOP-466 PFAS

S063145-CCV2

COMPOUND	TYPE	CONC. (ng/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Perfluorobutanoic acid (PFBA)	A	2500	2840	0.8546449	0.9824459		13.8	30
Perfluorobutanesulfonic acid (PFBS)	A	2220	2480	1.007311	1.132537		11.6	30
Perfluoropentanoic acid (PFPeA)	A	2500	2740	0.9389823	1.043444		9.7	30
Perfluorohexanoic acid (PFHxA)	A	2500	2830	0.8564872	0.9757882		13.2	30
11Cl-PF3OUdS (F53B Minor)	A	2360	2840	2.048636	2.525043		20.2	30
9Cl-PF3ONS (F53B Major)	A	2330	3230	4.459666	5.687805		38.6	30 *
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	A	2360	2680	1.580113	1.856426		13.6	30
Hexafluoropropylene oxide dimer acid (HFPO-DA)	A	2500	2230	0.1501413	0.1315163		-10.9	30
8:2 Fluorotelomersulfonic acid (8:2FTS A)	A	2400	2780	0.8733067	1.192109		15.7	30
Perfluorodecanoic acid (PFDA)	A	2500	3110	0.8931719	1.163336		24.2	30
Perfluorododecanoic acid (PFDoA)	A	2500	2940	0.9030851	1.129825		17.7	30
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEES)	A	2220	2320	6.620525	7.050091		4.3	30
Perfluoroheptanesulfonic acid (PFHpS)	A	2380	2860	0.5239373	0.644963		20.2	30
N-EtFOSAA	A	2500	2890	0.8606614	1.004172		15.5	30
N-MeFOSAA	A	2500	2880	0.8138191	0.9257103		15.0	30
Perfluorotetradecanoic acid (PFTA)	A	2500	2630	0.9267805	1.002485		5.1	30
Perfluorotridecanoic acid (PFTrDA)	A	2500	2590	1.038657	1.142133		3.7	30
Perfluorodecanesulfonic acid (PFDS)	A	2410	3020	0.6004454	0.6989605		25.3	30
4:2 Fluorotelomersulfonic acid (4:2FTS A)	A	2340	2730	1.098446	1.377067		16.8	30
Perfluorooctanesulfonamide (FOSA)	A	2500	2780	0.8380831	0.9198845		11.1	30
Perfluorononanesulfonic acid (PFNS)	A	2400	2850	0.3563489	0.439532		18.7	30
Perfluoro-1-hexanesulfonamide (FHxSA)	A	2500	2890	0.3876955	0.4630785		15.4	30
Perfluoro-1-butanefulfonamide (FBSA)	A	2500	2920	0.3601304	0.4203823		16.8	30
Perfluorohexanesulfonic acid (PFHxS)	A	2280	2640	0.9718027	1.127641		15.7	30
Perfluoro-4-oxapentanoic acid (PFMPA)	A	2500	2730	0.6672115	0.7569219		9.0	30
Perfluoro-5-oxahexanoic acid (PFMBA)	A	2500	2670	1.032492	1.153467		6.9	30
6:2 Fluorotelomersulfonic acid (6:2FTS A)	A	2380	2600	0.9799093	1.168207		9.3	30
Perfluoropentanesulfonic acid (PFPeS)	A	2350	2590	1.06916	1.18836		10.3	30
Perfluoroundecanoic acid (PFUnA)	A	2500	2500	0.8649995	0.8926745		0.1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	A	2500	2640	0.5878176	0.6472731		5.4	30
Perfluoroheptanoic acid (PFHpA)	A	2500	2780	0.9184038	1.037646		11.2	30
Perfluorooctanoic acid (PFOA)	A	2500	2840	0.9573613	1.062618		13.6	30
Perfluorooctanesulfonic acid (PFOS)	A	2320	2850	0.9449598	1.129888		22.8	30
Perfluorononanoic acid (PFNA)	A	2500	2720	0.9510789	1.064414		8.6	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
SOP-466 PFAS

S063145-CCV3

COMPOUND	TYPE	CONC. (ng/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Perfluorobutanoic acid (PFBA)	A	2500	2810	0.8546449	0.9713253		12.5	30
Perfluorobutanesulfonic acid (PFBS)	A	2220	2490	1.007311	1.136801		12.0	30
Perfluoropentanoic acid (PFPeA)	A	2500	2730	0.9389823	1.038928		9.3	30
Perfluorohexanoic acid (PFHxA)	A	2500	2850	0.8564872	0.9820316		13.9	30
11Cl-PF3OUdS (F53B Minor)	A	2360	2480	2.048636	2.209957		5.3	30
9Cl-PF3ONS (F53B Major)	A	2330	2690	4.459666	4.732208		15.7	30
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	A	2360	2650	1.580113	1.834793		12.3	30
Hexafluoropropylene oxide dimer acid (HFPO-DA)	A	2500	2700	0.1501413	0.1596652		8.1	30
8:2 Fluorotelomersulfonic acid (8:2FTS A)	A	2400	2590	0.8733067	1.112276		7.8	30
Perfluorodecanoic acid (PFDA)	A	2500	3140	0.8931719	1.177664		25.7	30
Perfluorododecanoic acid (PFDoA)	A	2500	2630	0.9030851	1.007944		5.0	30
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEES)	A	2220	2300	6.620525	6.999647		3.6	30
Perfluoroheptanesulfonic acid (PFHpS)	A	2380	2440	0.5239373	0.550671		2.5	30
N-EtFOSAA	A	2500	2750	0.8606614	0.9575488		10.1	30
N-MeFOSAA	A	2500	3080	0.8138191	0.992017		23.3	30
Perfluorotetradecanoic acid (PFTA)	A	2500	2640	0.9267805	1.00817		5.7	30
Perfluorotridecanoic acid (PFTrDA)	A	2500	2630	1.038657	1.156964		5.1	30
Perfluorodecanesulfonic acid (PFDS)	A	2410	3120	0.6004454	0.7225144		29.5	30
4:2 Fluorotelomersulfonic acid (4:2FTS A)	A	2340	2620	1.098446	1.32142		11.9	30
Perfluorooctanesulfonamide (FOSA)	A	2500	2830	0.8380831	0.9382582		13.4	30
Perfluorononanesulfonic acid (PFNS)	A	2400	2780	0.3563489	0.4293682		15.9	30
Perfluoro-1-hexanesulfonamide (FHxSA)	A	2500	2770	0.3876955	0.444862		10.9	30
Perfluoro-1-butanesulfonamide (FBSA)	A	2500	2960	0.3601304	0.4258081		18.3	30
Perfluorohexanesulfonic acid (PFHxS)	A	2280	2460	0.9718027	1.04973		7.7	30
Perfluoro-4-oxapentanoic acid (PFMPA)	A	2500	2730	0.6672115	0.7594099		9.4	30
Perfluoro-5-oxahexanoic acid (PFMBA)	A	2500	2700	1.032492	1.163683		7.8	30
6:2 Fluorotelomersulfonic acid (6:2FTS A)	A	2380	2570	0.9799093	1.156687		8.2	30
Perfluoropentanesulfonic acid (PFPeS)	A	2350	2470	1.06916	1.130356		4.9	30
Perfluoroundecanoic acid (PFUnA)	A	2500	2510	0.8649995	0.8957813		0.5	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	A	2500	2700	0.5878176	0.6639191		8.1	30
Perfluoroheptanoic acid (PFHpA)	A	2500	2850	0.9184038	1.06236		13.8	30
Perfluorooctanoic acid (PFOA)	A	2500	2780	0.9573613	1.041821		11.4	30
Perfluorooctanesulfonic acid (PFOS)	A	2320	2670	0.9449598	1.058299		15.0	30
Perfluorononanoic acid (PFNA)	A	2500	2720	0.9510789	1.066885		8.9	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SOP-466 PFAS in Soil</i>	
Perfluorobutanoic acid (PFBA)	NH-P
Perfluorobutanesulfonic acid (PFBS)	NH-P
Perfluoropentanoic acid (PFPeA)	NH-P
Perfluorohexanoic acid (PFHxA)	NH-P
11Cl-PF3OUdS (F53B Minor)	NH-P
9Cl-PF3ONS (F53B Major)	NH-P
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NH-P
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P
Perfluorodecanoic acid (PFDA)	NH-P
Perfluorododecanoic acid (PFDoA)	NH-P
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	NH-P
Perfluoroheptanesulfonic acid (PFHpS)	NH-P
N-EtFOSAA	NH-P
N-MeFOSAA	NH-P
Perfluorotetradecanoic acid (PFTA)	NH-P
Perfluorotridecanoic acid (PFTrDA)	NH-P
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P
Perfluorodecanesulfonic acid (PFDS)	NH-P
Perfluorooctanesulfonamide (FOSA)	NH-P
Perfluorononanesulfonic acid (PFNS)	NH-P
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P
Perfluoro-1-butanefulfonamide (FBSA)	NH-P
Perfluorohexanesulfonic acid (PFHxS)	NH-P
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P
Perfluoropetanesulfonic acid (PFPeS)	NH-P
Perfluoroundecanoic acid (PFUnA)	NH-P
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P
Perfluoroheptanoic acid (PFHpA)	NH-P
Perfluorooctanoic acid (PFOA)	NH-P
Perfluorooctanesulfonic acid (PFOS)	NH-P
Perfluorononanoic acid (PFNA)	NH-P



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Public Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

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Contact: <https://www.pacelabs.com/contact-us/contact-environmental-sciences/>
 Address: 120 Front Street, Worcester, MA 01610
 Phone: 508-754-2201
 Project Location: Princeton PFAS Project
 Project Number: P-0534017
 Project Manager: Jeff Arps
 Invoice Recipient: Tighe & Bond
 Sampled By: M Scherer

7-Day 10-Day
 PFAS 10-Day (std) Due Date:
 1-Day 3-Day
 2-Day 4-Day
 Format: PDF EXCEL
 Other: SOXHLET
 CLP Like Data Pkg Required:
 Email To: mjscherer@tighebond.com
 Fax To #:

Pace Analytical Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	ANALYSIS REQUESTED				Preservation Code <small>Carrier Use Only</small> Total Number Of:	
							VIALS	GLASS	PLASTIC	BACTERIA		ENCORE
1	S-1	8/24/20	1005	G	S	U						VIALS GLASS PLASTIC BACTERIA ENCORE
2	S-2	1020										4
3	S-3	1035										
4	S-4	1050										

Reinquisitioned by: (signature)	Date/Time	Received by: (signature)	Date/Time	Reinquisitioned by: (signature)	Date/Time	Received by: (signature)	Date/Time
<i>[Signature]</i>	8/24/21 1500	<i>[Signature]</i>	8/27/21 1030	<i>[Signature]</i>	8/27/21 1030	<i>[Signature]</i>	8/27/21 1030
<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>	
<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>	
<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>	

Client Comments: SAMPLES Collected From Area of Fence Transfer Building

Special Requirements
 MA RCP Required
 MCP Certification Form Required
 CT RCP Required
 RCP Certification Form Required
 MA State DW Required
 PWSID #

Project Entity
 Government Municipality
 Federal City
 21 J Brownfield

Other: MWRA WRTA
 School Chromatogram
 MBTA AIHA-LAP, LLC

Lab Comments: Please use the following codes to indicate possible sample concentration within the Conc Code column above:
 H - High; M - Medium; L - Low; C - Clean; U - Unknown
 HELAC and AIHA-LAP, LLC Accredited

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples _____



con-test
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client Tighe & Bond
 Received By [Signature] Date 9/27/11 Time 1930

How were the samples received?
 In Cooler T No Cooler _____ On Ice T No Ice _____
 Direct from Sampling _____ Ambient _____ Melted Ice _____

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 2.3
 By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? NA Were Samples Tampered with? NA
 Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T
 Did COC include all pertinent Information? Client T Analysis T Sampler Name T
 Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T
 Are there Lab to Filters? F Who was notified? _____
 Are there Rushes? F Who was notified? _____
 Are there Short Holds? F Who was notified? _____

Is there enough Volume? T
 Is there Headspace where applicable? NA MS/MSD? F
 Proper Media/Containers Used? T Is splitting samples required? F
 Were trip blanks received? F On COC? F
 Do all samples have the proper pH? NA Acid _____ Base _____

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria	2oz Amb/Clear
DI-		Other Glass		Other Plastic	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Unused Media

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Comments:

Tighe&Bond

APPENDIX D



SOVEREIGN CONSULTING INC.

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FOCUSED METHOD 3 RISK CHARACTERIZATION

**Selected Residential Properties
Princeton, Massachusetts
MassDEP RTN 2-0021072**

Prepared for:
**Tighe & Bond
53 Southampton Road
Westfield, Massachusetts 01085**

Prepared by:
**Sovereign Consulting Inc.
9 Payson Road, Suite 150
Foxborough, MA 02035**

February 28, 2022

Project Number: ME230.003

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1.0 INTRODUCTION

This report presents a focused Method 3 Risk Characterization (M3RC) for human health for a release of poly- and perfluoroalkyl substances (collectively known as PFAS compounds) that have come to be located in soil at some residences within the Town of Princeton [Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 2-0021072]. Groundwater within portions of the Town of Princeton has become contaminated as a result of the town's historical use of aqueous fire-fighting foam (AFFF) for fire suppression, which contains PFAS compounds. Princeton does not have a municipal water supply; rather, individual buildings or groups of buildings in town are serviced by private wells. PFAS compounds have been identified in some of these private wells and residents have been provided an alternate or treated water supply.

This focused M3RC assesses the potential risk of harm to human health posed by exposure to PFAS compounds in soil during typical residential outdoor activities. The locations where soil samples have been collected are at or downhill from the location of a fire that was fought with AFFF in 2017 and at another location that may have been fought with AFFF in 1967.

The focused M3RC has been prepared in accordance with requirements of the Massachusetts Contingency Plan (MCP) (310 CMR 40.0000) and guidance provided in *Guidance for Disposal Site Risk Characterization in Support of the Massachusetts Contingency Plan* (MassDEP, July 1995) and subsequent associated guidance. The M3RC is based on information and data provided to Sovereign Consulting Inc. by Tighe & Bond, Inc. and available on the MassDEP sites database, as summarized herein.

2.0 SITE BACKGROUND

2.1 Site and Vicinity Location and Use

The Town of Princeton is located about 42 miles west of Boston and about 13 miles north of Worcester. The Princeton Town Hall complex is located in the center of Princeton and is composed of the Town Hall building, Library building, and Public Safety Complex. The residential properties addressed in this focused M3RC are located near the Town Hall complex, as shown on **Figure 1 - Property Sample Plan - 18 to 30 Mountain Road** and **Figure 2 - Property Sample Plan - 54 Mountain Road**.

2.2 Site Physical and Hydrological Setting

Figure 3 - MassDEP Priority Resource Map depicts features in the vicinity of the assessed area (this figure is focused on Town Hall, for reference). The maximum elevation of the Town Hall property is approximately 1,190 feet above sea level at its northeastern corner. The topographic elevation increases to the north and decreases rather steeply to the east, south, and west.

Based on gauging of site wells at the Town Hall property, the depth to groundwater is about four to six feet bgs and is anticipated to generally flow westerly. However, as a result of the observation of bedrock outcrops throughout the area, the groundwater flow direction in overburden groundwater, where present, is likely to vary, as will bedrock groundwater flow.

The contaminant distribution over time suggests that bedrock groundwater flows generally to the southwest.

3.0 SITE ENVIRONMENTAL CONDITIONS

3.1 History of Releases

The Town of Princeton operates its own public water supply (PWS) system that services the Town Hall campus buildings. In May 2019, the Town of Princeton and MassDEP entered into an administrative consent order (ACO; ACO-CE-19-5D00006872) to address the town's obligations as a PWS operator. Samples from the water supply were collected twice in September 2019, and confirmed the sum of concentrations of the MassDEP-regulated PFAS6 compounds ranging from 102 to 127 nanograms per liter (ng/L) (parts per trillion, ppt).^[1] MassDEP was verbally notified of the sampling results on November 4, 2019, and assigned RTN 2-0021972 to the release. Immediate response action (IRA) activities have been undertaken since this time, including potable and monitoring well sampling, and installation and monitoring of point-of entry (POE) treatment systems at affected locations.

As part of overall site activities, soil was sampled from six nearby residences to evaluate whether residual impacts exist from the historic application of AFFF at 30 Mountain Road, where firefighting water flowed downhill from that location in 2017, and at a second unrelated location at 54 Mountain Road, where there was a fire in 1967. These samples were collected to evaluate whether exposure to that soil could pose a significant health risk to the residents living at these locations.

3.2 Categorization of Site Soil and Groundwater

The MCP establishes categories of soil and groundwater for use in characterizing risks posed by contamination at a site. Soil can be categorized as S-1, S-2, and/or S-3 based on four factors evaluated as "high" or "low": frequency of contact with the site, intensity of contact with soil, accessibility of soil, and the presence of children. Based on current residential use of the properties assessed herein, soil is most conservatively categorized as S-1. It should be noted that the Method 1 soil standards include a leaching-to-groundwater component, a pathway not relevant in assessing risks associated with exposure to soil.

Groundwater can be categorized as GW-1, GW-2, and/or GW-3, depending on location and use. A GW-1 category is associated with current or potential drinking water source areas; as previously noted, groundwater is used as a source of drinking water throughout the town of Princeton and is within an interim wellhead protection (IWPA) area, so groundwater is categorized as GW-1. A GW-2 category is associated with groundwater located within 30 feet of an existing or planned occupied building if the average annual depth to groundwater is 15 feet or less. Groundwater is regionally encountered at a depth of less than 15 feet, so a GW-2 category currently applies near buildings. A GW-3 category is associated with groundwater that

¹ MassDEP regulates the following PFAS compounds: perfluoroheptanoic acid (PFHpA), perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorononanoic acid (PFNA), perfluorodecanoic acid (PFDA), and perfluorohexanesulfonic acid (PFHxS). Collectively, they are referred to as "PFAS6" compounds.

is a potential source of discharge to surface water. All groundwater in Massachusetts is categorized as GW-3. Therefore, groundwater categories of GW-1, GW-2, and GW-3 apply to the assessed properties.

3.3 Summary of Current Property Conditions

Soil samples were collected from six properties located on 18, 19, 21, 22, 30, and 54 Mountain Road. **Tables 1A through 1F** - *Summary of Soil Analytical Data (Address)* summarize the analytical results for soil samples from each property, respectively. Sample locations are depicted on **Figures 1 and 2**.

Soil samples were analyzed for 34 poly- and perfluoroalkyl substances; 24 different constituents were detected among all sampled residences, although each of the 24 PFAS substances were not necessarily detected at each residence. Ten target constituents were not detected at any location.

Maximum detected concentrations of MassDEP-regulated PFAS substances are compared with their applicable MCP Method 1 GW-1/S-1 standards in the following table (MassDEP 2019):

POLY-AND PERFLUOROALKYL SUBSTANCES MAXIMUM CONCENTRATION EXCEEDANCES IN SOIL (µg/kg)						
Compound	PFOA	PFOS	PFDA	PFNA	PFHxS	PFHpA
S-1/GW-1 Standard (µg/kg)	0.72	2.0	0.3	0.32	0.3	0.5
18 Mountain Rd	2.4	4.0	0.4	0.67	--	--
19 Mountain Rd	--	2.2	0.34	0.37	--	--
21 Mountain Rd	0.91	2.5	--	0.46	0.78	--
22 Mountain Rd	3.5	17	0.31	1.1	14	0.92
30 Mountain Rd	2.9	170	0.66	0.33	11	0.56
54 Mountain Rd	5.0	13	1.5	0.68	--	1.9

µg/kg Micrograms per kilogram (parts per billion).

"--" Either not detected or all property samples were detected below the Method 1 standard for this substance.

Most exceedances are within an order of magnitude of the standard; one sample (PFOS at 30 Mountain Road) was not. This sample, containing the maximum concentration, was detected at a depth of 6 to 8 inches bgs, so is not immediately accessible.

Recognize that other "non-PFAS6" substances were detected at each property. However, none of the detected "non-PFAS6" compounds have Method 1 standards, so health risks associated with their presence cannot be assessed by comparison to a standard.

4.0 CHARACTERIZATION OF THE RISK OF HARM TO HUMAN HEALTH

4.1 Hazard Identification

Constituents that are quantitatively assessed in the human health risk characterization are identified in this section. This section also discusses the environmental fate and transport potential of the constituents, identifies toxicity values applied to the human health risk characterization, and identifies applicable or suitably analogous standards, when available.

4.1.1 Constituents of Concern

Constituents of concern (COCs) for the human health risk characterization are the detected MassDEP-regulated PFAS compounds in soil at each residence.

4.1.2 Environmental Fate and Transport Characteristics

This section discusses environmental fate and transport characteristics of the COCs.

PFAS compounds are in a large family of fluorinated compounds that vary widely in their chemical and physical properties. Reliable physical and chemical properties for individual PFAS compounds are scarce (for example, vapor pressure and Henry's law constants), and some of the available values are modeled, as opposed to directly measured. The environmental behavior of PFAS compounds is further complicated by their surfactant properties [ITRC (July 2021) *Per- and Polyfluoroalkyl Substances* (<https://pfas-1.itrcweb.org/wp-content/uploads/2021/08/PFAS-Guidance-Doc-Full.pdf>)].

PFAS compounds are primary solid, crystalline, or powdery at room temperature, although some of the shorter-chain PFAS compounds may be liquid at ambient conditions (ITRC 2021).

The density of the regulated PFAS6 compounds range in the vicinity of about 1.7 to 1.9 g/cm³, indicating that they are denser than water and, at certain concentrations, may sink in groundwater, although presence of a separate phase of PFAS6 compounds is unlikely given its water solubility (ITRC 2021).

Reported water solubilities of the PFAS6 compounds vary appreciably, which may have to do with PFAS compound's ability to act as a surfactant and form micelles.^[2] For example, the reported water solubility for PFOS ranges from 0.2 to 910 milligrams per liter (mg/L), and for PFOA from 0.01 to 9,524 mg/L. Similar variability is seen in the other PFAS6 compounds, as well (ITRC 2021).

Reported log of organic carbon/water partition coefficients (log K_{oc}) for the PFAS6 compounds range from log 1.6 (39.8) for PFHpA to log 3.69 (4,898) for PFNA. This indicates a moderate ability to bind to organic carbon in soil, suggesting a moderate leaching potential (ITRC 2021).

[2] Micelles are structures containing a hydrophilic/polar region (head) and hydrophobic/nonpolar region (tail). Micelles are formed in an aqueous solution whereby the polar region faces the outside surface of the micelle and the nonpolar region forms at the core (<https://www.sciencedirect.com/topics/medicine-and-dentistry/micelle>).

Reported vapor pressures for the PFAS6 compounds vary in much the same as other reported properties. Vapor pressures range from 0.002–0.03 mmHg for PFOS and from 0.13-1.19 mmHg for PFHpA (ITRC 2021). Typically, vapor pressures above 0.1 mmHg indicate a volatile compound [U.S. EPA (1978) Memo from Vera Gallagher to James C. Berry, Chief, Chemical Application Section, entitled "Definition of Volatile Organic Compound"]. Most of the PFAS6 compounds have a vapor pressure below 0.1 mmHg, suggesting low volatility.

While varying with compound, PFAS compounds are generally thermally and chemically stable, as well as resistant to oxidative and reductive processes and hydrolysis (ITRC 2021). They are considered a persistent class of chemicals, thus giving them the moniker of "forever chemicals."

In general, PFAS compounds are considered bioaccumulative and are able to biomagnify (increase in concentration) up the food chain. Ionized PFASs are polar compounds and tend to bind to blood proteins rather than fatty tissues, so estimates of bioaccumulation potential from the compound's octanol/water partition coefficient (K_{ow}) are not relevant. Bioconcentration and bioaccumulation factors for regulated PFAS compounds, as well as others, were compiled in Table 5.1 of ITRC (2021). Reported BCFs for the regulated PFAS compounds vary with species tested (e.g., plant, fish). Representative values are shown below:

RANGE OF SOME REPORTED BIOCONCENTRATION FACTORS (BCF) FOR REGULATED PFAS COMPOUNDS						
Species Tested	PFOA	PFOS	PFDA	PFNA	PFHxS	PFHpA
Juvenile Rainbow Trout (<i>Oncorhynchus mykiss</i>)	4 - 27	1,100 - 5,400	450 - 2,700	n/a	9.6 - 100	n/a
Zebrafish (<i>Danio rerio</i>)	33.1 - 616.6	537 - 13,183	2,570 - 120,226	437 - 11,749	36.3 - 871	n/a
European Eel (<i>Anguilla anguilla</i>)	1.09	3.33	3.26-3.62	2.52	2.55	n/a
Common Shiner (<i>Luxilus cornutus</i>)	n/a	n/a	n/a	n/a	n/a	3.1-2,884 (BAF)
Lettuce (<i>Lactuca sativa</i>)	1.34 - 2.52	0.1 - 6.49	0.34 - 0.52	0.77 - 11.5	1.08 - 46.2	2.66 - 122
Tomato (<i>Lycopersicon lycopersicum</i>)	0.11 - 2.42	4.24 - 4.53	1.43 - 1.85	1.92 - 2.35	0.5 - 5.6	0.86 - 3.79
Radish (<i>Raphanus sativus</i>)	0.85 - 7.6	0.7 - 3.74	0.44 - 1.10	1.32 - 5.31	2.05 - 7.46	0.8 - 5.5

From: ITRC (2021), Table 5.1.

n/a Not available.

BAF Bioaccumulation factor (minimum and maximum)

BCF values above one indicate the potential to bioaccumulate. As shown by the BCF values presented, regulated PFAS6 compounds are moderately to appreciably bioaccumulative. This property of PFAS compounds has implications for home gardening, in that crops may accumulate PFAS compounds and expose consumers of those crops to these compounds. Lack of appropriate modeling or estimation techniques, as well as varying PFAS properties, prevent quantitation of the risk of consuming home-grown crops in residential soil. MassDEP

recommends that home vegetable and fruit gardening be discouraged unless planting beds with "clean" soil are established.

4.1.3 Toxicity Values

Toxicity values used to quantify the potential non-carcinogenic health hazards of the PFAS6 compounds were obtained from MassDEP (2019, draft). At this time, MassDEP is not recommending assessing PFAS compounds as carcinogens, although some evidence exists that some PFAS compounds might have carcinogenic properties. Toxicity values used to assess non-carcinogenic health hazards are reference doses (RfDs) for ingestion and dermal exposures and reference concentrations (RfCs) for inhalation exposures. Sub-chronic RfDs or RfCs were used to assess shorter-term exposures. Toxicity values applied to the human health risk characterization are summarized and referenced in the attached risk calculation spreadsheets (**Appendices B and C**). Brief toxicity profiles are presented in **Appendix A**.

4.1.4 Applicable or Suitably Analogous Standards

Applicable or suitably analogous standards potentially include the following:

- Drinking Water Standards (310 CMR 22). These regulations establish drinking water standards for GW-1 areas, termed Massachusetts Maximum Contaminant Levels (MMCLs). Since groundwater at the site is not being assessed in this focused M3RC, these drinking water standards are not relevant to this assessment.
- Air Quality Standards (310 CMR 6.00). This regulation adopts federally-established ambient air quality standards for criteria pollutants (sulfur oxides, particulate matter, carbon monoxide, ozone, nitrogen dioxide, and lead). PFAS6 compounds are not addressed in this regulation.
- Surface Water Quality Standards (314 CMR 4.00). This regulation identifies specific standards for general or non-chemical parameters (e.g., temperature), as well as specifying "freedom" from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife. The regulation does not provide constituent-specific water quality standards applicable to this risk characterization, but references use of EPA national recommended water quality criteria. There are no EPA water quality criteria for the protection of aquatic organisms for PFAS6 compounds, but MassDEP has identified surface water benchmark concentrations for these compounds. However, these are not applied in this focused M3RC.

4.2 Exposure Assessment

This section identifies human receptor groups potentially exposed to COCs, identifies pathways and routes by which these receptor groups may be exposed, calculates exposure point concentrations (EPCs) for the COCs, and quantifies potential exposure of each receptor group.

4.2.1 Identification of Human Receptor Groups

Based on current and anticipated future site uses, the following human receptor groups are quantitatively assessed in the M3RC:

Residents. Soil samples were collected from six residences, so current and anticipated future use is residential. Residents are assessed for the non-carcinogenic endpoint in three age groups - child, youth, and adult.

Construction/Utility Workers. The potential for construction or utility worker exposure exists at the residences under current and future land uses. Adult construction workers are quantitatively assessed.

The following receptor groups are not quantitatively assessed for the reasons provided:

Commercial/Industrial Workers. The residential properties have not been and are not anticipated to be in commercial/industrial use, so commercial/industrial workers are not quantitatively assessed. Assessment of residents is adequately protective of commercial/industrial workers.

Recreational Receptors. The residences assessed are not used recreationally, except by the property owners, and there are no specific recreational features on the properties. Therefore, recreational receptors are not specifically assessed.

Pedestrians/Trespassers. Pedestrians or trespassers may be exposed to COCs during visitation to the residences; however if exposure to soil did occur, it would be limited in frequency and duration. For this reason, trespassers are not explicitly assessed; assessment of residents conservatively represents potential pedestrian/trespasser exposure.

Landscape workers. Landscaping activities are anticipated to potentially occur at all residences assessed. Direct soil contact is anticipated to be moderate to intense, intermittent, and of a short to moderate, seasonal duration, and is not explicitly assessed. Assessment of construction/utility workers conservatively represents potential landscape worker exposure.

4.2.2 Exposure Scenarios

Human receptor groups were assessed for exposure to COCs through the following pathways:

ASSESSED RECEPTOR GROUPS AND EXPOSURE PATHWAYS		
Exposure Pathway	Residents	Construction/ Utility Workers [1]
Soil ingestion	✓	✓
Soil dermal contact	✓	✓
Inhalation of entrained soil particles	✓	✓
Ingestion of inhaled, entrained soil particles		✓

✓ Assessed

[1] Representing landscape workers

All receptor groups are assessed for outdoor exposure to COCs through soil ingestion, soil dermal contact, and inhalation of entrained soil particles (dust). Construction/utility workers are additionally assessed for ingestion of large inhaled soil particles that are expelled from their lungs and subsequently swallowed.

4.2.3 Exposure Point Concentrations

This section evaluates the presence of “hot spots” and describes the derivation of EPCs for PFAS6 compounds in soil and outdoor air.

4.2.3.1 Evaluation of “Hot Spots”

The MCP generally defines a “hot spot” as a “discrete area where the concentrations of oil or hazardous material or the thickness of non-aqueous phase liquid are substantially higher than those present in the surrounding area.” More specifically, “hot spots” are defined as “[d]iscrete areas where the average concentration within the area is greater than ten but less than one hundred times the average concentration in the immediate surrounding area... unless there is no evidence that the discrete area would be associated with greater exposure potential than the surrounding area. In all cases, (a hot spot is) a discrete area where the concentration of an oil or hazardous material is greater than one hundred times the concentration in the surrounding area. ...[I]n no case shall concentrations of oil or hazardous material equal to or less than an applicable Method 1 standard be considered indicative of a Hot Spot.” Additionally, according to the MassDEP Master Q&A: 1993 - 2018 (MassDEP 2018), a “hot spot” cannot be created as a result of remediation.

Soil data are summarized in **Table 1**. Because the maximum detected concentration of each PFAS6 compound at each residence is applied as its EPC, defining a “hot spot” is not needed. The maximum detected concentration would be the default EPC if a hot spot were identified.

4.2.3.2 Soil Exposure Point Concentrations

As stated above, the sum of the maximum detected concentration of each PFAS6 compound at each residence is applied as its EPC.

4.2.3.4 Air Exposure Point Concentrations

Air EPCs for the entrained soil particle pathway were estimated by a MassDEP-recommended approach (MassDEP 1995). For residents, an air PM₁₀ concentration (particles with an aerodynamic diameter of ≤10 microns) of 32 micrograms per cubic meter (µg/m³) was combined with the soil EPC to derive an air EPC. For construction/utility workers, a PM₁₀ air concentration of 60 µg/m³ was combined with the soil EPC to derive an air EPC.

As previously indicated, the indoor air pathway was not assessed since PFAS6 compounds show little tendency to volatilize.

4.2.3.5 Quantitation of Exposure

Exposure to PFAS6 compounds was quantified by combining exposure factors with EPCs to derive an average daily exposure (ADE) or average daily dose (ADD). Exposure factors used to quantify the magnitude, frequency, and duration of exposure for each receptor group are summarized in **Table 2 - Summary of Exposure Factors**. Exposure factors were values used in MCP Method 1 Numerical Standards (MassDEP 2014) or from other, generally recognized guidance.

Generally recognized risk characterization equations were used to quantify exposures and are presented in **Appendices B** and **C** for residents and construction/ utility workers, respectively.

4.3 Risk Characterization

Potential non-carcinogenic health hazards were quantified for each receptor group by combining estimated COC intakes with the appropriate toxicity value.

The risk characterization procedure for non-carcinogenic COCs derives a Hazard Quotient (HQ), which is the ratio of an estimated exposure or intake to a maximum exposure or intake that is believed to pose no health hazard (e.g., the RfD or RfC). For each receptor and age group, HQs for each exposure pathway are summed to derive a total Hazard Index (HI), which is compared with the maximum acceptable HI adopted by MassDEP: 1. A total HI equal to or below 1 represents no significant risk of harm to human health.

4.3.1 Risk Characterization for Residents

Risk characterization calculations for residents are presented in **Appendix B** and summarized below:

RISK CHARACTERIZATION SUMMARY RESIDENTS			
Location	Total Non-Carcinogenic Hazard Index ^[1]		
	Child	Youth	Adult
18 Mountain Road	0.004	0.001	0.001
19 Mountain Road	0.002	0.0006	0.0005
21 Mountain Road	0.002	0.0008	0.0006
22 Mountain Road	0.02	0.006	0.005
30 Mountain Road	0.09	0.03	0.03
54 Mountain Road	0.01	0.004	0.003
Maximum Acceptable Level	1		

[1]. Pathway-specific risks are presented in Appendices B and C.

Total HIs for each age group are below the maximum acceptable HI of 1, typically by several orders of magnitude. Therefore, the presence of PFAS6 compounds in soil at these residences poses *No Significant Risk of harm to human health for residents*.

It should be recalled that PFAS compounds in soil can bioaccumulate into plants. It should be ensured that any vegetables or fruit grown on the property be grown in "clean" soil rather than the soil natively present at the residence that has been impacted.

4.3.2 Risk Characterization for Construction/Utility Workers

Risk characterization calculations for construction/utility workers (representing landscape workers) are presented in **Appendix C** and summarized below:

RISK CHARACTERIZATION SUMMARY CONSTRUCTION/UTILITY WORKERS (FOR LANDSCAPERS)	
Location	Total Non-Carcinogenic Hazard Index
18 Mountain Road	0.003
19 Mountain Road	0.001
21 Mountain Road	0.002
22 Mountain Road	0.01
30 Mountain Road	0.07
54 Mountain Road	0.008
Maximum Acceptable Level	1

The total HI at each residence is below the maximum acceptable HI of 1. Therefore, the disposal site poses *No Significant Risk of harm to human health for construction/utility workers as a surrogate for landscapers.*

4.4 Uncertainty Assessment

The human health M3RC applied site-specific data, risk characterization approaches recommended by MassDEP, and reasonable assumptions to assess site risks. Nonetheless, uncertainties in these factors can contribute to uncertainty in the overall quantitative risk estimates. This section identifies some uncertainties in the quantitative risk characterization and discusses the impact of these uncertainties.

4.4.1 Uncertainties Associated with Site Data

Between six and 36 soil samples were collected from each residence (the most samples were collected from 22, 30 and 54 Mountain Road) and applied to the human health risk characterization. The depth interval of soil samples ranged from 0-6 inches (all samples at 18, 19, and 21 Mountain Rd) to a depth of 36 inches, with 6-12, 12-18, 12- or 18-24, and 24-36 inches being common depth intervals. All borings were completed to bedrock, which exists very close to the surface and outcrops in places. The number of soil samples for each property is sufficient, and, since all borings were extended to bedrock, the depth of the samples are also acceptable and pose a low degree of uncertainty to the risk characterization.

4.4.2 Uncertainties Associated with the Toxicity Assessment

MassDEP-adopted toxicity values for PFAS6 compounds were published in the draft MCP 2019 revisions and apply to the sum of the PFAS6 compounds. Toxicity values are typically derived from human studies or from animal studies conducted at high dose levels, from which potential human health effects at low doses are extrapolated and to which conservative uncertainty

factors are applied. Therefore, these values provide a conservative estimate of potential human health impacts and are not likely to underestimate health risks.

Overall, the uncertainty associated with toxicity values is low.

4.4.3 Uncertainties Associated with Exposure Point Concentrations

Because of the varying amount of data and to provide a conservative (i.e. health-protective) assessment, maximum detected concentrations of each PFAS6 compound at a given property were summed and applied as the EPC. A MassDEP-adopted screening level fate and transport model was used to estimate outdoor air particle EPCs from soil EPCs. Collectively, EPCs contribute a low to moderate degree of uncertainty to the risk characterization and potentially overestimates health risks.

PFAS compounds other than the MassDEP-regulated PFAS6 compounds were detected in soil at these properties, as well, but were not included in the quantitative risk characterization. Little information on the toxicity of these other compounds is available and no toxicity values have been developed by recognized parties at this time. However, as shown on **Table 3 – Percent of PFAS6 Concentrations to Total PFAS Concentrations**, the PFAS6 compounds account for, on average, 74 percent of the total PFAS compounds detected (ranges from 53 to 89 percent). Even if the remaining PFAS compounds were included in the risk calculations and assessed as the PFAS6 compounds were, these additional PFAS compounds would not have changed the quantitative outcome of the risk characterization.

4.4.4 Uncertainties in Receptors, Exposure Scenarios, and Exposure Factors

Two human receptor groups were assessed for exposure to COCs: residents and construction/utility workers (as a surrogate for landscaping/gardening). Other receptor groups may potentially be exposed, but their exposure will be similar to or less than the receptors assessed. The uncertainty associated with the scope of receptors assessed is low.

Exposure factors used to quantify exposures were generally obtained from MassDEP guidance and are anticipated to conservatively estimate COC intake and risk. The uncertainty associated with exposure factors is low.

Assessment of residents assumed that subsurface soil becomes accessible in the future and soil up to 15 feet in depth has the potential to be contacted (soil was characterized to bedrock at less than 15 feet). Most PFAS6 compounds were detected in surface or near-surface soil (the upper foot) and would be expected to be contacted under normal activities. The uncertainty associated with this assumption is low.

4.4.5 Uncertainties Associated with the Risk Characterization Approach

By combining conservative estimates of exposure and toxicity, results of the risk characterization reflect conservative conditions that may not represent typical exposures. Therefore, health risks, particularly to an individual with average exposures, are likely to be overestimated.

5.0 SUMMARY AND CONCLUSIONS

A focused human health M3RC was conducted for the presence of PFAS6 compounds in soil of several residential properties along Mountain Road. The focused M3RC assessed the risk of harm to human health posed by contact with PFAS6 compounds detected in soil only, using site-specific data, current and reasonably foreseeable future uses of the properties, screening level fate and transport models, and recommended MassDEP risk characterization guidance. Potential risks to public welfare, safety, and the environment were not addressed in this focused M3RC.

The human health risk characterization assessed potential health risks posed to two human receptor groups: existing residents of the properties and construction/utility workers (to represent landscapers). Both receptor groups were assessed for exposure to PFAS6 compounds through soil ingestion, soil dermal contact, and outdoor inhalation of entrained soil particles. Construction/utility workers were additionally assessed for exposure to PFAS6 compounds through ingestion of inhaled, entrained soil particles. Quantitative results are summarized below:

HUMAN HEALTH RISK CHARACTERIZATION SUMMARY	
Receptor Group	Non-carcinogenic Hazard Index
18 Mountain Road - Child Resident	0.004
18 Mountain Road - Youth Resident	0.001
18 Mountain Road - Adult Resident	0.001
18 Mountain Road - Construction/Utility Workers	0.003
19 Mountain Road - Child Resident	0.002
19 Mountain Road - Youth Resident	0.0006
19 Mountain Road - Adult Resident	0.0005
19 Mountain Road - Construction/Utility Workers	0.001
21 Mountain Road - Child Resident	0.002
21 Mountain Road - Youth Resident	0.0008
21 Mountain Road - Adult Resident	0.0006
21 Mountain Road - Construction/Utility Workers	0.002
22 Mountain Road - Child Resident	0.02
22 Mountain Road - Youth Resident	0.006
22 Mountain Road - Adult Resident	0.005
22 Mountain Road - Construction/Utility Workers	0.01
30 Mountain Road - Child Resident	0.09
30 Mountain Road - Youth Resident	0.03
30 Mountain Road - Adult Resident	0.03
30 Mountain Road - Construction/Utility Workers	0.07
54 Mountain Road - Child Resident	0.01
54 Mountain Road - Youth Resident	0.004
54 Mountain Road - Adult Resident	0.003
54 Mountain Road - Construction/Utility Workers	0.008
Maximum Acceptable Level	1

Calculated non-carcinogenic HIs for all receptors and age groups are below the maximum acceptable HI of 1. Therefore, as assessed, the presence of PFAS6 compounds in residential soil poses *no significant risk of harm to human health*. However, the presence of PFAS compound in soil is a concern with a regard to potential bioaccumulation into plants. Fruit and vegetable plants should not be grown in residential soil; raised beds filled with "clean" soil should be used.

The conclusions of the focused M3RC are based upon the data provided to or obtained by Sovereign, which is accepted as valid unless otherwise noted herein, as well as the assumptions and approaches presented in this assessment, and assume that conditions at the site described by the available data represent potential site conditions over the period of time assessed.

6.0 REFERENCES

- American Society for Testing and Materials (ASTM) (2015). Standard Guide for Risk-Based Corrective Action (ASTM E-2081-00).
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- Massachusetts Department of Environmental Protection (MassDEP) (2019) Method 1 Numerical Standards and supporting documentation (draft revision).
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- Tighe & Bond (2020) Phase I Initial Site Investigation and Tier 1 Classification Submittal, Town of Princeton.
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- US EPA (2004a). Risk Assessment Guidance for Superfund - Volume I: Human Health Evaluation Manual (Part E: Supplemental Guidance for Dermal Risk Assessment). EPA/540/R/99/005.
- US EPA (1991) Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. OSWER Directive 9285.6-03 (March).
- US EPA (1989). Risk Assessment Guidance for Superfund: Volume I: Human Health Evaluation Manual (Part A). EPA/540/1-89/002 (December).
-

FIGURES



LEGEND

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

LOCUS MAP

0 35 70
Feet
1:840

NOTES






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

FIGURE 1
Property Sample Plan
18-30 Mountain Road,
Princeton, MA





Legend

-  Soil Boring Locations
-  Non-Community Transient Public Water Supply
-  Site Parcel
-  Approximate Parcel Boundary
-  Municipal Boundary

Tighe & Bond

Based on MassGIS Color Orthophotography (2019) and Approximate Parcels from MassGIS, by the town of Princeton (FY2020)

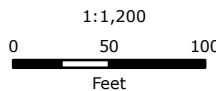


FIGURE 2
 Property Sample Plan
 54 Mountain Road
 Princeton, Massachusetts

December 2021

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:

18 MOUNTAIN ROAD PRINCETON, MA

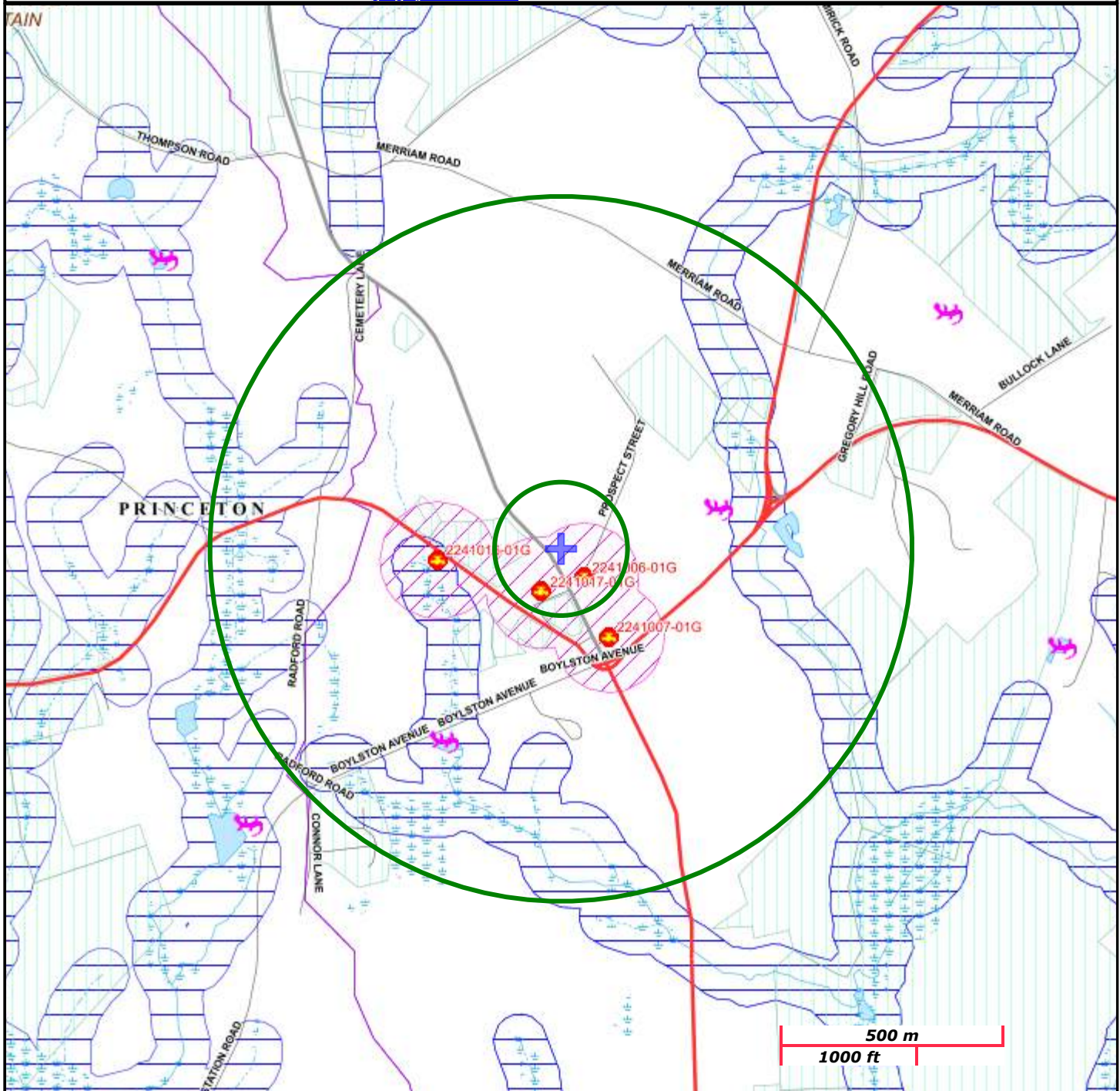
NAD83 UTM Meters:
4703832mN , 263331mE (Zone: 19)
January 13, 2022

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at:
<https://www.mass.gov/orgs/massgis-bureau-of-geographic-information>



MassDEP

Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail	PWS Protection Areas: Zone II, IWPA, Zone A		
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct	Hydrography: Open Water, PWS Reservoir, Tidal Flat		
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam	Wetlands: Freshwater, Saltwater, Cranberry Bog		
Aquifers: Medium Yield, High Yield, EPA Sole Source	FEMA 100yr Floodplain; Protected Open Space; ACEC		
Non Potential Drinking Water Source Area: Medium, High (Yield)	Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential		
	Solid Waste Landfill; PWS: Com. GW, SW, Emerg., Non-Com.		

FIGURE 3

MassDEP Phase 1 Site Assessment Map
Town Hall, Princeton, Massachusetts

TABLES

TABLE 1A
Summary of Soil Analytical Data
 18 Mountain Avenue Residences, Princeton, Massachusetts

Parameter	MCP Method 1 S-1/GW-1	18MTN S-1	18MTN S-2	18MTN S-3	18MTN S-4	18MTN S-5	18MTN S-6	Maximum Detected Concentration
		11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	
Sample Depth		0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.19	0.46 U	0.4	0.10	0.72	0.12	0.72
Perfluorobutanesulfonic acid (PFBS)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
Perfluoropentanoic acid (PFPeA)	-	0.48	0.46 U	0.14	0.48 U	0.40	0.53 U	0.48
Perfluorohexanoic acid (PFHxA)	-	0.32	0.46 U	0.52 U	0.48 U	0.27	0.53 U	0.32
Perfluorododecanoic acid (PFDoA)	-	0.35	0.091	0.088	0.077	0.12	0.53 U	0.35
Perfluoroheptanesulfonic acid (PFHpS)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
N-EtFOSAA	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
N-MeFOSAA	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
Perfluorotetradecanoic acid (PFTA)	-	0.22	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	0.22
Perfluorotridecanoic acid (PFTrDA)	-	0.20	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	0.20
Perfluorodecanesulfonic acid (PFDS)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
Perfluorooctanesulfonamide (FOSA)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
Perfluorononanesulfonic acid (PFNS)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
Perfluoro-1-butanedisulfonamide (FBSA)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
Perfluoropentanesulfonic acid (PFPeS)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
Perfluoroundecanoic acid (PFUnA)	-	0.40	0.13	0.19	0.17	0.20	0.13	0.40
Perfluoroheptanoic acid (PFHpA) - R	0.5	0.33	0.46 U	0.13	0.48 U	0.44	0.09	0.44
Perfluorooctanoic acid (PFOA) - R	0.72	1.3	0.46 U	0.24	0.48 U	2.4	0.29	2.4
Perfluorooctanesulfonic acid (PFOS) -R	2	2.7	0.18	2.1	1.4	4.0	2.4	4.0
Perfluorononanoic acid (PFNA) - R	0.32	0.32	0.46 U	0.51	0.26	0.67	0.28	0.67
Perfluorodecanoic acid (PFDA) -R	0.3	0.40	0.46 U	0.23	0.26	0.30	0.18	0.40
Perfluorohexanesulfonic acid (PFHxS) -R	0.3	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U	ND
Sum of Maximum Detected Concentrations								10.6
Sum of Mass-DEP Regulated Maximum Detected Concentrations								7.91

Shaded values above Method 1 S-1/GW-1 standard.

- µg/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.

Excluded - Not Detected

Parameter	MCP Method 1 S-1/GW-1	18MTN S-1	18MTN S-2	18MTN S-3	18MTN S-4	18MTN S-5	18MTN S-6
		11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021
Sample depth		0-6"	0-6"	0-6"	0-6"	0-6"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11Cl-PF3OUdS (F53B Minor)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U
9Cl-PF3ONS (F53B Major)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	-	0.88 U	0.46 U	0.52 U	0.48 U	0.69 U	0.53 U

TABLE 1B
Summary of Soil Analytical Data
 19 Mountain Road, Princeton, Massachusetts

Parameter	MCP Method 1 S-1/GW-1 Soil Standards	19MTN S-1	19MTN S-1 (DUP)	19MTN S-2	19MTN S-3	19MTN S-4	19MTN S-5	Maximum Detected Concentration
		11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	
Sample Date		0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	
Sample Depth								
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Perfluorobutanoic acid (PFBA)	-	0.1	0.073	0.50 U	0.30	0.17	0.064	0.30
Perfluorobutanesulfonic acid (PFBS)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
Perfluoropentanoic acid (PFPeA)	-	0.1	0.28	0.50 U	0.54 U	0.11	0.46 U	0.28
Perfluorohexanoic acid (PFHxA)	-	0.48 U	0.14	0.50 U	0.54 U	0.58 U	0.46 U	0.14
Perfluorododecanoic acid (PFDoA)	-	0.12	0.26	0.50 U	0.54 U	0.17	0.46 U	0.26
Perfluoroheptanesulfonic acid (PFHpS)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
N-EtFOSAA	-	0.48 U	0.22	0.50 U	0.54 U	0.58 U	0.46 U	0.22
N-MeFOSAA	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
Perfluorotetradecanoic acid (PFTA)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
Perfluorotridecanoic acid (PFTrDA)	-	0.48 U	0.13	0.50 U	0.54 U	0.58 U	0.46 U	0.13
Perfluorodecanesulfonic acid (PFDS)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
Perfluorooctanesulfonamide (FOSA)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
Perfluorononanesulfonic acid (PFNS)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
Perfluoro-1-butanefulfonamide (FBSA)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
Perfluoropentanesulfonic acid (PFPeS)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
Perfluoroundecanoic acid (PFUnA)	-	0.14	0.28	0.18	0.12	0.28	0.46 U	0.28
Perfluoroheptanoic acid (PFHpA) - R	0.5	0.48 U	0.083	0.50 U	0.20	0.10	0.078	0.20
Perfluorooctanoic acid (PFOA) - R	0.72	0.18	0.45	0.50 U	0.59	0.41	0.21	0.59
Perfluorooctanesulfonic acid (PFOS) - R	2	0.72	1.2	1.4	1.8	2.2	0.28	2.2
Perfluorononanoic acid (PFNA) - R	0.32	0.10	0.22	0.11	0.37	0.23	0.21	0.37
Perfluorodecanoic acid (PFDA) - R	0.3	0.17	0.34	0.19	0.22	0.31	0.11	0.34
Perfluorohexanesulfonic acid (PFHxS) - R	0.3	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U	ND
Sum of Maximum Detected Concentrations								5.31
Sum of Mass-DEP Regulated Maximum Detected Concentrations								3.70

Shaded values above Method 1 S-1/GW-1 standard.

- ug/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.

Excluded - Not detected Site-wide

Parameter	MCP Method 1 S-1/GW-1 Soil Standards	19MTN S-1	19MTN S-1	19MTN S-2	19MTN S-3	19MTN S-4	19MTN S-5
		11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021
Sample Date		0-6"	0-6"	0-6"	0-6"	0-6"	0-6"
Sample Depth							
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
11Cl-PF3OUdS (F53B Minor)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U
9Cl-PF3ONS (F53B Major)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	-	0.48 U	0.52 U	0.50 U	0.54 U	0.58 U	0.46 U

TABLE 1C
Summary of Soil Analytical Data
 21 Mountain Road, Princeton, Massachusetts

Parameter	MCP Method 1 S-1/GW-1	21MTN S-1	21MTN S-2	21MTN S-3	21MTN S-4	21MTN S-5	21MTN S-6	21MTN S-7	Maximum Detected Concentration
Sampling Date		11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	
Sample Depth		0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.20	0.17	0.15	0.49 U	0.63	0.21	0.25	0.63
Perfluorobutanesulfonic acid (PFBS)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
Perfluoropentanoic acid (PFPeA)	-	0.48 U	0.50 U	0.12	0.075	1.6	0.17	0.15	1.6
Perfluorohexanoic acid (PFHxA)	-	0.48 U	0.50 U	0.12	0.49 U	1.2	0.22	0.11	1.2
Perfluorododecanoic acid (PFDoA)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
Perfluoroheptanesulfonic acid (PFHpS)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
N-EtFOSAA	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
N-MeFOSAA	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
Perfluorotetradecanoic acid (PFTA)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
Perfluorotridecanoic acid (PFTTrDA)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
Perfluorodecanesulfonic acid (PFDS)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
Perfluorooctanesulfonamide (FOSA)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
Perfluorononanesulfonic acid (PFNS)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	1.0	0.54 U	1.0
Perfluoropentanesulfonic acid (PFPeS)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U	ND
Perfluoroundecanoic acid (PFUnA)	-	0.48 U	0.50 U	0.54 U	0.49 U	0.15	0.57 U	0.54 U	0.15
Perfluoroheptanoic acid (PFHpA)	0.5	0.081	0.08	0.098	0.49 U	0.27	0.21	0.14	0.27
Perfluorooctanoic acid (PFOA)	0.72	0.20	0.16	0.23	0.20	0.91	0.55	0.46	0.91
Perfluorooctanesulfonic acid (PFOS)	2	0.46	0.45	0.72	1.0	1.9	2.5	0.83	2.5
Perfluorononanoic acid (PFNA)	0.32	0.13	0.14	0.18	0.14	0.46	0.26	0.20	0.46
Perfluorodecanoic acid (PFDA)	0.3	0.48 U	0.50 U	0.11	0.11	0.15	0.25	0.084	0.25
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.48 U	0.50 U	0.54 U	0.49 U	0.48	0.78	0.54 U	0.78
Sum of Maximum Detected Concentration									9.75
Sum of Mass-DEP Regulated Maximum Detected Concentrations									5.2

Shaded values above Method 1 S-1/GW-1 standard.

µg/kg Micrograms per kilogram.
 U Not detected at reporting limit shown.
 ND Not detected.
 R MassDEP-regulated PFAS compound.

Excluded - Not detected Site-wide

Parameter	MCP Method 1 S-1/GW-1	21MTN S-1	21MTN S-2	21MTN S-3	21MTN S-4	21MTN S-5	21MTN S-6	21MTN S-7
Sampling Date		11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021
Sample Depth		0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11CI-PF3OUdS (F53B Minor)	~	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U
9CI-PF3ONS (F53B Major)	~	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	~	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	~	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U
Perfluoro-1-butanefulfonamide (FBSA)	~	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U
Perfluoro-4-oxapentanoic acid (PFMPA)	~	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	~	0.48 U	0.50 U	0.54 U	0.49 U	0.57 U	0.57 U	0.54 U

TABLE 1D
Summary of Soil Analytical Data
 22 Mountain Road, Princeton, Massachusetts

Parameter	MCP - Method 1 S-1/GW-1 Standards	22MTN S-1	22MTN S-1	22MTN S-1	22MTN S-1	22MTN S-2	22MTN S-3	22MTN S-3	22MTN S-4
		7/29/2021	7/29/2021	10/27/2021	10/27/2021	7/29/2021	7/29/2021	10/27/2021	7/29/2021
Sample Depth		0-6"	0-6" DUP	6-12"	12-24"	0-6"	0-6"	6-12"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.91	0.72	0.25	0.21	0.6	0.58	0.23	0.48
Perfluorobutanesulfonic acid (PFBS)	-	0.40	0.27	0.51	0.52	0.6	0.25	0.11	0.086
Perfluoropentanoic acid (PFPeA)	-	0.97	0.71	0.22	0.13	0.38	0.24	0.13	0.29
Perfluorohexanoic acid (PFHxA)	-	3.4	2.3	0.48	0.27	0.48	0.64	0.15	0.35
Perfluorododecanoic acid (PFDoA)	-	0.09	0.56	0.51	0.52	0.12	0.64	0.68	0.55
Perfluoroheptanesulfonic acid (PFHpS)	-	1.3	0.9	0.51	0.52	0.57	0.64	0.68	0.55
N-EtFOSAA	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
N-MeFOSAA	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
Perfluorotetradecanoic acid (PFTA)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
Perfluorotridecanoic acid (PFTrDA)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
Perfluorodecanesulfonic acid (PFDS)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
Perfluorooctanesulfonamide (FOSA)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
Perfluorononanesulfonic acid (PFNS)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.76	0.60	0.51	0.52	0.57	0.64	0.68	0.55
Perfluoro-1-butanefulfonamide (FBSA)	-	0.24	0.18	0.51	0.52	0.57	0.64	0.68	0.55
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.53	0.56	0.72	0.32	0.57	0.64	0.28	0.55
Perfluoropentanesulfonic acid (PFPeS)	-	0.45	0.30	0.51	0.52	0.62	0.24	0.68	0.55
Perfluoroundecanoic acid (PFUnA)	-	0.15	0.17	0.51	0.52	0.27	0.30	0.68	0.55
Perfluoroheptanoic acid (PFHpA)	0.5	0.65	0.48	0.21	0.13	0.38	0.31	0.15	0.30
Perfluorooctanoic acid (PFOA)	0.72	1.4	0.91	0.45	0.34	1.7	0.71	0.71	1.1
Perfluorooctanesulfonic acid (PFOS)	2	17	13	4.0	4.3	3.1	1.7	0.71	0.88
Perfluorononanoic acid (PFNA)	0.32	0.53	0.098	0.51	0.11	0.68	0.49	0.14	0.19
Perfluorodecanoic acid (PFDA)	0.3	0.16	0.14	0.51	0.52	0.31	0.26	0.68	0.55
Perfluorohexanesulfonic acid (PFHxS)	0.3	14	8.9	2.8	1.3	3.3	1.0	0.33	0.22
Maximum Detected Concentration									
Sum of Mass-DEP Regulated Maximum Detected Concentrations									

Shaded values above Method 1 S-1/GW-1 standard.

- µg/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.

Excluded - Not detected site-wide.

Parameter	MCP - Method 1 S-1/GW-1 Standards	22MTN S-1	22MTN S-1	22MTN S-1	22MTN S-1	22MTN S-2	22MTN S-3	22MTN S-3	22MTN S-4
		7/29/2021	7/29/2021	10/27/2021	10/27/2021	7/29/2021	7/29/2021	10/27/2021	7/29/2021
Sample Depth		0-6"	0-6" DUP	6-12"	12-24"	0-6"	0-6"	6-12"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11Cl-PF3OUdS (F53B Minor)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
9Cl-PF3ONS (F53B Major)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	-	0.53	0.56	0.51	0.52	0.57	0.64	0.68	0.55

TABLE 1D
Summary of Soil Analytical Data
 22 Mountain Road, Princeton, Massachusetts

Parameter	MCP - Method 1 S-1/GW-1 Standards	22MTN S-4	22MTN S-4	22MTN S-5	22MTN S-5	22MTN S-5	22MTN S-6	22MTN S-6	22MTN S-7
		10/27/2021	10/27/2021	7/29/2021	10/27/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021
Sample Depth		6-12"	12-18"	0-6"	6-12"	12-18"	0-6"	6-12"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.18	0.55 U	0.48	0.39 U	0.40 U	1.3	0.44 U	1.3
Perfluorobutanesulfonic acid (PFBS)	-	0.57 U	0.55 U	0.22	0.39 U	0.40 U	0.66	0.44 U	0.62 U
Perfluoropentanoic acid (PFPeA)	-	0.57 U	0.55 U	0.20	0.39 U	0.40 U	0.79	0.44 U	0.48
Perfluorohexanoic acid (PFHxA)	-	0.57 U	0.55 U	0.23	0.39 U	0.40 U	0.85	0.44 U	0.43
Perfluorododecanoic acid (PFDoA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Perfluoroheptanesulfonic acid (PFHpS)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
N-EtFOSAA	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
N-MeFOSAA	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Perfluorotetradecanoic acid (PFTA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Perfluorotridecanoic acid (PFTrDA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Perfluorodecanesulfonic acid (PFDS)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Perfluorooctanesulfonamide (FOSA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Perfluorononanesulfonic acid (PFNS)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.26	0.44 U	0.62 U
Perfluoro-1-butanefulfonamide (FBSA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.57 U	0.55 U	0.50 U	0.18	0.16	0.60 U	0.44 U	0.62 U
Perfluoropentanesulfonic acid (PFPeS)	-	0.57 U	0.55 U	0.15	0.39 U	0.40 U	0.82	0.44 U	0.62 U
Perfluoroundecanoic acid (PFUnA)	-	0.57 U	0.55 U	0.094	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Perfluoroheptanoic acid (PFHpA)	0.5	0.088	0.55 U	0.32	0.39 U	0.40 U	0.92	0.066	0.62
Perfluorooctanoic acid (PFOA)	0.72	0.36	0.17	1.5	0.39 U	0.40 U	3.5	0.22	2.6
Perfluorooctanesulfonic acid (PFOS)	2	0.54	0.33	1.7	0.12	0.40 U	2.6	0.37	1.7
Perfluorononanoic acid (PFNA)	0.32	0.18	0.13	0.57	0.39 U	0.40 U	0.80	0.44 U	1.1
Perfluorodecanoic acid (PFDA)	0.3	0.57 U	0.55 U	0.15	0.39 U	0.40 U	0.15	0.44 U	0.19
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.57 U	0.13	0.63	0.17	0.35	5.0	0.21	0.62 U
Maximum Detected Concentration									
Sum of Mass-DEP Regulated Maximum Detected Concentrations									

Shaded values above Method 1 S-1/GW-1 standard.

- µg/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.

Excluded - Not detected site-wide.

Parameter	MCP - Method 1 S-1/GW-1 Standards	22MTN S-4	22MTN S-4	22MTN S-5	22MTN S-5	22MTN S-5	22MTN S-6	22MTN S-6	22MTN S-7
		10/27/2021	10/27/2021	7/29/2021	10/27/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021
Sample Depth		6-12"	12-18"	0-6"	6-12"	12-18"	0-6"	6-12"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11Cl-PF3OUdS (F53B Minor)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
9Cl-PF3ONS (F53B Major)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	-	0.57 U	0.55 U	0.50 U	0.39 U	0.40 U	0.60 U	0.44 U	0.62 U

TABLE 1D
Summary of Soil Analytical Data
 22 Mountain Road, Princeton, Massachusetts

Parameter	MCP - Method 1 S-1/GW-1 Standards	22MTN S-7	22MTN S-8	22MTN S-8	22MTN S-8	22MTN S-9	22MTN S-10	22MTN S-11	22MTN S-12
Sampling Date		10/27/2021	7/29/2021	10/27/2021	10/27/2021	7/29/2021	10/27/2021	10/27/2021	10/27/2021
Sample Depth		6-12"	0-6"	6-12"	12-18"	0-6"	0-6"	0-12"	0-12"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.58 U	0.59	0.50 U	0.51 U	0.67	0.62	0.36	1.4
Perfluorobutanesulfonic acid (PFBS)	-	0.25	0.49 U	0.50 U	0.51 U	0.49 U	0.12	0.57 U	0.77 U
Perfluoropentanoic acid (PFPeA)	-	0.58 U	0.23	0.50 U	0.51 U	0.13	0.30	0.17	0.50
Perfluorohexanoic acid (PFHxA)	-	0.58 U	0.26	0.50 U	0.51 U	0.17	0.29	0.17	0.43
Perfluorododecanoic acid (PFDoA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.13
Perfluoroheptanesulfonic acid (PFHpS)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
N-EtFOSAA	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
N-MeFOSAA	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Perfluorotetradecanoic acid (PFTA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Perfluorotridecanoic acid (PFTrDA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Perfluorodecanesulfonic acid (PFDS)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.35	0.68 U	0.57 U	0.77 U
Perfluorooctanesulfonamide (FOSA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Perfluorononanesulfonic acid (PFNS)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Perfluoro-1-butanefulfonamide (FBSA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.58 U	0.49 U	0.20	0.51 U	0.49 U	0.68 U	0.57 U	0.25
Perfluoropentanesulfonic acid (PFPeS)	-	0.18	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Perfluoroundecanoic acid (PFUnA)	-	0.19	0.49 U	0.50 U	0.51 U	0.12	0.68 U	0.57 U	0.22
Perfluoroheptanoic acid (PFHpA)	0.5	0.17	0.25	0.50 U	0.51 U	0.21	0.29	0.25	0.66
Perfluorooctanoic acid (PFOA)	0.72	0.57	0.69	0.50 U	0.25	0.43	0.86	0.91	1.4
Perfluorooctanesulfonic acid (PFOS)	2	2.1	1.4	0.50 U	0.26	2.0	1.1	1.0	1.7
Perfluorononanoic acid (PFNA)	0.32	0.45	0.46	0.50 U	0.51 U	0.53	0.20	0.25	0.46
Perfluorodecanoic acid (PFDA)	0.3	0.23	0.17	0.50 U	0.51 U	0.49 U	0.68 U	0.11	0.25
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.33	0.49 U	0.50 U	0.095	0.095	0.11	0.16	0.16
Maximum Detected Concentration									
Sum of Mass-DEP Regulated Maximum Detected Concentrations									

Shaded values above Method 1 S-1/GW-1 standard.

- µg/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.

Excluded - Not detected site-wide.

Parameter	MCP - Method 1 S-1/GW-1 Standards	22MTN S-7	22MTN S-8	22MTN S-8	22MTN S-8	22MTN S-9	22MTN S-10	22MTN S-11	22MTN S-12
Sampling Date		10/27/2021	7/29/2021	10/27/2021	10/27/2021	7/29/2021	10/27/2021	10/27/2021	10/27/2021
Sample Depth		6-12"	0-6"	6-12"	12-18"	0-6"	0-6"	0-12"	0-12"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11Cl-PF3OUdS (F53B Minor)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
9Cl-PF3ONS (F53B Major)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	-	0.58 U	0.49 U	0.50 U	0.51 U	0.49 U	0.68 U	0.57 U	0.77 U

TABLE 1D
Summary of Soil Analytical Data
 22 Mountain Road, Princeton, Massachusetts

Parameter	MCP - Method 1 S-1/GW-1 Standards	22MTN S-13	22MTN S-13	22MTN Basement-1	22MTN Basement-2	Maximum Detected Concentration
		10/27/2021	10/27/2021	10/29/2021	10/29/2021	
Sample Depth		0-12"	12-24"	0-6"	0-6"	
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.08	0.09	0.087	0.38	1.4
Perfluorobutanesulfonic acid (PFBS)	-	0.53 U	0.48 U	0.43 U	0.12	0.66
Perfluoropentanoic acid (PFPeA)	-	0.09	0.48 U	0.43 U	0.29	0.97
Perfluorohexanoic acid (PFHxA)	-	0.53 U	0.48 U	0.43 U	0.77 U	3.4
Perfluorododecanoic acid (PFDoA)	-	0.11	0.48 U	0.43 U	0.12	0.13
Perfluoroheptanesulfonic acid (PFHpS)	-	0.53 U	0.48 U	0.43 U	0.77 U	1.3
N-EtFOSAA	-	0.29	0.48 U	0.43 U	0.77 U	0.29
N-MeFOSAA	-	0.53 U	0.48 U	0.43 U	0.77 U	ND
Perfluorotetradecanoic acid (PFTA)	-	0.53 U	0.48 U	0.43 U	0.77 U	ND
Perfluorotridecanoic acid (PFTrDA)	-	0.53 U	0.48 U	0.43 U	0.77 U	ND
Perfluorodecanesulfonic acid (PFDS)	-	0.13	0.48 U	0.43 U	0.77 U	0.35
Perfluorooctanesulfonamide (FOSA)	-	0.53 U	0.48 U	0.43 U	0.77 U	ND
Perfluorononanesulfonic acid (PFNS)	-	0.53 U	0.48 U	0.43 U	0.77 U	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.53 U	0.48 U	0.43 U	0.77 U	0.76
Perfluoro-1-butananesulfonamide (FBSA)	-	0.53 U	0.48 U	0.43 U	0.77 U	0.24
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.45	0.48 U	0.43 U	0.77 U	0.72
Perfluoropetanesulfonic acid (PFPeS)	-	0.53 U	0.48 U	0.43 U	0.77 U	0.82
Perfluoroundecanoic acid (PFUnA)	-	0.18	0.48 U	0.43 U	0.77 U	0.30
Perfluoroheptanoic acid (PFHpA)	0.5	0.13	0.10	0.43 U	0.77 U	0.92
Perfluorooctanoic acid (PFOA)	0.72	0.58	0.64	0.43 U	0.60	3.5
Perfluorooctanesulfonic acid (PFOS)	2	3.9	0.53	0.40	0.65	17
Perfluorononanoic acid (PFNA)	0.32	0.15	0.48 U	0.43 U	0.77 U	1.1
Perfluorodecanoic acid (PFDA)	0.3	0.21	0.48 U	0.09	0.77 U	0.31
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.53 U	0.09	0.43 U	0.13	14
Maximum Detected Concentration						48.2
Sum of Mass-DEP Regulated Maximum Detected Concentrations						36.8

Shaded values above Method 1 S-1/GW-1 standard.

µg/kg Micrograms per kilogram.
 U Not detected at reporting limit shown.
 ND Not detected.
 R MassDEP-regulated PFAS compound.

Excluded - Not detected site-wide.

Parameter	MCP - Method 1 S-1/GW-1 Standards	22MTN S-13	22MTN S-13	22MTN Basement-1	22MTN Basement-2
		10/27/2021	10/27/2021	10/29/2021	10/29/2021
Sample Depth		0-12"	12-24"	0-6"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11Cl-PF3OUdS (F53B Minor)	-	0.53 U	0.48 U	0.43 U	0.77 U
9Cl-PF3ONS (F53B Major)	-	0.53 U	0.48 U	0.43 U	0.77 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.53 U	0.48 U	0.43 U	0.77 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.53 U	0.48 U	0.43 U	0.77 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.53 U	0.48 U	0.43 U	0.77 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	-	0.53 U	0.48 U	0.43 U	0.77 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.53 U	0.48 U	0.43 U	0.77 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.53 U	0.48 U	0.43 U	0.77 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.53 U	0.48 U	0.43 U	0.77 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	-	0.53 U	0.48 U	0.43 U	0.77 U

TABLE 1E
Summary of Soil Analytical Data
 30 Mountain road, Princeton, Massachusetts

Parameter	MCP Method 1 S-1/GW-1	30MTN Basement	30MTN Basement	30MTN Basement	30MTN Basement	30MTN S-1	30MTN S-2	30MTN S-2	30MTN S-3
		1	1	2	2				
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
Sample Depth (inches)		0-6"	6-8"	0-6"	6-12"	0-6"	0-6"	6-12"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.3	1.1 U
Perfluorobutanesulfonic acid (PFBS)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.092	1.1 U
Perfluoropentanoic acid (PFPeA)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.3	1.1 U
Perfluorohexanoic acid (PFHxA)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.63	1.1 U
Perfluorododecanoic acid (PFDoA)	-	1.2 U	0.48 U	1.1 U	0.34	0.99 U	1.1 U	0.48 U	1.1 U
Perfluoroheptanesulfonic acid (PFHpS)	-	1.7	1.3	1.1 U	0.77 U	0.99 U	1.1 U	1.1	1.1 U
N-EtFOSAA	-	1.2 U	0.48 U	1.1 U	0.33	0.99 U	1.1 U	0.48 U	1.1 U
N-MeFOSAA	-	1.2 U	0.48 U	1.1 U	0.85	0.99 U	1.1 U	0.48 U	1.1 U
Perfluorotetradecanoic acid (PFTA)	-	1.2 U	0.48 U	1.1 U	0.17	0.99 U	1.1 U	0.48 U	1.1 U
Perfluorotridecanoic acid (PFTDA)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
Perfluorodecanesulfonic acid (PFDS)	-	1.2 U	0.48 U	1.1 U	0.80	0.99 U	1.1 U	0.48 U	1.1 U
Perfluorooctanesulfonamide (FOSA)	-	1.2 U	0.13	1.1 U	2.2	0.99 U	1.1 U	0.14	1.1 U
Perfluorononanesulfonic acid (PFNS)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	1.1	1.1 U
Perfluoro-1-hexanesulfonamide (FHxSA)	-	3.2	6.1	2.1	0.27	0.99 U	1.9	1.4	1.1 U
Perfluoro-1-butanesulfonamide (FBSA)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	1.2 U	0.53	1.1 U	0.19	0.99 U	1.1 U	0.48 U	1.1 U
Perfluoropentanesulfonic acid (PFPeS)	-	1.2 U	0.073	1.1 U	0.77 U	0.99 U	1.1 U	0.13	1.1 U
Perfluoroundecanoic acid (PFUnA)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
Perfluoroheptanoic acid (PFHpA)	0.5	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.15	1.1 U
Perfluorooctanoic acid (PFOA)	0.72	2.9	0.97	1.1 U	0.77 U	0.99 U	1.4	0.72	1.1 U
Perfluorooctanesulfonic acid (PFOS)	2	120	170	59	13	1.1	100	130	27
Perfluorononanoic acid (PFNA)	0.32	1.2 U	0.08	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
Perfluorodecanoic acid (PFDA)	0.3	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
Perfluorohexanesulfonic acid (PFHxS)	0.3	4.5	2.9	1.6	0.41	0.99 U	5.2	4.8	5.6
Sum of Maximum Detected Concentrations									
Sum of Mass-DEP Regulated Maximum Detected Concentrations									

Shaded values above Method 1 S-1/GW-1 standard.

- µg/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.
- NR Not recorded.

Excluded - Not detected site-wide

Parameter	MCP Method 1 S-1/GW-1	30MTN Basement	30MTN Basement	30MTN Basement	30MTN Basement	30MTN S-1	30MTN S-2	30MTN S-2	30MTN S-3
		1	1	2	2				
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
Sample Depth (inches)		0-6"	6-8"	0-6"	6-12"	0-6"	0-6"	6-12"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11Cl-PF3OUdS (F53B Minor)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
9Cl-PF3ONS (F53B Major)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	2.5 U	0.48 U	2.1 U	0.77 U	2.00 U	2.3 U	0.48 U	2.3 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	-	1.2 U	0.48 U	1.1 U	0.77 U	0.99 U	1.1 U	0.48 U	1.1 U

TABLE 1E
Summary of Soil Analytical Data
30 Mountain road, Princeton, Massachusetts

Parameter	MCP Method 1	30MTN S-3	30MTN S-3	30MTN S-4	30MTN S-4	30MTN S-4	30MTN S-5	30MTN S-5	30MTN S-5
Sampling Date	S-1/GW-1	10/28/2021	10/28/2021	5/25/2021	5/25/2021	10/28/2021	5/25/2021	10/28/2021	10/28/2021
Sample Depth (inches)		6-12"	12-24"	0-6"	0-6" (DUP)	6-12"	0-6"	6-12"	12-24"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.25	0.37	1.0 U	1.1 U	0.22	0.92 U	0.25	0.53 U
Perfluorobutanesulfonic acid (PFBS)	-	0.52 U	0.16	1.0 U	1.1 U	0.13	0.92 U	0.50 U	0.79 U
Perfluoropentanoic acid (PFPeA)	-	0.27	0.57	1.0 U	1.1 U	0.22	0.92 U	0.20	0.53 U
Perfluorohexanoic acid (PFHxA)	-	1.2	1.6	1.0 U	1.1 U	0.60	0.92 U	0.52	0.11
Perfluorododecanoic acid (PFDoA)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Perfluoroheptanesulfonic acid (PFHpS)	-	0.71	2.0	1.0 U	1.1 U	0.76	0.92 U	0.26	0.53 U
N-EtFOSAA	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
N-MeFOSAA	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Perfluorotetradecanoic acid (PFTA)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Perfluorotridecanoic acid (PFTTrDA)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Perfluorodecanesulfonic acid (PFDS)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Perfluorooctanesulfonamide (FOSA)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Perfluorononanesulfonic acid (PFNS)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.38	0.92 U	0.50 U	0.53 U
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.54	0.98	1.0 U	1.1 U	0.99	0.92 U	0.50 U	0.53 U
Perfluoro-1-butanesulfonamide (FBSA)	-	0.19	0.60	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
6:2 Fluorotelomersulfonic acid (6:2FIS A)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Perfluoropentanesulfonic acid (PFPeS)	-	0.13	0.20	1.0 U	1.1 U	0.13	0.92 U	0.50 U	0.58
Perfluoroundecanoic acid (PFUnA)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Perfluoroheptanoic acid (PFHpA)	0.5	0.52	0.56	1.0 U	1.1 U	0.21	0.92 U	0.28	0.085
Perfluorooctanoic acid (PFOA)	0.72	1.3	2.1	1.0 U	1.1 U	0.68	0.92 U	0.85	0.35
Perfluorooctanesulfonic acid (PFOS)	2	9.2	24	9.8	11	72	3.5	11	2.0
Perfluorononanoic acid (PFNA)	0.32	0.52 U	0.11	1.0 U	1.1 U	0.13	0.92 U	0.33	0.53 U
Perfluorodecanoic acid (PFDA)	0.3	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.5 U	0.53 U
Perfluorohexanesulfonic acid (PFHxS)	0.3	5.5	9.5	1.6	2.1	6.7	0.92 U	1.0	1.8
Sum of Maximum Detected Concentrations									
Sum of Mass-DEP Regulated Maximum Detected Concentrations									

Shaded values above Method 1 S-1/GW-1 standard.

- µg/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.
- NR Not recorded.

Excluded - Not detected site-wide

Parameter	MCP Method 1	30MTN S-3	30MTN S-3	30MTN S-4	30MTN S-4	30MTN S-4	30MTN S-5	30MTN S-5	30MTN S-5
Sampling Date	S-1/GW-1	10/28/2021	10/28/2021	5/25/2021	5/25/2021	10/28/2021	5/25/2021	10/28/2021	10/28/2021
Sample Depth (inches)		6-12"	12-24"	0-6"	0-6" (DUP)	6-12"	0-6"	6-12"	12-24"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11Cl-PF3OUdS (F53B Minor)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
9Cl-PF3ONS (F53B Major)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.52 U	0.53 U	2.0 U	2.1 U	0.60 U	1.8 U	0.50 U	0.53 U
8:2 Fluorotelomersulfonic acid (8:2FIS A)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
4:2 Fluorotelomersulfonic acid (4:2FIS A)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	-	0.52 U	0.53 U	1.0 U	1.1 U	0.60 U	0.92 U	0.50 U	0.53 U

TABLE 1E
Summary of Soil Analytical Data
 30 Mountain road, Princeton, Massachusetts

Parameter	MCP Method 1 S-1/GW-1	30MTN S-6	30MTN S-6A	30MTN S-7	30MTN S-8	30MTN S-9	30MTN S-10	30MTN S-11	30MTN S-11
Sampling Date		5/25/2021	10/29/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021
Sample Depth (inches)		0-6"	0-12"	0-12"	0-12"	0-12"	0-12"	0-12"	24-36"
Units	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$
Perfluorobutanoic acid (PFBA)	-	0.97 U	1.2	0.33	0.44 U	0.18	0.46	0.20	0.41 U
Perfluorobutanesulfonic acid (PFBS)	-	0.97 U	0.12	0.49 U	0.44 U	0.18	0.12	0.51 U	0.41 U
Perfluoropentanoic acid (PFPeA)	-	0.97 U	2.1	0.21	0.44 U	0.17	0.39	0.093	0.41 U
Perfluorohexanoic acid (PFHxA)	-	0.97 U	3.0	0.32	0.4 U	0.92	0.94	0.5 U	0.41 U
Perfluorododecanoic acid (PFDoA)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Perfluoroheptanesulfonic acid (PFHpS)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.82	1.9	0.51 U	0.41 U
N-EtFOSAA	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
N-MeFOSAA	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Perfluorotetradecanoic acid (PFTA)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Perfluorotridecanoic acid (PFTrDA)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Perfluorodecanesulfonic acid (PFDS)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Perfluorooctanesulfonamide (FOSA)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.20	0.51 U	0.41 U
Perfluorononanesulfonic acid (PFNS)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.14	1.3	0.51 U	0.41 U
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.97 U	0.64 U	0.49 U	0.14	0.90	2.0	0.51 U	0.41 U
Perfluoro-1-butanefulfonamide (FBSA)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.20	0.31	0.51 U	0.41 U
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.14
Perfluoropentanesulfonic acid (PFPeS)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.24	0.17	0.51 U	0.41 U
Perfluoroundecanoic acid (PFUnA)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Perfluoroheptanoic acid (PFHpA)	0.5	0.97 U	0.36	0.28	0.44 U	0.40	0.26	0.099	0.41 U
Perfluorooctanoic acid (PFOA)	0.72	0.97 U	1.2	0.92	0.14	0.93	1.1	0.39	0.41 U
Perfluorooctanesulfonic acid (PFOS)	2	0.97 U	1.0	2.8	6.1	26.0	110	1.1	0.41 U
Perfluorononanoic acid (PFNA)	0.32	0.97 U	0.22	0.14	0.44 U	0.095	0.098	0.22	0.41 U
Perfluorodecanoic acid (PFDA)	0.3	0.97 U	0.12	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.97 U	0.15	1.2	0.80	11	7.7	0.51 U	0.41 U
Sum of Maximum Detected Concentrations									
Sum of Mass-DEP Regulated Maximum Detected Concentrations									

Shaded values above Method 1 S-1/GW-1 standard.

- $\mu\text{g}/\text{kg}$ Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.
- NR Not recorded.

Excluded - Not detected site-wide

Parameter	MCP Method 1 S-1/GW-1	30MTN S-6	30MTN S-6A	30MTN S-7	30MTN S-8	30MTN S-9	30MTN S-10	30MTN S-11	30MTN S-11
Sampling Date		5/25/2021	10/29/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021
Sample Depth (inches)		0-6"	0-12"	0-12"	0-12"	0-12"	0-12"	0-12"	24-36"
Units	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$
11Cl-PF3OUdS (F53B Minor)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
9Cl-PF3ONS (F53B Major)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	1.9 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	-	0.97 U	0.64 U	0.49 U	0.44 U	0.52 U	0.56 U	0.51 U	0.41 U

TABLE 1E
Summary of Soil Analytical Data
 30 Mountain road, Princeton, Massachusetts

Parameter	MCP Method 1 S-1/GW-1	30MTN S-12	30MTN S-12	30MTN S-13	30MTN S-13	30MTN S-14	30MTN S-14	30MTN S-15	30MTN S-15
		10/28/2021 0-12"	10/28/2021 12-24"	10/28/2021 0-12"	10/28/2021 12-24"	10/28/2021 0-12"	10/28/2021 12-24"	10/28/2021 12-24"	10/28/2021 NR
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.52 U	0.11	0.17	0.078	0.40	0.11	0.30	0.11
Perfluorobutanesulfonic acid (PFBS)	-	0.52 U	0.54 U	0.55 U	0.10	0.51 U	0.10	0.11	0.44 U
Perfluoropentanoic acid (PFPeA)	-	0.52 U	0.54 U	0.10	0.092	0.48	0.16	0.69	0.28
Perfluorohexanoic acid (PFHxA)	-	0.52 U	0.54 U	0.13	0.25	0.59	0.79	0.51 U	0.45
Perfluorododecanoic acid (PFDoA)	-	0.22	0.54 U	0.55 U	0.52 U	0.13	0.50 U	0.51 U	0.44 U
Perfluoroheptanesulfonic acid (PFHpS)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
N-EtFOSAA	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
N-MeFOSAA	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Perfluorotetradecanoic acid (PFTA)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Perfluorotridecanoic acid (PFTrDA)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Perfluorodecanesulfonic acid (PFDS)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Perfluorooctanesulfonamide (FOSA)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Perfluorononanesulfonic acid (PFNS)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Perfluoro-1-butanesulfonamide (FBSA)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.18	0.44 U
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Perfluoropentanesulfonic acid (PFPeS)	-	0.52 U	0.54 U	0.55 U	0.092	0.51 U	0.50 U	0.51 U	0.44 U
Perfluoroundecanoic acid (PFUnA)	-	0.43	0.54 U	0.12	0.52 U	0.12	0.50 U	0.51 U	0.44 U
Perfluoroheptanoic acid (PFHpA)	0.5	0.084	0.11	0.11	0.14	0.11	0.18	0.10	0.091
Perfluorooctanoic acid (PFOA)	0.72	0.37	0.69	0.48	0.70	0.46	0.58	0.63	0.55
Perfluorooctanesulfonic acid (PFOS)	2	6.9	2.3	2.4	2.7	0.80	1.6	2.1	1.1
Perfluorononanoic acid (PFNA)	0.32	0.32	0.32	0.32	0.52 U	0.22	0.27	0.23	0.14
Perfluorodecanoic acid (PFDA)	0.3	0.66	0.11	0.17	0.52 U	0.27	0.09	0.16	0.44 U
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.52 U	0.54 U	0.33	0.96	0.51 U	0.50 U	0.51 U	0.44 U
Sum of Maximum Detected Concentrations									
Sum of Mass-DEP Regulated Maximum Detected Concentrations									

Shaded values above Method 1 S-1/GW-1 standard.

- µg/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.
- NR Not recorded.

Excluded - Not detected site-wide

Parameter	MCP Method 1 S-1/GW-1	30MTN S-12	30MTN S-12	30MTN S-13	30MTN S-13	30MTN S-14	30MTN S-14	30MTN S-15	30MTN S-15
		10/28/2021 0-12"	10/28/2021 12-24"	10/28/2021 0-12"	10/28/2021 12-24"	10/28/2021 0-12"	10/28/2021 12-24"	10/28/2021 NR	10/28/2021 NR
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11Cl-PF3OUdS (F53B Minor)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
9Cl-PF3ONS (F53B Major)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	-	0.52 U	0.54 U	0.55 U	0.52 U	0.51 U	0.50 U	0.51 U	0.44 U

TABLE 1E
Summary of Soil Analytical Data
 30 Mountain road, Princeton, Massachusetts

Parameter	MCP Method 1 S-1/GW-1	30MTN S-16	Soil Pile-1	Soil Pile-2	Maximum Detected Concentration
Sampling Date		10/28/2021	10/29/2021	10/29/2021	
Sample Depth (inches)		NR	Composite	Composite	
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.14	0.47 U	0.12	1.2
Perfluorobutanesulfonic acid (PFBS)	-	0.60 U	0.47 U	0.52 U	0.79
Perfluoropentanoic acid (PFPeA)	-	0.11	0.47 U	0.10	2.1
Perfluorohexanoic acid (PFHxA)	-	0.15	0.47 U	0.52 U	3.0
Perfluorododecanoic acid (PFDoA)	-	0.60 U	0.47 U	0.52 U	0.34
Perfluoroheptanesulfonic acid (PFHpS)	-	0.60 U	0.47 U	0.52 U	2.0
N-EtFOSAA	-	0.60 U	0.47 U	0.52 U	0.33
N-MeFOSAA	-	0.60 U	0.47 U	0.52 U	0.85
Perfluorotetradecanoic acid (PFTA)	-	0.60 U	0.47 U	0.52 U	0.17
Perfluorotridecanoic acid (PFTTrDA)	-	0.60 U	0.47 U	0.52 U	ND
Perfluorodecanesulfonic acid (PFDS)	-	0.60 U	0.47 U	0.52 U	0.80
Perfluorooctanesulfonamide (FOSA)	-	0.60 U	0.47 U	0.52 U	2.2
Perfluorononanesulfonic acid (PFNS)	-	0.60 U	0.47 U	0.52 U	1.3
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.60 U	0.47 U	0.52 U	6.1
Perfluoro-1-butanesulfonamide (FBSA)	-	0.60 U	0.47 U	0.52 U	0.60
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.60 U	0.47 U	0.52 U	0.53
Perfluoropentanesulfonic acid (PFPeS)	-	0.60 U	0.47 U	0.52 U	0.58
Perfluoroundecanoic acid (PFUnA)	-	0.60 U	0.47 U	0.52 U	0.43
Perfluoroheptanoic acid (PFHpA)	0.5	0.17	0.47 U	0.52 U	0.56
Perfluorooctanoic acid (PFOA)	0.72	0.76	0.47 U	0.46	2.9
Perfluorooctanesulfonic acid (PFOS)	2	0.90	1.1	5.7	170
Perfluorononanoic acid (PFNA)	0.32	0.13	0.47 U	0.22	0.33
Perfluorodecanoic acid (PFDA)	0.3	0.60 U	0.47 U	0.17	0.66
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.17	0.47 U	0.16	11
Sum of Maximum Detected Concentrations					208.8
Sum of Mass-DEP Regulated Maximum Detected Concentrations					185.5

Shaded values above Method 1 S-1/GW-1 standard.

- µg/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.
- NR Not recorded.

Excluded - Not detected site-wide

Parameter	MCP Method 1 S-1/GW-1	30MTN S-16	Soil Pile-1	Soil Pile-2
Sampling Date		10/28/2021	10/29/2021	10/29/2021
Sample Depth (inches)		NR	Composite	Composite
Units	µg/kg	µg/kg	µg/kg	µg/kg
11Cl-PF3OUdS (F53B Minor)	-	0.60 U	0.47 U	0.52 U
9Cl-PF3ONS (F53B Major)	-	0.60 U	0.47 U	0.52 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.60 U	0.47 U	0.52 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.60 U	0.47 U	0.52 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.60 U	0.47 U	0.52 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	-	0.60 U	0.47 U	0.52 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.60 U	0.47 U	0.52 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.60 U	0.47 U	0.52 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.60 U	0.47 U	0.52 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	-	0.60 U	0.47 U	0.52 U

TABLE 1F
Summary of Soil Analytical Data
54 Mountain Road, Princeton, Massachusetts

Parameter	MCP Method 1 S-1/GW-1	54MTN S-1	54MTN S-2	54MTN S-3	54MTN S-4	54MTN S-4	54MTN S-5	54MTN S-5A	54MTN S-6
		8/24/2021	8/24/2021	8/24/2021	8/24/2021	8/24/2021	8/24/2021	10/28/2021	8/24/2021
Sample Depth (inches)		0-6"	0-6"	0-6"	0-6"	0-6" DUP	0-6"	0-12"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.18 J	1.0 U	0.48 U	0.10 J	0.11 J	0.14 J	0.48 U	0.18 J
Perfluorobutanesulfonic acid (PFBS)	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.58 U	0.31 U	0.53 U
Perfluoropentanoic acid (PFPeA)	-	0.21 J	1.0 U	0.48 U	0.55 U	--	0.13 J	0.12	0.26 J
Perfluorohexanoic acid (PFHxA)	-	0.18 J	1.0 U	0.48 U	0.55 U	0.57 U	0.12 J	0.15	0.15 J
Perfluorododecanoic acid (PFDoA)	-	0.096 J	1.0 U	0.48 U	0.14 J	0.20 J	0.29 J	0.48 U	0.50 J
Perfluoroheptanesulfonic acid (PFHpS)	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
N-EtFOSAA	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
N-MeFOSAA	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
Perfluorotetradecanoic acid (PFTA)	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.25 J
Perfluorotridecanoic acid (PFTrDA)	-	0.57 U	1.0 U	0.48 U	0.19 J	0.27 J	0.16 J	0.48 U	0.13 J
Perfluorodecanesulfonic acid (PFDS)	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.24 J	0.48 U	0.65
Perfluorooctanesulfonamide (FOSA)	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
Perfluorononanesulfonic acid (PFNS)	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
Perfluoro-1-butanedisulfonamide (FBBSA)	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
Perfluoropentanesulfonic acid (PFPeS)	-	0.57 U	1.0 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
Perfluoroundecanoic acid (PFUnA)	-	0.14 J	0.22 J	0.48 U	0.38 J	0.41 J	0.29 J	0.48 U	0.27 J
Perfluoroheptanoic acid (PFHpA)	0.5	0.3 J	0.15 U	0.073 J	0.08 U	0.08 U	0.18 J	0.11	0.17 J
Perfluorooctanoic acid (PFOA)	0.72	0.86	0.29 U	0.28 J	0.16 J	0.57 U	0.51 J	0.23	0.54
Perfluorooctanesulfonic acid (PFOS)	2	1.1	0.73 J	0.33 J	3.1	3.2	4.9	0.71	2.2
Perfluorononanoic acid (PFNA)	0.32	0.24 J	0.17 U	0.17	0.20 J	0.19 J	0.40 J	0.48 U	0.36 J
Perfluorodecanoic acid (PFDA)	0.3	0.20 J	0.18 J	0.06 U	0.51 J	0.56 J	0.50 J	0.083	1.1
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.09 U	0.16 U	0.07 U	0.09 U	0.09 U	0.09 U	0.48 U	0.08 U
Sum of Maximum Detected Concentration									
Sum of Mass-DEP Regulated Maximum Detected Concentrations									

Shaded values above Method 1 S-1/GW-1 standard.

- µg/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.
- NR Not recorded.

Excluded - Not detected site-wide

Parameter	MCP Method 1 S-1/GW-1	54MTN S-1	54MTN S-2	54MTN S-3	54MTN S-4	54MTN S-4	54MTN S-5	54MTN S-5A	54MTN S-6
		8/24/2021	8/24/2021	8/24/2021	8/24/2021	8/24/2021	8/24/2021	10/28/2021	8/24/2021
Sample Depth (inches)		0-6"	0-6"	0-6"	0-6"	0-6" DUP	0-6"	0-12"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11CI-PF3OUdS (F53B Minor)	-	0.57 U	1 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
9CI-PF3ONS (F53B Major)	-	0.57 U	1 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.57 U	1 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.57 U	1 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.57 U	1 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	-	0.57 U	1 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.57 U	1 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.57 U	1 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.57 U	1 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	-	0.57 U	1 U	0.48 U	0.55 U	0.57 U	0.58 U	0.48 U	0.53 U

TABLE 1F
Summary of Soil Analytical Data
 54 Mountain Road, Princeton, Massachusetts

Parameter	MCP Method 1 S-1/GW-1	54MTN S-6	54MTN S-7	54MTN S-7	54MTN S-7	54MTN S-8	54MTN S-9	54MTN S-9	54MTN S-10
		10/28/2021	8/24/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021
Sample Depth (inches)		6-12"	0-6"	6-12"	12-24"	0-12"	0-12"	12-24"	0-12"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.31	0.069 J	0.52 U	0.45 U	0.16	0.48 U	0.52 U	0.43 U
Perfluorobutanesulfonic acid (PFBS)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluoropentanoic acid (PFPeA)	-	0.57	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluorohexanoic acid (PFHxA)	-	0.42	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluorododecanoic acid (PFDoA)	-	0.55 U	0.12 J	0.52 U	0.45 U	0.094	0.48 U	0.52 U	0.43 U
Perfluoroheptanesulfonic acid (PFHpS)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
N-EtFOSAA	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
N-MeFOSAA	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluorotetradecanoic acid (PFTA)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluorotridecanoic acid (PFTrDA)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluorodecanesulfonic acid (PFDS)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluorooctanesulfonamide (FOSA)	-	0.21	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluorononanesulfonic acid (PFNS)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluoro-1-butanedisulfonamide (FBxSA)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.29	0.51 U	0.22	0.45 U	0.46 U	0.18	0.52 U	0.43 U
Perfluoropentanesulfonic acid (PFPeS)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluoroundecanoic acid (PFUnA)	-	0.55 U	0.15 J	0.52 U	0.45 U	0.19	0.48 U	0.52 U	0.43 U
Perfluoroheptanoic acid (PFHpA)	0.5	0.69	0.07 U	0.52 U	0.45 U	0.46 U	0.13	0.093	0.12
Perfluorooctanoic acid (PFOA)	0.72	1.3	0.18 J	0.52 U	0.45 U	0.43	0.47	0.39	0.43
Perfluorooctanesulfonic acid (PFOS)	2	13	1.1	0.11	0.45 U	0.64	1.2	0.29	0.78
Perfluorononanoic acid (PFNA)	0.32	0.55	0.088 J	0.52 U	0.45 U	0.18	0.13	0.52 U	0.27
Perfluorodecanoic acid (PFDA)	0.3	1.5	0.29 J	0.52 U	0.45 U	0.20	0.12	0.52 U	0.089
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.15	0.08 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Sum of Maximum Detected Concentration									
Sum of Mass-DEP Regulated Maximum Detected Concentrations									

Shaded values above Method 1 S-1/GW-1 standard.

- µg/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.
- NR Not recorded.

Excluded - Not detected site-wide

Parameter	MCP Method 1 S-1/GW-1	54MTN S-6	54MTN S-7	54MTN S-7	54MTN S-7	54MTN S-8	54MTN S-9	54MTN S-9	54MTN S-10
		10/28/2021	8/24/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021
Sample Depth (inches)		6-12"	0-6"	6-12"	12-24"	0-12"	0-12"	12-24"	0-12"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11Cl-PF3OUdS (F53B Minor)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
9Cl-PF3ONS (F53B Major)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	-	0.55 U	0.51 U	0.52 U	0.45 U	0.46 U	0.48 U	0.52 U	0.43 U

TABLE 1F
Summary of Soil Analytical Data
 54 Mountain Road, Princeton, Massachusetts

Parameter	MCP Method 1 S-1/GW-1	54MTN S-10	54MTN S-11	54MTN S-11	54MTN S-12	54MTN S-13	54MTN S-13	54MTN S-14	Maximum Detected Concentration
		10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	
Sample Depth (inches)		12-24"	0-12"	12-24"	0-12"	0-12"	12-24"	0-6"	
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Perfluorobutanoic acid (PFBA)	-	0.47	0.064	0.45 U	0.48 U	0.19	0.21	0.38	0.47
Perfluorobutanesulfonic acid (PFBS)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.11	0.59 U	0.31
Perfluoropentanoic acid (PFPeA)	-	0.76	0.43 U	0.45 U	0.48 U	0.22	0.25	0.20	0.76
Perfluorohexanoic acid (PFHxA)	-	0.99	0.43 U	0.45 U	0.48 U	0.11	0.18	0.29	0.99
Perfluorododecanoic acid (PFDoA)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.13	0.47 U	0.59 U	0.5
Perfluoroheptanesulfonic acid (PFHpS)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	ND
N-EtFOSAA	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	ND
N-MeFOSAA	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	ND
Perfluorotetradecanoic acid (PFTA)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	0.25
Perfluorotridecanoic acid (PFTrDA)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	0.27
Perfluorodecanesulfonic acid (PFDS)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	0.65
Perfluorooctanesulfonamide (FOSA)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	0.21
Perfluorononanesulfonic acid (PFNS)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	ND
Perfluoro-1-butanedisulfonamide (FBBSA)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	-	0.50 U	0.43 U	0.16	0.48 U	0.49 U	0.47 U	0.22	0.29
Perfluoropentanesulfonic acid (PFPeS)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	ND
Perfluoroundecanoic acid (PFUnA)	-	0.50 U	0.43 U	0.45 U	0.48 U	0.15	0.47 U	0.59 U	0.41
Perfluoroheptanoic acid (PFHpA)	0.5	1.9	0.063	0.45 U	0.48 U	0.12	0.21	0.42	1.9
Perfluorooctanoic acid (PFOA)	0.72	5.0	0.17	0.45 U	0.34	0.34	0.65	1.8	5.0
Perfluorooctanesulfonic acid (PFOS)	2	2.1	0.17	0.45 U	0.19	2.4	2.4	1.0	13
Perfluorononanoic acid (PFNA)	0.32	0.68	0.43 U	0.45 U	0.48 U	0.17	0.37	0.30	0.68
Perfluorodecanoic acid (PFDA)	0.3	0.5 U	0.43 U	0.45 U	0.48 U	0.39	0.14	0.59 U	1.5
Perfluorohexanesulfonic acid (PFHxS)	0.3	0.5 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U	ND
Sum of Maximum Detected Concentration									27.2
Sum of Mass-DEP Regulated Maximum Detected Concentrations									22.1

Shaded values above Method 1 S-1/GW-1 standard.

- µg/kg Micrograms per kilogram.
- U Not detected at reporting limit shown.
- ND Not detected.
- R MassDEP-regulated PFAS compound.
- NR Not recorded.

Excluded - Not detected site-wide

Parameter	MCP Method 1 S-1/GW-1	54MTN S-10	54MTN S-11	54MTN S-11	54MTN S-12	54MTN S-13	54MTN S-13	54MTN S-14
		10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021	10/28/2021
Sample Depth (inches)		12-24"	0-12"	12-24"	0-12"	0-12"	12-24"	0-6"
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11Cl-PF3OUdS (F53B Minor)	-	0.5 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U
9Cl-PF3ONS (F53B Major)	-	0.5 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	-	0.5 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	0.5 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	-	0.5 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	-	0.5 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	-	0.5 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U
Perfluoro-4-oxapentanoic acid (PFMPA)	-	0.5 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U
Perfluoro-5-oxahexanoic acid (PFMBA)	-	0.5 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	-	0.5 U	0.43 U	0.45 U	0.48 U	0.49 U	0.47 U	0.59 U

TABLE 2
Summary of Exposure Factors
Residential Properties, Princeton, Massachusetts

PARAMETER	VALUE	REFERENCE
Soil exposure point concentration (C_{soil})	Constituent -specific	Soil exposure point concentrations (EPCs) are the sum of the maximum detected concentration of each regulated PFAS compound detected at a location.
Air exposure point concentration (C_{air})	Constituent-specific	Modeled from soil EPCs using screening level fate and transport models.
Soil ingestion rate (IR)	0.0001 kg/day (child resident) 0.00005 kg/day (youth/adult resident) 0.00005 kg/day (commercial/industrial worker) 0.0001 kg/day (construction/utility worker)	Recommended values (MassDEP 2014).
Relative soil absorption factor, oral (RAFo)	Constituent-specific	Recommended values (MassDEP 2014).
Exposed skin surface area, soil exposure (SA)	2,431 cm ² /day (child resident) 4,427 cm ² /day (youth resident) 5,653 cm ² /day (adult resident) 3,473 cm ² /day (all workers)	Recommended values (MassDEP 2014).
Soil-skin adherence factor (AF)	0.35 mg/cm ² (child resident) 0.14 mg/cm ² (youth resident) 0.13 mg/cm ² (adult resident) 0.03 mg/cm ² (commercial/industrial worker) 0.29 mg/cm ² (construction/utility worker)	Recommended values (MassDEP 2014).
Relative soil absorption factor, dermal (RAFd)	Constituent-specific	Recommended values (MassDEP 2014).
Inhalable particulate matter concentration in ambient air (PM ₁₀)	32 µg/m ³ (residents) 60 µg/m ³ (construction/utility workers)	Recommended values (MassDEP 2014).
Fraction of entrained inhaled soil particles retained in lungs (FI)	0.5	Recommended value (MassDEP 2007).
Fraction of inhaled soil particles that are ingested (FI)	1.5	Recommended value (MassDEP 2007).
Inhalation rate for construction workers (IH _W)	60 L/min	Recommended value (MassDEP 2007).

TABLE 2
Summary of Exposure Factors
Residential Properties, Princeton, Massachusetts

PARAMETER	VALUE	REFERENCE
Inhalation rate (baseline) (IHA)	20 m ³ /day	Recommended value (MassDEP 2007).
Relative inhalation absorption factor (RAFi)	1	No recommended value available, a value of 1 assumed.
Residential exposure frequency (EF)	150 events/year	Soil value applied in Method 1 S-1 standards (MassDEP 2014); assumed applicable to outdoor air exposure.
Residential exposure duration (ED)	1 day/event (soil exposure) 8 hours/event (outdoor air exposure)	Soil ED is conventional value (MassDEP 2014). Outdoor inhalation ED values are assumed.
Residential exposure period (EP)	7 years (child/youth) 16 years (adult)	Recommended values (MassDEP 2014).
Residential averaging period (AP)	7 years (child/youth) 16 years (adult)	Conventional averaging times (EP for non-carcinogens) (MassDEP 1995).
Construction/utility worker exposure frequency (EF)	130 events/year	Assumes that construction work takes place over a 6-month period, Monday through Friday weekly.
Construction/utility worker exposure duration (ED; t _{event})	1 day/event (soil exposure) 8 hours/event (outdoor air exposure)	Default ED for soil exposures (MassDEP 2014). Outdoor air ED corresponds to a typical workday duration (US EPA 1991).
Construction/utility worker exposure period (EP)	1 year	Assumes construction work in one construction season.
Construction/utility worker averaging period (AP)	0.5 year	Conventional averaging times (EP for non-carcinogen) (MassDEP 1995). EP for non-carcinogenic endpoint assumes construction season is six months.
Body weight (BW)	17 kg (children) 39.9 kg (youth) 58.7 kg (all adults)	Recommended values (MassDEP 2014).

MassDEP (2014) Method 1 Numerical Standards and supporting documentation (April).

MassDEP (2007) Characterization of Risks Due to Inhalation of Particulates by Construction Workers (revised).

MassDEP (2002d) Technical Update: Weighted Skin-Soil Adherence Factors (April).

MassDEP (1995) Guidance for Disposal Site Risk Characterization in Support of the Massachusetts Contingency Plan. Interim Final Policy (July).

US EPA (2004a) Risk Assessment Guidance for Superfund: Volume I: Human Health Evaluation Manual (Part E Supplemental Guidance for Dermal Risk Assessment). EPA/540/R/99/005 (January).

US EPA (1991) Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. OSWER Directive 9285.6-03 (March).

TABLE 3
Percent of PFAS-6 Concentrations to Total PFAS Concentrations
 Mountain Road Residences, Princeton, Massachusetts

Location	Total PFAS $\mu\text{g}/\text{kg}$	Regulated PFAS $\mu\text{g}/\text{kg}$	Percent of Regulated to Total
18 Mountain Rd	10.6	7.9	75%
19 Mountain Rd	5.3	3.7	70%
21 Mountain Rd	9.8	5.2	53%
22 Mountain Rd	48.2	36.8	76%
30 Mountain Rd	208.8	185.5	89%
54 Mountain Rd	27.2	22.1	81%
Average Percent of Regulated PFAS to Total PFAS			74%

$\mu\text{g}/\text{kg}$ Micrograms per kilogram.

APPENDIX A
Toxicity Profiles

Perfluoroalkyls - ToxFAQs™

What are perfluoroalkyls?

Perfluoroalkyls are a group of man-made chemicals that are not found naturally in the environment. Some chemicals that are in this group include: perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorononanoic acid (PFNA), perfluorohexane sulfonic acid (PFHxS), and perfluorodecanoic acid (PFDA).



The two perfluoroalkyls made in the largest amounts in the United States were PFOA and PFOS. Perfluoroalkyls were used to protect products like carpet and fabric, and as a coating for paper and cardboard packaging. They can also be found in some firefighting foams.

Where are perfluoroalkyls found in the environment?

Perfluoroalkyls can be found in air, soil, and water as a result of manufacture and use. They do not break down in the environment very easily. Perfluoroalkyls can seep through the soil into groundwater.

How can I be exposed to perfluoroalkyls?

You may be exposed to perfluoroalkyls in the air; in indoor dust, food, and water; and in some home products. However, the main sources of exposure to perfluoroalkyls, such as PFOA and PFOS, are usually from eating food and drinking water that are contaminated with these chemicals. Because exposure is widespread, blood tests can find PFOA, PFOS, PFNA, and PFHxS in most people. However, in general, human blood levels of these chemicals are going down as exposures in the environment goes down.

Babies born to mothers exposed to PFAS can be exposed during pregnancy and while breastfeeding. However, nursing mothers should continue to breastfeed. Based on current science, the benefits of breastfeeding appear to outweigh the risks for infants exposed to PFAS in breast milk. To weigh the risks and benefits of breastfeeding, mothers should contact their doctors. Children can be exposed to perfluoroalkyls in carpet since they are closer to the ground and play on the floor.

Exposure to perfluoroalkyls is widespread. The main sources in the environment is contaminated food and water.

Workers in facilities that make or use perfluoroalkyls can be exposed to higher amounts of these chemicals and may have higher levels in their blood. Some communities near factories that made PFOA and PFOS were exposed to high levels of these substances in drinking water.

How can perfluoroalkyls affect my health?

A large number of studies have examined possible relationships between levels of perfluoroalkyls in blood and harmful health effects in people. However, not all of these studies involved the same groups of people, the same type of exposure, or the same perfluoroalkyls, resulting in a variety of observed health outcomes. Research in humans suggests that high levels of certain perfluoroalkyls **may** lead to:

- increased cholesterol levels (PFOA, PFOS, PFNA, PFDA);
- changes in liver enzymes (PFOA, PFOS, PFHxS)
- decreased vaccine response in children (PFOA, PFOS, PFHxS, PFDA);
- increased risk of high blood pressure or pre-eclampsia in pregnant women (PFOA, PFOS);
- small decreases in infant birth weights (<20 grams (0.7 ounces) decrease in birth weight per 1 ng/mL increase in PFOA or PFOS in blood).

Perfluoroalkyls

One way to learn about whether perfluoroalkyls will harm people is to do studies on lab animals. Most of these studies have tested doses of PFOA and PFOS that are higher than levels found in the environment. These animal studies have found that PFOA and PFOS can cause damage to the liver and the immune system. PFOA and PFOS have also caused birth defects, delayed development, and newborn deaths in lab animals.

Humans and animals react differently to perfluoroalkyls, and not all effects observed in animals may occur in humans. Scientists have ways to estimate how the exposure and effects in animals compare to what they would be in humans. What they learn from this process helps them decide how to protect people from chemical exposures.

Can perfluoroalkyls cause cancer?

Studies do not clearly show whether perfluoroalkyls cause cancer in people. People exposed to high levels may have increased risk of kidney cancer or testicular cancer. However, these studies are not consistent and may not have looked at other factors like smoking.

Studies in animals have shown that PFOA and PFOS can cause cancer in the liver, testes, pancreas, and thyroid. However, some scientists believe that humans may not develop the same cancers as animals.

The Environmental Protection Agency (EPA) has classified PFOA and PFOS as having suggestive evidence of carcinogenic potential in humans. The International Agency for Research on Cancer has classified PFOA as possibly carcinogenic (causing cancer) to humans, but it has not evaluated whether other perfluoroalkyls may also cause cancer. The Department of Health and Human Services has not yet evaluated whether PFOA and other perfluoroalkyls can cause cancer.

Can I get a medical test to check for perfluoroalkyls?

A blood test can measure perfluoroalkyls in your blood, but this is not a test routinely done in a doctor's office. If you have perfluoroalkyls in your blood, you have been exposed to these chemicals and absorbed them into your body at some time. Most people have some level of perfluoroalkyls in their blood. The blood test can't predict if you will have health problems from exposure to perfluoroalkyls.

How can I protect myself and my family from perfluoroalkyls?

If you do not know about perfluoroalkyls levels in your water, ask your local health department. Do not use consumer products that contain perfluoroalkyls. Drink or cook with bottled water or install activated carbon water filters if your tap or well water contains perfluoroalkyls.

For more information:



Call **CDC-INFO** at 1-800-232-4636, or submit your question online at <https://wwwn.cdc.gov/dcs/ContactUs/Form>

Go to ATSDR's Toxicological Profile for perfluoroalkyls: <https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=1117&tid=237>

Go to ATSDR's Toxic Substances Portal: <https://wwwn.cdc.gov/TSP/index.aspx>

Find & contact your ATSDR Regional Representative at http://www.atsdr.cdc.gov/DRO/dro_org.html

APPENDIX B

Risk Characterization Calculations Residents

APPENDIX B-1
Risk Characterization
Residents
18 Mountain Road, Princeton, Massachusetts
Summary

Exposure Pathway	Non-Carcinogenic Hazard Index		
	Child	Youth	Adult
Soil ingestion	0.0006	0.0003	0.0003
Soil Dermal Contact	0.003	0.001	0.0008
Inhalation of Entrained Soil Particles	0.000002	0.000002	0.000002
Total	0.004	0.001	0.001
Maximum Acceptable Limit	1		

Exposure point concentration is the sum of the maximum detected concentration of each MassDEP-regulated PFAS compound.
There are no carcinogenic COCs.

**APPENDIX B-1
Risk Characterization
Residents**

18 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0079	0.0001	1	1	150	7	2.74E-03	17	7	2.78E-09	5.00E-06	0.0006
Total									HI =			0.0006

Youth

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0079	0.00005	1	1	150	7	2.74E-03	39.9	7	1.39E-09	5.00E-06	0.0003
Total									HI =			0.0003

Adult

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0079	0.00005	1	1	150	16	2.74E-03	58.7	16	1.39E-09	5.00E-06	0.0003
Total									HI =			0.0003

**APPENDIX B-1
Risk Characterization
Residents**

18 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- SA = Exposed skin surface area (cm²/day)
- AF = Soil adherence factor (kg/cm²)
- RAF_d = Dermal Relative Absorption Factor (unitless)
- ED = Exposure duration (day/event)
- EF = Exposure frequency (events/yr)
- EP = Exposure period (yr)
- CF = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)

$$HQ = \frac{ADD(nc)}{RfDs}$$

$$HI = \text{Sum [HQ]}$$

- HQ = Non-carcinogenic Hazard Quotient (unitless)
- HI = Total Hazard Index (unitless)
- RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0079	2,431	3.50E-07	0.1	1	150	7	2.74E-03	17	7	1.63E-08	5.00E-06	0.003
Total										HI =			0.003

Youth

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0079	4,427	1.40E-07	0.1	1	150	7	2.74E-03	39.9	7	5.05E-09	5.00E-06	0.001
Total										HI =			0.001

Adults

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0079	5,653	1.30E-07	0.1	1	150	16	2.74E-03	58.7	16	4.07E-09	5.00E-06	0.001
Total										HI =			0.001

**APPENDIX B-1
Risk Characterization
Residents**

18 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$C_{air} = C_{soil} \times PM_{10} \times CF$$

$$ADE = C_{air} \times ED \times EF \times EP \times CF / AP$$

$$HQ = ADE \text{ (nc)} / RfCs$$

$$HI = \text{Sum [HQ]}$$

- C_{air} = Constituent concentration in ambient air (mg/m³)
 C_{soil} = Constituent concentration in soil (mg/kg)
 PM_{10} = Particulate matter concentration in air (<= 10 microns) (ug/m³)
 CF = Unit conversion factor (kg/ug)
 ADE = Average daily exposure (mg/m³) (nc = non-carcinogen)
 EF = Exposure frequency (events/yr)
 ED = Exposure duration (hr/event)
 EP = Exposure period (yr)
 CF = Unit conversion factor (yr/hr)
 AP = Averaging period (yr)

- HQ = Non-carcinogenic hazard quotient (unitless)
 HI = Total hazard index (unitless)
 $RfCs$ = Subchronic Reference concentration (mg/m³)

No carcinogens in this pathway.

Child

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0079	32	1.00E-09	2.53E-10	8	150	7	1.14E-04	7	3.47E-11	2.00E-05	0.000002
Total									HI =			0.000002

Youth

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0079	32	1.00E-09	2.53E-10	8	150	7	1.14E-04	7	3.47E-11	2.00E-05	0.000002
Total									HI =			0.000002

Adults

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0079	32	1.00E-09	2.53E-10	8	150	16	1.14E-04	16	3.47E-11	2.00E-05	0.000002
Total									HI =			0.000002

APPENDIX B-1
Risk Characterization
Residents
18 Mountain Road, Princeton, Massachusetts
Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	0.72
Perfluorobutanesulfonic acid (PFBS)	ND
Perfluoropentanoic acid (PFPeA)	0.48
Perfluorohexanoic acid (PFHxA)	0.32
Perfluorododecanoic acid (PFDoA)	0.35
Perfluoroheptanesulfonic acid (PFHpS)	ND
N-EtFOSAA	ND
N-MeFOSAA	ND
Perfluorotetradecanoic acid (PFTA)	0.22
Perfluorotridecanoic acid (PFTrDA)	0.2
Perfluorodecanesulfonic acid (PFDS)	ND
Perfluorooctanesulfonamide (FOSA)	ND
Perfluorononanesulfonic acid (PFNS)	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	ND
Perfluoro-1-butanesulfonamide (FBSA)	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND
Perfluoropetanesulfonic acid (PFPeS)	ND
Perfluoroundecanoic acid (PFUnA)	0.4
Perfluoroheptanoic acid (PFHpA) -R	0.44
Perfluorooctanoic acid (PFOA) - R	2.4
Perfluorooctanesulfonic acid (PFOS) - R	4
Perfluorononanoic acid (PFNA) - R	0.67
Perfluorodecanoic acid (PFDA) - R	0.4
Perfluorohexanesulfonic acid (PFHxS) -R	ND
Sum of Maximum Detected Concentration	10.6
Sum of MassDEP-Regulated PFAS-6	7.9

R - MassDEP regulated PFAS compound.

**APPENDIX B-1
Risk Characterization
Residents**

18 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose	Subchronic Oral Reference Dose	Chronic Inhalation Reference Concentration	Subchronic Inhalation Reference Concentration	Oral Cancer Slope Factor	Inhalation Unit Risk	Soil Relative Absorption Factors (RAF) ^[2,3]	
		(RfD)	(RfDs)	(RfC)	(RfCs)	(OSF)	(IUR)	(unitless)	
		(mg/kg-dy)	(mg/kg-dy)	(mg/m ³)	(mg/m ³)	[(mg/kg-dy) ⁻¹]	[(mg/m ³) ⁻¹]	Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 ^[2]	5.00E-06 ^[2]	2.00E-05 ^[2]	2.00E-05 ^[2]	-	-	1	0.1

- " -- " No information available or not applicable.
 mg/kg-dy Milligrams per kilogram of body weight per day.
 mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

APPENDIX B-2
Risk Characterization
Residents
19 Mountain Road, Princeton, Massachusetts

Summary

Exposure Pathway	Non-Carcinogenic Hazard Index		
	Child	Youth	Adult
Soil ingestion	0.0003	0.0001	0.0001
Soil Dermal Contact	0.002	0.0005	0.0004
Inhalation of Entrained Soil Particles	0.0000008	0.0000008	0.0000008
Total	0.002	0.0006	0.0005
Maximum Acceptable Limit	1		

Exposure point concentration is the sum of the maximum detected concentrations of each MassDEP-regulated PFAS compound.
There are no carcinogenic COCs.

**APPENDIX B-2
Risk Characterization
Residents**

19 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0037	0.0001	1	1	150	7	2.74E-03	17	7	1.30E-09	5.00E-06	0.0003
Total									HI =			0.0003

Youth

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0037	0.00005	1	1	150	7	2.74E-03	39.9	7	6.50E-10	5.00E-06	0.0001
Total									HI =			0.0001

Adult

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0037	0.00005	1	1	150	16	2.74E-03	58.7	16	6.50E-10	5.00E-06	0.0001
Total									HI =			0.0001

**APPENDIX B-2
Risk Characterization
Residents**

19 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- SA = Exposed skin surface area (cm²/day)
- AF = Soil adherence factor (kg/cm²)
- RAFd = Dermal Relative Absorption Factor (unitless)
- ED = Exposure duration (day/event)
- EF = Exposure frequency (events/yr)
- EP = Exposure period (yr)
- CF = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)

$$HQ = ADD(nc)/RfDs$$

$$HI = \text{Sum [HQ]}$$

- HQ = Non-carcinogenic Hazard Quotient (unitless)
- HI = Total Hazard Index (unitless)
- RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAFd (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00370	2,431	3.50E-07	0.1	1	150	7	2.74E-03	17	7	7.61E-09	5.00E-06	0.002
Total										HI =			0.002

Youth

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAFd (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00370	4,427	1.40E-07	0.1	1	150	7	2.74E-03	39.9	7	2.36E-09	5.00E-06	0.0005
Total										HI =			0.0005

Adults

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAFd (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00370	5,653	1.30E-07	0.1	1	150	16	2.74E-03	58.7	16	1.90E-09	5.00E-06	0.0004
Total										HI =			0.0004

**APPENDIX B-2
Risk Characterization
Residents**

19 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$C_{air} = C_{soil} \times PM_{10} \times CF$$

$$ADE = C_{air} \times ED \times EF \times EP \times CF / AP$$

$$HQ = ADE \text{ (nc)} / RfCs$$

$$HI = \text{Sum [HQ]}$$

- C_{air} = Constituent concentration in ambient air (mg/m³)
 C_{soil} = Constituent concentration in soil (mg/kg)
 PM_{10} = Particulate matter concentration in air (<= 10 microns) (ug/m³)
 CF = Unit conversion factor (kg/ug)
 ADE = Average daily exposure (mg/m³) (nc = non-carcinogen)
 EF = Exposure frequency (events/yr)
 ED = Exposure duration (hr/event)
 EP = Exposure period (yr)
 CF = Unit conversion factor (yr/hr)
 AP = Averaging period (yr)

- HQ = Non-carcinogenic hazard quotient (unitless)
 HI = Total hazard index (unitless)
 $RfCs$ = Subchronic Reference concentration (mg/m³)

No carcinogens in this pathway.

Child

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.00370	32	1.00E-09	1.18E-10	8	150	7	1.14E-04	7	1.62E-11	2.00E-05	0.0000008
Total									HI =			0.0000008

Youth

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.00370	32	1.00E-09	1.18E-10	8	150	7	1.14E-04	7	1.62E-11	2.00E-05	0.0000008
Total									HI =			0.0000008

Adults

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.00370	32	1.00E-09	1.18E-10	8	150	16	1.14E-04	16	1.62E-11	2.00E-05	0.0000008
Total									HI =			0.0000008

APPENDIX B-2
Risk Characterization
Residents
19 Mountain Road, Princeton, Massachusetts

Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	0.3
Perfluorobutanesulfonic acid (PFBS)	ND
Perfluoropentanoic acid (PFPeA)	0.28
Perfluorohexanoic acid (PFHxA)	0.14
Perfluorododecanoic acid (PFDoA)	0.26
Perfluoroheptanesulfonic acid (PFHpS)	ND
N-EtFOSAA	0.22
N-MeFOSAA	ND
Perfluorotetradecanoic acid (PFTA)	ND
Perfluorotridecanoic acid (PFTrDA)	0.13
Perfluorodecanesulfonic acid (PFDS)	ND
Perfluorooctanesulfonamide (FOSA)	ND
Perfluorononanesulfonic acid (PFNS)	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	ND
Perfluoro-1-butanesulfonamide (FBSA)	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND
Perfluoropentanesulfonic acid (PFPeS)	ND
Perfluoroundecanoic acid (PFUnA)	0.28
Perfluoroheptanoic acid (PFHpA) -R	0.2
Perfluorooctanoic acid (PFOA) - R	0.59
Perfluorooctanesulfonic acid (PFOS) - R	2.2
Perfluorononanoic acid (PFNA) - R	0.37
Perfluorodecanoic acid (PFDA) - R	0.34
Perfluorohexanesulfonic acid (PFHxS) -R	ND
Sum of Maximum Detected Concentration	5.31
Sum of MassDEP-Regulated PFAS Concentrations	3.70

R - MassDEP regulated PFAS compound.

**APPENDIX B-2
Risk Characterization
Residents**

19 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose	Subchronic Oral Reference Dose	Chronic Inhalation Reference Concentration	Subchronic Inhalation Reference Concentration	Oral Cancer Slope Factor	Inhalation Unit Risk	Soil Relative Absorption Factors (RAF) ^[2,3]	
		(RfD)	(RfDs)	(RfC)	(RfCs)	(OSF)	(IUR)	(unitless)	
		(mg/kg-dy)	(mg/kg-dy)	(mg/m ³)	(mg/m ³)	[(mg/kg-dy) ⁻¹]	[(mg/m ³) ⁻¹]	Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 [2]	5.00E-06 [2]	2.00E-05 [2]	2.00E-05 [2]	-	-	1	0.1

- " -- " No information available or not applicable.
 mg/kg-dy Milligrams per kilogram of body weight per day.
 mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

APPENDIX B-3
Risk Characterization
Residents
 21 Mountain Road, Princeton, Massachusetts
Summary

Exposure Pathway	Non-Carcinogenic Hazard Index		
	Child	Youth	Adult
Soil ingestion	0.0004	0.0002	0.00007
Soil Dermal Contact	0.002	0.0007	0.0005
Inhalation of Entrained Soil Particles	0.000001	0.000001	0.000001
Total	0.002	0.0008	0.0006
Maximum Acceptable Limit	1		

Exposure point concentration is the sum of the maximum detected concentration of MassDEP-regulated PFAS compounds.
 There are no carcinogenic COCs.

**APPENDIX B-3
Risk Characterization
Residents**

21 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0052	0.0001	1	1	150	7	2.74E-03	17	7	1.82E-09	5.00E-06	0.0004
Total												HI = 0.0004

Youth

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0052	0.00005	1	1	150	7	2.74E-03	39.9	7	9.08E-10	5.00E-06	0.0002
Total												HI = 0.0002

Adult

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0020	0.00005	1	1	150	16	2.74E-03	58.7	16	3.51E-10	5.00E-06	0.00007
Total												HI = 0.00007

**APPENDIX B-3
Risk Characterization
Residents**

21 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- SA = Exposed skin surface area (cm²/day)
- AF = Soil adherence factor (kg/cm²)
- RAF_d = Dermal Relative Absorption Factor (unitless)
- ED = Exposure duration (day/event)
- EF = Exposure frequency (events/yr)
- EP = Exposure period (yr)
- CF = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)

$$HQ = \frac{ADD(nc)}{RfDs}$$

$$HI = \text{Sum [HQ]}$$

- HQ = Non-carcinogenic Hazard Quotient (unitless)
- HI = Total Hazard Index (unitless)
- RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0052	2,431	3.50E-07	0.1	1	150	7	2.74E-03	17	7	1.06E-08	5.00E-06	0.002
Total										HI =			0.002

Youth

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0052	4,427	1.40E-07	0.1	1	150	7	2.74E-03	39.9	7	3.30E-09	5.00E-06	0.0007
Total										HI =			0.0007

Adults

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0052	5,653	1.30E-07	0.1	1	150	16	2.74E-03	58.7	16	2.66E-09	5.00E-06	0.0005
Total										HI =			0.0005

**APPENDIX B-3
Risk Characterization
Residents**

21 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$C_{\text{air}} = C_{\text{soil}} \times PM_{10} \times CF$$

$$ADE = C_{\text{air}} \times ED \times EF \times EP \times CF / AP$$

$$HQ = ADE \text{ (nc) / RfCs}$$

$$HI = \text{Sum [HQ]}$$

- C_{air} = Constituent concentration in ambient air (mg/m³)
 C_{soil} = Constituent concentration in soil (mg/kg)
 PM_{10} = Particulate matter concentration in air (<= 10 microns) (ug/m³)
 CF = Unit conversion factor (kg/ug)
 ADE = Average daily exposure (mg/m³) (nc = non-carcinogen)
 EF = Exposure frequency (events/yr)
 ED = Exposure duration (hr/event)
 EP = Exposure period (yr)
 CF = Unit conversion factor (yr/hr)
 AP = Averaging period (yr)

- HQ = Non-carcinogenic hazard quotient (unitless)
 HI = Total hazard index (unitless)
 $RfCs$ = Subchronic Reference concentration (mg/m³)

No carcinogens in this pathway.

Child

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0052	32	1.00E-09	1.65E-10	8	150	7	1.14E-04	7	2.27E-11	2.00E-05	0.000001
Total									HI =			0.000001

Youth

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0052	32	1.00E-09	1.65E-10	8	150	7	1.14E-04	7	2.27E-11	2.00E-05	0.000001
Total									HI =			0.000001

Adults

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0052	32	1.00E-09	1.65E-10	8	150	16	1.14E-04	16	2.27E-11	2.00E-05	0.000001
Total									HI =			0.000001

APPENDIX B-3
Risk Characterization
Residents
21 Mountain Road, Princeton, Massachusetts
Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	0.63
Perfluorobutanesulfonic acid (PFBS)	ND
Perfluoropentanoic acid (PFPeA)	1.6
Perfluorohexanoic acid (PFHxA)	1.2
Perfluorododecanoic acid (PFDoA)	ND
Perfluoroheptanesulfonic acid (PFHpS)	ND
N-EtFOSAA	ND
N-MeFOSAA	ND
Perfluorotetradecanoic acid (PFTA)	ND
Perfluorotridecanoic acid (PFTrDA)	ND
Perfluorodecanesulfonic acid (PFDS)	ND
Perfluorooctanesulfonamide (FOSA)	ND
Perfluorononanesulfonic acid (PFNS)	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	ND
Perfluoro-1-butanesulfonamide (FBSA)	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	1.0
Perfluoropetanesulfonic acid (PFPeS)	ND
Perfluoroundecanoic acid (PFUnA)	0.15
Perfluoroheptanoic acid (PFHpA) -R	0.27
Perfluorooctanoic acid (PFOA) - R	0.91
Perfluorooctanesulfonic acid (PFOS) - R	2.5
Perfluorononanoic acid (PFNA) - R	0.46
Perfluorodecanoic acid (PFDA) - R	0.25
Perfluorohexanesulfonic acid (PFHxS) -R	0.78
Sum of Maximum Detected Concentration	9.75
Sum of Maximum \MassDEP-Regulated PFAS Concentration	5.2

R - MassDEP regulated PFAS compound.

**APPENDIX B-3
Risk Characterization
Residents**

21 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose	Subchronic Oral Reference Dose	Chronic Inhalation Reference Concentration	Subchronic Inhalation Reference Concentration	Oral Cancer Slope Factor	Inhalation Unit Risk	Soil Relative Absorption Factors (RAF) ^[2,3]	
		(RfD)	(RfDs)	(RfC)	(RfCs)	(OSF)	(IUR)	(unitless)	
		(mg/kg-dy)	(mg/kg-dy)	(mg/m ³)	(mg/m ³)	[(mg/kg-dy) ⁻¹]	[(mg/m ³) ⁻¹]	Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 ^[2]	5.00E-06 ^[2]	2.00E-05 ^[2]	2.00E-05 ^[2]	-	-	1	0.1

- " -- " No information available or not applicable.
 mg/kg-dy Milligrams per kilogram of body weight per day.
 mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

APPENDIX B-4
Risk Characterization
Residents
22 Mountain Road, Princeton, Massachusetts
Summary

Exposure Pathway	Non-Carcinogenic Hazard Index		
	Child	Youth	Adult
Soil ingestion	0.003	0.001	0.001
Soil Dermal Contact	0.02	0.005	0.004
Inhalation of Entrained Soil Particles	0.000008	0.000008	0.000008
Total	0.02	0.006	0.005
Maximum Acceptable Limit	1		

Exposure point concentration is the sum of the maximum detected concentration of each MassDEP-Regulated PFAS.
There are no carcinogenic COCs.

**APPENDIX B-4
Risk Characterization
Residents**

22 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0368	0.0001	1	1	150	7	2.74E-03	17	7	1.29E-08	5.00E-06	0.003
Total										HI =		0.003

Youth

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0368	0.00005	1	1	150	7	2.74E-03	39.9	7	6.47E-09	5.00E-06	0.001
Total										HI =		0.001

Adult

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0368	0.00005	1	1	150	16	2.74E-03	58.7	16	6.47E-09	5.00E-06	0.001
Total										HI =		0.001

**APPENDIX B-4
Risk Characterization
Residents**

22 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- SA = Exposed skin surface area (cm²/day)
- AF = Soil adherence factor (kg/cm²)
- RAF_d = Dermal Relative Absorption Factor (unitless)
- ED = Exposure duration (day/event)
- EF = Exposure frequency (events/yr)
- EP = Exposure period (yr)
- CF = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)

$$HQ = \frac{ADD(nc)}{RfDs}$$

$$HI = \text{Sum [HQ]}$$

- HQ = Non-carcinogenic Hazard Quotient (unitless)
- HI = Total Hazard Index (unitless)
- RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0368	2,431	3.50E-07	0.1	1	150	7	2.74E-03	17	7	7.58E-08	5.00E-06	0.02
Total										HI =			0.02

Youth

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0368	4,427	1.40E-07	0.1	1	150	7	2.74E-03	39.9	7	2.35E-08	5.00E-06	0.005
Total										HI =			0.005

Adults

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0368	5,653	1.30E-07	0.1	1	150	16	2.74E-03	58.7	16	1.89E-08	5.00E-06	0.004
Total										HI =			0.004

**APPENDIX B-4
Risk Characterization
Residents**

22 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$C_{air} = C_{soil} \times PM_{10} \times CF$$

$$ADE = C_{air} \times ED \times EF \times EP \times CF / AP$$

$$HQ = ADE \text{ (nc) / RfCs}$$

$$HI = \text{Sum [HQ]}$$

- C_{air} = Constituent concentration in ambient air (mg/m³)
 C_{soil} = Constituent concentration in soil (mg/kg)
 PM_{10} = Particulate matter concentration in air (<= 10 microns) (ug/m³)
 CF = Unit conversion factor (kg/ug)
 ADE = Average daily exposure (mg/m³) (nc = non-carcinogen)
 EF = Exposure frequency (events/yr)
 ED = Exposure duration (hr/event)
 EP = Exposure period (yr)
 CF = Unit conversion factor (yr/hr)
 AP = Averaging period (yr)

- HQ = Non-carcinogenic hazard quotient (unitless)
 HI = Total hazard index (unitless)
 $RfCs$ = Subchronic Reference concentration (mg/m³)

No carcinogens in this pathway.

Child

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0368	32	1.00E-09	1.18E-09	8	150	7	1.14E-04	7	1.61E-10	2.00E-05	0.000008
Total									HI =			0.000008

Youth

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0368	32	1.00E-09	1.18E-09	8	150	7	1.14E-04	7	1.61E-10	2.00E-05	0.000008
Total									HI =			0.000008

Adults

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0368	32	1.00E-09	1.18E-09	8	150	16	1.14E-04	16	1.61E-10	2.00E-05	0.000008
Total									HI =			0.000008

APPENDIX B-4
Risk Characterization
Residents
22 Mountain Road, Princeton, Massachusetts
Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	1.4
Perfluorobutanesulfonic acid (PFBS)	0.66
Perfluoropentanoic acid (PFPeA)	0.97
Perfluorohexanoic acid (PFHxA)	3.4
Perfluorododecanoic acid (PFDoA)	0.13
Perfluoroheptanesulfonic acid (PFHpS)	1.3
N-EtFOSAA	0.29
N-MeFOSAA	ND
Perfluorotetradecanoic acid (PFTA)	ND
Perfluorotridecanoic acid (PFTTrDA)	ND
Perfluorodecanesulfonic acid (PFDS)	0.35
Perfluorooctanesulfonamide (FOSA)	ND
Perfluorononanesulfonic acid (PFNS)	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	0.76
Perfluoro-1-butanesulfonamide (FBSA)	0.24
6:2 Fluorotelomersulfonic acid (6:2FTS A)	0.72
Perfluoropetanesulfonic acid (PFPeS)	0.82
Perfluoroundecanoic acid (PFUnA)	0.3
Perfluoroheptanoic acid (PFHpA) -R	0.92
Perfluorooctanoic acid (PFOA) - R	3.5
Perfluorooctanesulfonic acid (PFOS) - R	17
Perfluorononanoic acid (PFNA) - R	1.1
Perfluorodecanoic acid (PFDA) - R	0.31
Perfluorohexanesulfonic acid (PFHxS) -R	14
Sum of Maximum Detected Concentration	48.2
Sum of Maximum Concentration of MassDEP-Regulated PFAS	36.8

R - MassDEP regulated PFAS compound.

**APPENDIX B-4
Risk Characterization
Residents**

22 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose (RfD) (mg/kg-dy)	Subchronic Oral Reference Dose (RfDs) (mg/kg-dy)	Chronic Inhalation Reference Concentration (RfC) (mg/m ³)	Subchronic Inhalation Reference Concentration (RfCs) (mg/m ³)	Oral Cancer Slope Factor (OSF) [(mg/kg-dy) ⁻¹]	Inhalation Unit Risk (IUR) [(mg/m ³) ⁻¹]	Soil Relative Absorption Factors (RAF) ^[2,3]	
								(unitless)	
								Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 ^[2]	5.00E-06 ^[2]	2.00E-05 ^[2]	2.00E-05 ^[2]	-	-	1	0.1

- " -- " No information available or not applicable.
 mg/kg-dy Milligrams per kilogram of body weight per day.
 mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

APPENDIX B-5
Risk Characterization
Residents
30 Mountain Road, Princeton, Massachusetts
Summary

Exposure Pathway	Non-Carcinogenic Hazard Index		
	Child	Youth	Adult
Soil ingestion	0.01	0.007	0.007
Soil Dermal Contact	0.08	0.02	0.02
Inhalation of Entrained Soil Particles	0.00004	0.00004	0.00004
Total	0.09	0.03	0.03
Maximum Acceptable Limit	1		

Exposure point concentration is the sum of the maximum detected concentration of each MassDEP-Regulated PFAS compound.
There are no carcinogenic COCs.

**APPENDIX B-5
Risk Characterization
Residents**

30 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.1855	0.0001	1	1	150	7	2.74E-03	17	7	6.51E-08	5.00E-06	0.01
Total										HI =		0.01

Youth

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.1855	0.00005	1	1	150	7	2.74E-03	39.9	7	3.26E-08	5.00E-06	0.007
Total										HI =		0.007

Adult

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.1855	0.00005	1	1	150	16	2.74E-03	58.7	16	3.26E-08	5.00E-06	0.007
Total										HI =		0.007

**APPENDIX B-5
Risk Characterization
Residents**

30 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- SA = Exposed skin surface area (cm²/day)
- AF = Soil adherence factor (kg/cm²)
- RAF_d = Dermal Relative Absorption Factor (unitless)
- ED = Exposure duration (day/event)
- EF = Exposure frequency (events/yr)
- EP = Exposure period (yr)
- CF = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)

$$HQ = \frac{ADD(nc)}{RfDs}$$

$$HI = \text{Sum [HQ]}$$

- HQ = Non-carcinogenic Hazard Quotient (unitless)
- HI = Total Hazard Index (unitless)
- RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.1855	2,431	3.50E-07	0.1	1	150	7	2.74E-03	17	7	3.81E-07	5.00E-06	0.08
Total										HI =			0.08

Youth

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.1855	4,427	1.40E-07	0.1	1	150	7	2.74E-03	39.9	7	1.18E-07	5.00E-06	0.02
Total										HI =			0.02

Adults

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.1855	5,653	1.30E-07	0.1	1	150	16	2.74E-03	58.7	16	9.54E-08	5.00E-06	0.02
Total										HI =			0.02

**APPENDIX B-5
Risk Characterization
Residents**

30 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$C_{air} = C_{soil} \times PM_{10} \times CF$$

$$ADE = C_{air} \times ED \times EF \times EP \times CF / AP$$

$$HQ = ADE \text{ (nc) / RfCs}$$

$$HI = \text{Sum [HQ]}$$

- C_{air} = Constituent concentration in ambient air (mg/m³)
 C_{soil} = Constituent concentration in soil (mg/kg)
 PM_{10} = Particulate matter concentration in air (<= 10 microns) (ug/m³)
 CF = Unit conversion factor (kg/ug)
 ADE = Average daily exposure (mg/m³) (nc = non-carcinogen)
 EF = Exposure frequency (events/yr)
 ED = Exposure duration (hr/event)
 EP = Exposure period (yr)
 CF = Unit conversion factor (yr/hr)
 AP = Averaging period (yr)

- HQ = Non-carcinogenic hazard quotient (unitless)
 HI = Total hazard index (unitless)
 $RfCs$ = Subchronic Reference concentration (mg/m³)

No carcinogens in this pathway.

Child

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.1855	32	1.00E-09	5.93E-09	8	150	7	1.14E-04	7	8.13E-10	2.00E-05	0.00004
Total									HI =			0.00004

Youth

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.1855	32	1.00E-09	5.93E-09	8	150	7	1.14E-04	7	8.13E-10	2.00E-05	0.00004
Total									HI =			0.00004

Adults

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.1855	32	1.00E-09	5.93E-09	8	150	16	1.14E-04	16	8.13E-10	2.00E-05	0.00004
Total									HI =			0.00004

APPENDIX B-5
Risk Characterization
Residents
30 Mountain Road, Princeton, Massachusetts
Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	1.2
Perfluorobutanesulfonic acid (PFBS)	0.79
Perfluoropentanoic acid (PFPeA)	2.1
Perfluorohexanoic acid (PFHxA)	3
Perfluorododecanoic acid (PFDoA)	0.34
Perfluoroheptanesulfonic acid (PFHpS)	2
N-EtFOSAA	0.33
N-MeFOSAA	0.85
Perfluorotetradecanoic acid (PFTA)	0.17
Perfluorotridecanoic acid (PFTrDA)	ND
Perfluorodecanesulfonic acid (PFDS)	0.8
Perfluorooctanesulfonamide (FOSA)	2.2
Perfluorononanesulfonic acid (PFNS)	1.3
Perfluoro-1-hexanesulfonamide (FHxSA)	6.1
Perfluoro-1-butanesulfonamide (FBSA)	0.60
6:2 Fluorotelomersulfonic acid (6:2FTS A)	0.53
Perfluoropetanesulfonic acid (PFPeS)	0.58
Perfluoroundecanoic acid (PFUnA)	0.43
Perfluoroheptanoic acid (PFHpA) -R	0.56
Perfluorooctanoic acid (PFOA) - R	2.9
Perfluorooctanesulfonic acid (PFOS) - R	170
Perfluorononanoic acid (PFNA) - R	0.33
Perfluorodecanoic acid (PFDA) - R	0.66
Perfluorohexanesulfonic acid (PFHxS) -R	11
Sum of Maximum Detected Concentration	208.8
Sum of Maximum Concentraion of each MassDEP-Regulated PFAS	185.5

R - MassDEP regulated PFAS compound.

**APPENDIX B-5
Risk Characterization
Residents**

30 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose	Subchronic Oral Reference Dose	Chronic Inhalation Reference Concentration	Subchronic Inhalation Reference Concentration	Oral Cancer Slope Factor	Inhalation Unit Risk	Soil Relative Absorption Factors (RAF) ^[2,3]	
		(RfD)	(RfDs)	(RfC)	(RfCs)	(OSF)	(IUR)	(unitless)	
		(mg/kg-dy)	(mg/kg-dy)	(mg/m ³)	(mg/m ³)	[(mg/kg-dy) ⁻¹]	[(mg/m ³) ⁻¹]	Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 ^[2]	5.00E-06 ^[2]	2.00E-05 ^[2]	2.00E-05 ^[2]	-	-	1	0.1

- " -- " No information available or not applicable.
 mg/kg-dy Milligrams per kilogram of body weight per day.
 mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

APPENDIX B-6
Risk Characterization
Residents
54 Mountain Road, Princeton, Massachusetts
Summary

Exposure Pathway	Non-Carcinogenic Hazard Index		
	Child	Youth	Adult
Soil ingestion	0.002	0.0008	0.0008
Soil Dermal Contact	0.009	0.003	0.002
Inhalation of Entrained Soil Particles	0.000005	0.000005	0.000005
Total	0.01	0.004	0.003
Maximum Acceptable Limit	1		

Exposure point concentration is the sum of the maximum detected concentrations of each MassDEP-Regulated PFAS compound.
There are no carcinogenic COCs.

**APPENDIX B-6
Risk Characterization
Residents**

54 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0221	0.0001	1	1	150	7	2.74E-03	17	7	7.76E-09	5.00E-06	0.002
Total										HI =		0.002

Youth

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0221	0.00005	1	1	150	7	2.74E-03	39.9	7	3.88E-09	5.00E-06	0.0008
Total										HI =		0.0008

Adult

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0221	0.00005	1	1	150	16	2.74E-03	58.7	16	3.88E-09	5.00E-06	0.0008
Total										HI =		0.0008

**APPENDIX B-6
Risk Characterization
Residents**

54 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- SA = Exposed skin surface area (cm²/day)
- AF = Soil adherence factor (kg/cm²)
- RAF_d = Dermal Relative Absorption Factor (unitless)
- ED = Exposure duration (day/event)
- EF = Exposure frequency (events/yr)
- EP = Exposure period (yr)
- CF = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)

$$HQ = \frac{ADD(nc)}{RfDs}$$

$$HI = \text{Sum [HQ]}$$

- HQ = Non-carcinogenic Hazard Quotient (unitless)
- HI = Total Hazard Index (unitless)
- RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Child

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0221	2,431	3.50E-07	0.1	1	150	7	2.74E-03	17	7	4.54E-08	5.00E-06	0.009
Total										HI =			0.009

Youth

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0221	4,427	1.40E-07	0.1	1	150	7	2.74E-03	39.9	7	1.41E-08	5.00E-06	0.003
Total										HI =			0.003

Adults

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0221	5,653	1.30E-07	0.1	1	150	16	2.74E-03	58.7	16	1.14E-08	5.00E-06	0.002
Total										HI =			0.002

**APPENDIX B-6
Risk Characterization
Residents**

54 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$C_{air} = C_{soil} \times PM_{10} \times CF$$

$$ADE = C_{air} \times ED \times EF \times EP \times CF / AP$$

$$HQ = ADE \text{ (nc)} / RfCs$$

$$HI = \text{Sum [HQ]}$$

- C_{air} = Constituent concentration in ambient air (mg/m³)
 C_{soil} = Constituent concentration in soil (mg/kg)
 PM_{10} = Particulate matter concentration in air (<= 10 microns) (ug/m³)
 CF = Unit conversion factor (kg/ug)
 ADE = Average daily exposure (mg/m³) (nc = non-carcinogen)
 EF = Exposure frequency (events/yr)
 ED = Exposure duration (hr/event)
 EP = Exposure period (yr)
 CF = Unit conversion factor (yr/hr)
 AP = Averaging period (yr)

- HQ = Non-carcinogenic hazard quotient (unitless)
 HI = Total hazard index (unitless)
 $RfCs$ = Subchronic Reference concentration (mg/m³)

No carcinogens in this pathway.

Child

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0221	32	1.00E-09	7.07E-10	8	150	7	1.14E-04	7	9.68E-11	2.00E-05	0.000005
Total									HI =			0.000005

Youth

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0221	32	1.00E-09	7.07E-10	8	150	7	1.14E-04	7	9.68E-11	2.00E-05	0.000005
Total									HI =			0.000005

Adults

Constituent	C_{soil} (mg/kg)	PM_{10} (ug/m ³)	CF (kg/ug)	C_{air} (mg/m ³)	ED (hr/event)	EF (events/yr)	EP (yr)	CF (yr/hr)	AP (nc) (yr)	ADE (nc) (mg/m ³)	$RfCs$ (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0221	32	1.00E-09	7.07E-10	8	150	16	1.14E-04	16	9.68E-11	2.00E-05	0.000005
Total									HI =			0.000005

APPENDIX B-6
Risk Characterization
Residents
54 Mountain Road, Princeton, Massachusetts
Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	0.47
Perfluorobutanesulfonic acid (PFBS)	0.31
Perfluoropentanoic acid (PFPeA)	0.76
Perfluorohexanoic acid (PFHxA)	0.99
Perfluorododecanoic acid (PFDoA)	0.5
Perfluoroheptanesulfonic acid (PFHpS)	ND
N-EtFOSAA	ND
N-MeFOSAA	ND
Perfluorotetradecanoic acid (PFTA)	0.25
Perfluorotridecanoic acid (PFTrDA)	0.27
Perfluorodecanesulfonic acid (PFDS)	0.65
Perfluorooctanesulfonamide (FOSA)	0.21
Perfluorononanesulfonic acid (PFNS)	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	ND
Perfluoro-1-butanesulfonamide (FBSA)	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	0.29
Perfluoropetanesulfonic acid (PFPeS)	ND
Perfluoroundecanoic acid (PFUnA)	0.41
Perfluoroheptanoic acid (PFHpA) -R	1.9
Perfluorooctanoic acid (PFOA) - R	5
Perfluorooctanesulfonic acid (PFOS) - R	13
Perfluorononanoic acid (PFNA) - R	0.68
Perfluorodecanoic acid (PFDA) - R	1.5
Perfluorohexanesulfonic acid (PFHxS) -R	ND
Sum of Maximum Detected Concentration	27.2
Sum of Maximum Concentration of MassDEP-Regulated PFAS Compounds	22.1

R - MassDEP regulated PFAS compound.

**APPENDIX B-6
Risk Characterization
Residents**

54 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose	Subchronic Oral Reference Dose	Chronic Inhalation Reference Concentration	Subchronic Inhalation Reference Concentration	Oral Cancer Slope Factor	Inhalation Unit Risk	Soil Relative Absorption Factors (RAF) ^[2,3]	
		(RfD)	(RfDs)	(RfC)	(RfCs)	(OSF)	(IUR)	(unitless)	
		(mg/kg-dy)	(mg/kg-dy)	(mg/m ³)	(mg/m ³)	[(mg/kg-dy) ⁻¹]	[(mg/m ³) ⁻¹]	Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 ^[2]	5.00E-06 ^[2]	2.00E-05 ^[2]	2.00E-05 ^[2]	-	-	1	0.1

- " -- " No information available or not applicable.
mg/kg-dy Milligrams per kilogram of body weight per day.
mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

APPENDIX C

Risk Characterization Calculations Construction/Utility Workers

APPENDIX C-1
Risk Characterization
Construction/Utility Workers
18 Mountain Road, Princeton, Massachusetts
Summary

Exposure Pathway	Non-Carcinogenic Hazard Index
Soil ingestion	0.001
Soil Dermal Contact	0.002
Inhalation of Entrained Soil Particles	0.00001
Ingestion of Inhaled, Entrained Soil Particles	0.00005
Total	0.003
Maximum Acceptable Limit	1

Exposure point concentration is the sum of the maximum detected concentrations of each MassDEP-Regulated PFAS compound. There are no carcinogenic COCs.

APPENDIX C-1
Risk Characterization
Construction/Utility Workers
18 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00791	0.0001	1	1	130	1	2.74E-03	58.7	0.5	4.82E-09	5.00E-06	0.001
Total										HI =	0.001	

APPENDIX C-1
Risk Characterization
Construction/Utility Workers
18 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
C_{soil} = Constituent concentration in soil (mg/kg)
SA = Exposed skin surface area (cm²/day)
AF = Soil adherence factor (kg/cm²)
RAF_d = Dermal Relative Absorption Factor (unitless)
ED = Exposure duration (day/event)
EF = Exposure frequency (events/yr)
EP = Exposure period (yr)
CF = Unit conversion factor (yr/dy)
BW = Body weight (kg)
AP = Averaging period (yr)

$$HQ = \frac{ADD(nc)}{RfDs}$$

$$HI = \text{Sum [HQ]}$$

- HQ = Non-carcinogenic Hazard Quotient (unitless)
HI = Total Hazard Index (unitless)
RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00791	3,473	2.90E-07	0.1	1	130	1	2.74E-03	58.7	0.5	9.67E-09	5.00E-06	0.002
Total	HI =										0.002		

APPENDIX C-1
Risk Characterization
Construction/Utility Workers
18 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$ADE = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RAFi \times EF \times ED \times EP \times CF1 \times CF2}{AP \times IH_A}$$

HQ =
HI = ADE(nc) / RfCs
 Sum [HQ]

ADE = Average daily exposure (mg/m³) (nc = noncarcinogen)
C_{soil} = Constituent concentration in soil (mg/kg)
FI = Fraction inhaled that is retained in lungs (unitless)
PM₁₀ = Particulate matter concentration in air (<= 10 microns) (mg/m³)
IH_W = Worker inhalation rate (L/min)
RAFi = Inhalation Relative absorption fraction (unitless)
EF = Exposure frequency (events/yr)
ED = Exposure duration (hr/event)
EP = Exposure period (yr)

CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
CF2 = Unit conversion factor (yr/dy)
IH_A = Assumed inhalation rate (m³/dy)
AP = Averaging period (dy)
RfCs = Subchronic reference concentration (mg/m³)
HQ = Non-carcinogenic Hazard Quotient (unitless)
HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RAFi (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 (min-kg-m ³)/(hr-ug-L)	CF2 (yr/dy)	IH _A (m ³ /dy)	AP (nc) (yr)	ADE (nc) (mg/m ³)	RfCs (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.00791	0.5	60	60	1	130	8	1	6.00E-11	2.74E-03	20	0.5	2.43E-10	2.00E-05	0.00001
Total												HI =	0.00001		

APPENDIX C-1
Risk Characterization
Construction/Utility Workers
18 Mountain Road, Princeton, Massachusetts

Ingestion of Inhaled, Entrained Soil Particles

$$ADD = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RA_{Fo} \times EF \times ED \times EP \times CF1 \times CF2}{BW \times AP}$$

HQ = ADD(nc)/RfDs

HI = Sum [HQ]

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
C_{soil} = Constituent concentration in soil (mg/kg)
FI = Fraction inhaled that is ingested (unitless)
PM₁₀ = Particulate matter concentration in air (</= 10 microns) (mg/m³)
IH_W = Worker inhalation rate (L/min)
RA_{Fo} = Relative absorption fraction (unitless)
EF = Exposure frequency (events/yr)
ED = Exposure duration (hr/event)
EP = Exposure period (yr)

- CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
CF2 = Unit conversion factor (yr/dy)
BW = Body weight (kg)
AP = Averaging period (yr)
HQ = Non-carcinogenic Hazard Quotient (unitless)
RfDs = Subchronic Reference Dose (mg/kg-dy)
HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RA _{Fo} (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 [(min-kg-m ³)/(hr-ug-L)]	CF2 (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00791	1.5	60	60	1	130	8	1	6.00E-11	2.74E-03	58.7	0.5	2.49E-10	0.000005	0.00005
Total												HI =	0.00005		

APPENDIX C-1
Risk Characterization
Construction/Utility Workers
18 Mountain Road, Princeton, Massachusetts
Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	0.72
Perfluorobutanesulfonic acid (PFBS)	ND
Perfluoropentanoic acid (PFPeA)	0.48
Perfluorohexanoic acid (PFHxA)	0.3
Perfluorododecanoic acid (PFDoA)	0.35
Perfluoroheptanesulfonic acid (PFHpS)	ND
N-EtFOSAA	ND
N-MeFOSAA	ND
Perfluorotetradecanoic acid (PFTA)	0.22
Perfluorotridecanoic acid (PFTrDA)	0.2
Perfluorodecanesulfonic acid (PFDS)	ND
Perfluorooctanesulfonamide (FOSA)	ND
Perfluorononanesulfonic acid (PFNS)	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	ND
Perfluoro-1-butanesulfonamide (FBSA)	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND
Perfluoropetanesulfonic acid (PFPeS)	ND
Perfluoroundecanoic acid (PFUnA)	0.4
Perfluoroheptanoic acid (PFHpA) -R	0.44
Perfluorooctanoic acid (PFOA) - R	2.4
Perfluorooctanesulfonic acid (PFOS) - R	4
Perfluorononanoic acid (PFNA) - R	0.67
Perfluorodecanoic acid (PFDA) - R	0.4
Perfluorohexanesulfonic acid (PFHxS) -R	ND
Sum of Maximum Detected Concentration	10.6
Sum of Maximum Concentration of Each MassDEP-Regulated PFAS Compound.	7.9

R - MassDEP regulated PFAS compound.
ND Not detected.

APPENDIX C-1
Risk Characterization
Construction/Utility Workers
18 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose (RfD) (mg/kg-dy)	Subchronic Oral Reference Dose (RfDs) (mg/kg-dy)	Chronic Inhalation Reference Concentration (RfC) (mg/m ³)	Subchronic Inhalation Reference Concentration (RfCs) (mg/m ³)	Oral Cancer Slope Factor (OSF) [(mg/kg-dy) ⁻¹]	Inhalation Unit Risk (IUR) [(mg/m ³) ⁻¹]	Soil Relative Absorption Factors (RAF) ^[2,3]	
								(unitless)	
								Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 [2]	5.00E-06 [2]	2.00E-05 [2]	2.00E-05 [2]	-	-	1	0.1

- " -- " No information available or not applicable.
mg/kg-dy Milligrams per kilogram of body weight per day.
mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

APPENDIX C-2
Risk Characterization
Construction/Utility Workers
19 Mountain Road, Princeton, Massachusetts
Summary

Exposure Pathway	Non-Carcinogenic Hazard Index
Soil ingestion	0.0005
Soil Dermal Contact	0.001
Inhalation of Entrained Soil Particles	0.000006
Ingestion of Inhaled, Entrained Soil Particles	0.00002
Total	0.001
Maximum Acceptable Limit	1

Exposure point concentration is the sum of the maximum detected concentrations of each MassDEP-Regulated PFAS compound.
There are no carcinogenic COCs.

APPENDIX C-2
Risk Characterization
Construction/Utility Workers
19 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00370	0.0001	1	1	130	1	2.74E-03	58.7	0.5	2.25E-09	5.00E-06	0.0005
Total										HI =	0.0005	

APPENDIX C-2
Risk Characterization
Construction/Utility Workers
19 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- SA = Exposed skin surface area (cm²/day)
- AF = Soil adherence factor (kg/cm²)
- RAF_d = Dermal Relative Absorption Factor (unitless)
- ED = Exposure duration (day/event)
- EF = Exposure frequency (events/yr)
- EP = Exposure period (yr)
- CF = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)

$$HQ = \frac{ADD(nc)}{RfDs}$$

$$HI = \text{Sum [HQ]}$$

- HQ = Non-carcinogenic Hazard Quotient (unitless)
- HI = Total Hazard Index (unitless)
- RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00370	3,473	2.90E-07	0.1	1	130	1	2.74E-03	58.7	0.5	4.52E-09	5.00E-06	0.0009
Total										HI =	0.0009		

APPENDIX C-2
Risk Characterization
Construction/Utility Workers
19 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$ADE = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RAFi \times EF \times ED \times EP \times CF1 \times CF2}{AP \times IH_A}$$

HQ = ADE(nc) / RfCs
HI = Sum [HQ]

ADE = Average daily exposure (mg/m³) (nc = noncarcinogen)
C_{soil} = Constituent concentration in soil (mg/kg)
FI = Fraction inhaled that is retained in lungs (unitless)
PM₁₀ = Particulate matter concentration in air (<= 10 microns) (mg/m³)
IH_W = Worker inhalation rate (L/min)
RAFi = Inhalation Relative absorption fraction (unitless)
EF = Exposure frequency (events/yr)
ED = Exposure duration (hr/event)
EP = Exposure period (yr)

CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
CF2 = Unit conversion factor (yr/dy)
IH_A = Assumed inhalation rate (m³/dy)
AP = Averaging period (dy)
RfCs = Subchronic reference concentration (mg/m³)
HQ = Non-carcinogenic Hazard Quotient (unitless)
HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RAFi (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 (min-kg-m ³)/(hr-ug-L)	CF2 (yr/dy)	IH _A (m ³ /dy)	AP (nc) (yr)	ADE (nc) (mg/m ³)	RfCs (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.00370	0.5	60	60	1	130	8	1	6.00E-11	2.74E-03	20	0.5	1.14E-10	2.00E-05	0.000006
Total												HI =	0.000006		

APPENDIX C-2
Risk Characterization
Construction/Utility Workers
19 Mountain Road, Princeton, Massachusetts

Ingestion of Inhaled, Entrained Soil Particles

$$ADD = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RA_{Fo} \times EF \times ED \times EP \times CF1 \times CF2}{BW \times AP}$$

HQ = ADD(nc)/RfDs
HI = Sum [HQ]

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- FI = Fraction inhaled that is ingested (unitless)
- PM₁₀ = Particulate matter concentration in air (<= 10 microns) (mg/m³)
- IH_W = Worker inhalation rate (L/min)
- RA_{Fo} = Relative absorption fraction (unitless)
- EF = Exposure frequency (events/yr)
- ED = Exposure duration (hr/event)
- EP = Exposure period (yr)

- CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
- CF2 = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)
- HQ = Non-carcinogenic Hazard Quotient (unitless)
- RfDs = Subchronic Reference Dose (mg/kg-dy)
- HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RA _{Fo} (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 [(min-kg-m ³)/(hr-ug-L)]	CF2 (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00370	1.5	60	60	1	130	8	1	6.00E-11	2.74E-03	58.7	0.5	1.16E-10	0.000005	0.00002
Total												HI =	0.00002		

APPENDIX C-2
Risk Characterization
Construction/Utility Workers
19 Mountain Road, Princeton, Massachusetts
Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	0.3
Perfluorobutanesulfonic acid (PFBS)	ND
Perfluoropentanoic acid (PFPeA)	0.28
Perfluorohexanoic acid (PFHxA)	0.1
Perfluorododecanoic acid (PFDoA)	0.26
Perfluoroheptanesulfonic acid (PFHpS)	ND
N-EtFOSAA	0.22
N-MeFOSAA	ND
Perfluorotetradecanoic acid (PFTA)	ND
Perfluorotridecanoic acid (PFTrDA)	0.13
Perfluorodecanesulfonic acid (PFDS)	ND
Perfluorooctanesulfonamide (FOSA)	ND
Perfluorononanesulfonic acid (PFNS)	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	ND
Perfluoro-1-butanesulfonamide (FBSA)	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND
Perfluoropetanesulfonic acid (PFPeS)	ND
Perfluoroundecanoic acid (PFUnA)	0.28
Perfluoroheptanoic acid (PFHpA) -R	0.2
Perfluorooctanoic acid (PFOA) - R	0.6
Perfluorooctanesulfonic acid (PFOS) - R	2.2
Perfluorononanoic acid (PFNA) - R	0.37
Perfluorodecanoic acid (PFDA) - R	0.34
Perfluorohexanesulfonic acid (PFHxS) -R	ND
Sum of Maximum Detected Concentration	5.3
Sum of Maximum Concentration of Each MassDEP-Regulated PFAS	3.7

R - MassDEP regulated PFAS compound.

ND Not detected.

APPENDIX C-2
Risk Characterization
Construction/Utility Workers
19 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose (RfD) (mg/kg-dy)	Subchronic Oral Reference Dose (RfDs) (mg/kg-dy)	Chronic Inhalation Reference Concentration (RfC) (mg/m ³)	Subchronic Inhalation Reference Concentration (RfCs) (mg/m ³)	Oral Cancer Slope Factor (OSF) [(mg/kg-dy) ⁻¹]	Inhalation Unit Risk (IUR) [(mg/m ³) ⁻¹]	Soil Relative Absorption Factors (RAF) ^[2,3]	
								(unitless)	
								Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 ^[2]	5.00E-06 ^[2]	2.00E-05 ^[2]	2.00E-05 ^[2]	-	-	1	0.1

- " -- " No information available or not applicable.
mg/kg-dy Milligrams per kilogram of body weight per day.
mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

APPENDIX C-3
Risk Characterization
Construction/Utility Workers
21 Mountain Road, Princeton, Massachusetts
Summary

Exposure Pathway	Non-Carcinogenic Hazard Index
Soil ingestion	0.0006
Soil Dermal Contact	0.001
Inhalation of Entrained Soil Particles	0.000008
Ingestion of Inhaled, Entrained Soil Particles	0.00003
Total	0.002
Maximum Acceptable Limit	1

Exposure point concentration is the sum of the maximum detected concentrations of each MassDEP-Regulated PFAS compound.
There are no carcinogenic COCs.

APPENDIX C-3
Risk Characterization
Construction/Utility Workers
21 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00517	0.0001	1	1	130	1	2.74E-03	58.7	0.5	3.15E-09	5.00E-06	0.0006
Total										HI =	0.0006	

APPENDIX C-3
Risk Characterization
Construction/Utility Workers
21 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- SA = Exposed skin surface area (cm²/day)
- AF = Soil adherence factor (kg/cm²)
- RAF_d = Dermal Relative Absorption Factor (unitless)
- ED = Exposure duration (day/event)
- EF = Exposure frequency (events/yr)
- EP = Exposure period (yr)
- CF = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)

$$HQ = \frac{ADD(nc)}{RfDs}$$

$$HI = \text{Sum [HQ]}$$

- HQ = Non-carcinogenic Hazard Quotient (unitless)
- HI = Total Hazard Index (unitless)
- RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00517	3,473	2.90E-07	0.1	1	130	1	2.74E-03	58.7	0.5	6.32E-09	5.00E-06	0.001
Total											HI =	0.001	

APPENDIX C-3
Risk Characterization
Construction/Utility Workers
21 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$ADE = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RAFi \times EF \times ED \times EP \times CF1 \times CF2}{AP \times IH_A}$$

HQ =
HI = ADE(nc) / RfCs
 Sum [HQ]

ADE = Average daily exposure (mg/m³) (nc = noncarcinogen)
C_{soil} = Constituent concentration in soil (mg/kg)
FI = Fraction inhaled that is retained in lungs (unitless)
PM₁₀ = Particulate matter concentration in air (<= 10 microns) (mg/m³)
IH_W = Worker inhalation rate (L/min)
RAFi = Inhalation Relative absorption fraction (unitless)
EF = Exposure frequency (events/yr)
ED = Exposure duration (hr/event)
EP = Exposure period (yr)

CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
CF2 = Unit conversion factor (yr/dy)
IH_A = Assumed inhalation rate (m³/dy)
AP = Averaging period (dy)
RfCs = Subchronic reference concentration (mg/m³)
HQ = Non-carcinogenic Hazard Quotient (unitless)
HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RAFi (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 (min-kg-m ³)/(hr-ug-L)	CF2 (yr/dy)	IH _A (m ³ /dy)	AP (nc) (yr)	ADE (nc) (mg/m ³)	RfCs (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.00517	0.5	60	60	1	130	8	1	6.00E-11	2.74E-03	20	0.5	1.59E-10	2.00E-05	0.000008
Total												HI =	0.000008		

APPENDIX C-3
Risk Characterization
Construction/Utility Workers
21 Mountain Road, Princeton, Massachusetts

Ingestion of Inhaled, Entrained Soil Particles

$$ADD = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RA_{Fo} \times EF \times ED \times EP \times CF1 \times CF2}{BW \times AP}$$

HQ = ADD(nc)/RfDs

HI = Sum [HQ]

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
C_{soil} = Constituent concentration in soil (mg/kg)
FI = Fraction inhaled that is ingested (unitless)
PM₁₀ = Particulate matter concentration in air (<= 10 microns) (mg/m³)
IH_W = Worker inhalation rate (L/min)
RA_{Fo} = Relative absorption fraction (unitless)
EF = Exposure frequency (events/yr)
ED = Exposure duration (hr/event)
EP = Exposure period (yr)

- CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
CF2 = Unit conversion factor (yr/dy)
BW = Body weight (kg)
AP = Averaging period (yr)
HQ = Non-carcinogenic Hazard Quotient (unitless)
RfDs = Subchronic Reference Dose (mg/kg-dy)
HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RA _{Fo} (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 [(min-kg-m ³)/(hr-ug-L)]	CF2 (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.00517	1.5	60	60	1	130	8	1	6.00E-11	2.74E-03	58.7	0.5	1.63E-10	0.000005	0.00003
Total												HI =	0.00003		

APPENDIX C-3
Risk Characterization
Construction/Utility Workers
21 Mountain Road, Princeton, Massachusetts
Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	0.63
Perfluorobutanesulfonic acid (PFBS)	ND
Perfluoropentanoic acid (PFPeA)	1.6
Perfluorohexanoic acid (PFHxA)	1.2
Perfluorododecanoic acid (PFDoA)	ND
Perfluoroheptanesulfonic acid (PFHpS)	ND
N-EtFOSAA	ND
N-MeFOSAA	ND
Perfluorotetradecanoic acid (PFTA)	ND
Perfluorotridecanoic acid (PFTTrDA)	ND
Perfluorodecanesulfonic acid (PFDS)	ND
Perfluorooctanesulfonamide (FOSA)	ND
Perfluorononanesulfonic acid (PFNS)	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	ND
Perfluoro-1-butanesulfonamide (FBSA)	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	1.0
Perfluoropetanesulfonic acid (PFPeS)	ND
Perfluoroundecanoic acid (PFUnA)	0.15
Perfluoroheptanoic acid (PFHpA) -R	0.27
Perfluorooctanoic acid (PFOA) - R	0.9
Perfluorooctanesulfonic acid (PFOS) - R	2.5
Perfluorononanoic acid (PFNA) - R	0.46
Perfluorodecanoic acid (PFDA) - R	0.25
Perfluorohexanesulfonic acid (PFHxS) -R	0.78
Sum of Maximum Detected Concentration	9.75
Sum of Maximum Concentrations of MassDEP-Regulated PFAS Compounds	5.2

R - MassDEP regulated PFAS compound.

APPENDIX C-3
Risk Characterization
Construction/Utility Workers
21 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose (RfD) (mg/kg-dy)	Subchronic Oral Reference Dose (RfDs) (mg/kg-dy)	Chronic Inhalation Reference Concentration (RfC) (mg/m ³)	Subchronic Inhalation Reference Concentration (RfCs) (mg/m ³)	Oral Cancer Slope Factor (OSF) [(mg/kg-dy) ⁻¹]	Inhalation Unit Risk (IUR) [(mg/m ³) ⁻¹]	Soil Relative Absorption Factors (RAF) ^[2,3]	
								(unitless)	
								Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 ^[2]	5.00E-06 ^[2]	2.00E-05 ^[2]	2.00E-05 ^[2]	-	-	1	0.1

- " -- " No information available or not applicable.
mg/kg-dy Milligrams per kilogram of body weight per day.
mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

APPENDIX C-4
Risk Characterization
Construction/Utility Worker
22 Mountain Road, Princeton, Massachusetts
Summary

Exposure Pathway	Non-Carcinogenic Hazard Index
Soil ingestion	0.004
Soil Dermal Contact	0.009
Inhalation of Entrained Soil Particles	0.00006
Ingestion of Inhaled, Entrained Soil Particles	0.0002
Total	0.01
Maximum Acceptable Limit	1

Exposure point concentration is the sum of the maximum detected concentrations of each MassDEP-Regulated PFAS compound. There are no carcinogenic COCs.

APPENDIX C-4
Risk Characterization
Construction/Utility Worker
22 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0368	0.0001	1	1	130	1	2.74E-03	58.7	0.5	2.24E-08	5.00E-06	0.004
Total										HI =	0.004	

APPENDIX C-4
Risk Characterization
Construction/Utility Worker
22 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
 C_{soil} = Constituent concentration in soil (mg/kg)
 SA = Exposed skin surface area (cm²/day)
 AF = Soil adherence factor (kg/cm²)
 RAFd = Dermal Relative Absorption Factor (unitless)
 ED = Exposure duration (day/event)
 EF = Exposure frequency (events/yr)
 EP = Exposure period (yr)
 CF = Unit conversion factor (yr/dy)
 BW = Body weight (kg)
 AP = Averaging period (yr)

HQ = ADD(nc)/RfDs
 HI = Sum [HQ]

- HQ = Non-carcinogenic Hazard Quotient (unitless)
 HI = Total Hazard Index (unitless)
 RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAFd (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0368	3,473	2.90E-07	0.1	1	130	1	2.74E-03	58.7	0.5	4.50E-08	5.00E-06	0.009
Total	HI =										0.009		

APPENDIX C-4
Risk Characterization
Construction/Utility Worker
22 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$ADE = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RAFi \times EF \times ED \times EP \times CF1 \times CF2}{AP \times IH_A}$$

HQ = ADE(nc) / RfCs
HI = Sum [HQ]

ADE = Average daily exposure (mg/m³) (nc = noncarcinogen)
C_{soil} = Constituent concentration in soil (mg/kg)
FI = Fraction inhaled that is retained in lungs (unitless)
PM₁₀ = Particulate matter concentration in air (<= 10 microns) (mg/m³)
IH_W = Worker inhalation rate (L/min)
RAFi = Inhalation Relative absorption fraction (unitless)
EF = Exposure frequency (events/yr)
ED = Exposure duration (hr/event)
EP = Exposure period (yr)

CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
CF2 = Unit conversion factor (yr/dy)
IH_A = Assumed inhalation rate (m³/dy)
AP = Averaging period (dy)
RfCs = Subchronic reference concentration (mg/m³)
HQ = Non-carcinogenic Hazard Quotient (unitless)
HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RAFi (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 (min-kg-m ³)/(hr-ug-L)	CF2 (yr/dy)	IH _A (m ³ /dy)	AP (nc) (yr)	ADE (nc) (mg/m ³)	RfCs (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0368	0.5	60	60	1	130	8	1	6.00E-11	2.74E-03	20	0.5	1.13E-09	2.00E-05	0.00006
Total												HI =	0.00006		

APPENDIX C-4
Risk Characterization
Construction/Utility Worker
22 Mountain Road, Princeton, Massachusetts

Ingestion of Inhaled, Entrained Soil Particles

$$ADD = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RA_{Fo} \times EF \times ED \times EP \times CF1 \times CF2}{BW \times AP}$$

HQ = ADD(nc)/RfDs
 HI = Sum [HQ]

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- FI = Fraction inhaled that is ingested (unitless)
- PM₁₀ = Particulate matter concentration in air (</= 10 microns) (mg/m³)
- IH_W = Worker inhalation rate (L/min)
- RA_{Fo} = Relative absorption fraction (unitless)
- EF = Exposure frequency (events/yr)
- ED = Exposure duration (hr/event)
- EP = Exposure period (yr)

- CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
- CF2 = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)
- HQ = Non-carcinogenic Hazard Quotient (unitless)
- RfDs = Subchronic Reference Dose (mg/kg-dy)
- HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RA _{Fo} (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 [(min-kg-m ³)/(hr-ug-L)]	CF2 (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0368	1.5	60	60	1	130	8	1	6.00E-11	2.74E-03	58.7	0.5	1.16E-09	0.000005	0.0002
Total												HI =	0.0002		

APPENDIX C-4
Risk Characterization
Construction/Utility Worker
22 Mountain Road, Princeton, Massachusetts
Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	1.4
Perfluorobutanesulfonic acid (PFBS)	0.66
Perfluoropentanoic acid (PFPeA)	0.97
Perfluorohexanoic acid (PFHxA)	3.4
Perfluorododecanoic acid (PFDoA)	0.13
Perfluoroheptanesulfonic acid (PFHpS)	1.3
N-EtFOSAA	0.29
N-MeFOSAA	ND
Perfluorotetradecanoic acid (PFTA)	ND
Perfluorotridecanoic acid (PFTTrDA)	ND
Perfluorodecanesulfonic acid (PFDS)	0.35
Perfluorooctanesulfonamide (FOSA)	ND
Perfluorononanesulfonic acid (PFNS)	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	0.76
Perfluoro-1-butanesulfonamide (FBSA)	0.24
6:2 Fluorotelomersulfonic acid (6:2FTS A)	0.72
Perfluoropetanesulfonic acid (PFPeS)	0.82
Perfluoroundecanoic acid (PFUnA)	0.3
Perfluoroheptanoic acid (PFHpA) -R	0.92
Perfluorooctanoic acid (PFOA) - R	3.5
Perfluorooctanesulfonic acid (PFOS) - R	17
Perfluorononanoic acid (PFNA) - R	1.1
Perfluorodecanoic acid (PFDA) - R	0.31
Perfluorohexanesulfonic acid (PFHxS) -R	14
Sum of Maximum Detected Concentration	48.2
Percent of regulated PFAS to Total	36.8

R - MassDEP regulated PFAS compound.
ND Not detected.

APPENDIX C-4
Risk Characterization
Construction/Utility Worker
22 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose	Subchronic Oral Reference Dose	Chronic Inhalation Reference Concentration	Subchronic Inhalation Reference Concentration	Oral Cancer Slope Factor	Inhalation Unit Risk	Soil Relative Absorption Factors (RAF) ^[2,3]	
		(RfD)	(RfDs)	(RfC)	(RfCs)	(OSF)	(IUR)	(unitless)	
		(mg/kg-dy)	(mg/kg-dy)	(mg/m ³)	(mg/m ³)	[(mg/kg-dy) ⁻¹]	[(mg/m ³) ⁻¹]	Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 ^[2]	5.00E-06 ^[2]	2.00E-05 ^[2]	2.00E-05 ^[2]	-	-	1	0.1

- " -- " No information available or not applicable.
mg/kg-dy Milligrams per kilogram of body weight per day.
mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

APPENDIX C-5
Risk Characterization
Construction/Utility Workers
30 Mountain Road, Princeton, Massachusetts
Summary

Exposure Pathway	Non-Carcinogenic Hazard Index
Soil ingestion	0.02
Soil Dermal Contact	0.05
Inhalation of Entrained Soil Particles	0.0003
Ingestion of Inhaled, Entrained Soil Particles	0.001
Total	0.07
Maximum Acceptable Limit	1

Exposure point concentration is the sum of the maximum detected concentrations of each MassDEP-Regulated PFAS compound.
There are no carcinogenic COCs.

APPENDIX C-5
Risk Characterization
Construction/Utility Workers
30 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.1855	0.0001	1	1	130	1	2.74E-03	58.7	0.5	1.13E-07	5.00E-06	0.02
Total										HI =	0.02	

APPENDIX C-5
Risk Characterization
Construction/Utility Workers
30 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- SA = Exposed skin surface area (cm²/day)
- AF = Soil adherence factor (kg/cm²)
- RAF_d = Dermal Relative Absorption Factor (unitless)
- ED = Exposure duration (day/event)
- EF = Exposure frequency (events/yr)
- EP = Exposure period (yr)
- CF = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)

$$HQ = \frac{ADD(nc)}{RfDs}$$

$$HI = \text{Sum [HQ]}$$

- HQ = Non-carcinogenic Hazard Quotient (unitless)
- HI = Total Hazard Index (unitless)
- RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.1855	3,473	2.90E-07	0.1	1	130	1	2.74E-03	58.7	0.5	2.27E-07	5.00E-06	0.05
Total										HI =	0.05		

APPENDIX C-5
Risk Characterization
Construction/Utility Workers
30 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$ADE = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RAFi \times EF \times ED \times EP \times CF1 \times CF2}{AP \times IH_A}$$

HQ =
HI = ADE(nc) / RfCs
 Sum [HQ]

ADE = Average daily exposure (mg/m³) (nc = noncarcinogen)
C_{soil} = Constituent concentration in soil (mg/kg)
FI = Fraction inhaled that is retained in lungs (unitless)
PM₁₀ = Particulate matter concentration in air (<= 10 microns) (mg/m³)
IH_W = Worker inhalation rate (L/min)
RAFi = Inhalation Relative absorption fraction (unitless)
EF = Exposure frequency (events/yr)
ED = Exposure duration (hr/event)
EP = Exposure period (yr)

CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
CF2 = Unit conversion factor (yr/dy)
IH_A = Assumed inhalation rate (m³/dy)
AP = Averaging period (dy)
RfCs = Subchronic reference concentration (mg/m³)
HQ = Non-carcinogenic Hazard Quotient (unitless)
HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RAFi (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 (min-kg-m ³)/(hr-ug-L)	CF2 (yr/dy)	IH _A (m ³ /dy)	AP (nc) (yr)	ADE (nc) (mg/m ³)	RfCs (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.1855	0.5	60	60	1	130	8	1	6.00E-11	2.74E-03	20	0.5	5.71E-09	2.00E-05	0.0003
Total												HI =	0.0003		

APPENDIX C-5
Risk Characterization
Construction/Utility Workers
30 Mountain Road, Princeton, Massachusetts

Ingestion of Inhaled, Entrained Soil Particles

$$ADD = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RA_{Fo} \times EF \times ED \times EP \times CF1 \times CF2}{BW \times AP}$$

HQ = ADD(nc)/RfDs

HI = Sum [HQ]

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
C_{soil} = Constituent concentration in soil (mg/kg)
FI = Fraction inhaled that is ingested (unitless)
PM₁₀ = Particulate matter concentration in air (</= 10 microns) (mg/m³)
IH_W = Worker inhalation rate (L/min)
RA_{Fo} = Relative absorption fraction (unitless)
EF = Exposure frequency (events/yr)
ED = Exposure duration (hr/event)
EP = Exposure period (yr)

- CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
CF2 = Unit conversion factor (yr/dy)
BW = Body weight (kg)
AP = Averaging period (yr)
HQ = Non-carcinogenic Hazard Quotient (unitless)
RfDs = Subchronic Reference Dose (mg/kg-dy)
HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RA _{Fo} (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 [(min-kg-m ³)/(hr-ug-L)]	CF2 (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.1855	1.5	60	60	1	130	8	1	6.00E-11	2.74E-03	58.7	0.5	5.83E-09	0.000005	0.001
Total												HI =	0.001		

APPENDIX C-5
Risk Characterization
Construction/Utility Workers
30 Mountain Road, Princeton, Massachusetts
Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	1.2
Perfluorobutanesulfonic acid (PFBS)	0.79
Perfluoropentanoic acid (PFPeA)	2.1
Perfluorohexanoic acid (PFHxA)	3.0
Perfluorododecanoic acid (PFDoA)	0.34
Perfluoroheptanesulfonic acid (PFHpS)	2.0
N-EtFOSAA	0.33
N-MeFOSAA	0.85
Perfluorotetradecanoic acid (PFTA)	0.17
Perfluorotridecanoic acid (PFTrDA)	ND
Perfluorodecanesulfonic acid (PFDS)	0.8
Perfluorooctanesulfonamide (FOSA)	2.2
Perfluorononanesulfonic acid (PFNS)	1.3
Perfluoro-1-hexanesulfonamide (FHxSA)	6.1
Perfluoro-1-butanesulfonamide (FBSA)	0.6000
6:2 Fluorotelomersulfonic acid (6:2FTS A)	0.53
Perfluoropentanesulfonic acid (PFPeS)	0.58
Perfluoroundecanoic acid (PFUnA)	0.43
Perfluoroheptanoic acid (PFHpA) -R	0.56
Perfluorooctanoic acid (PFOA) - R	2.9
Perfluorooctanesulfonic acid (PFOS) - R	170
Perfluorononanoic acid (PFNA) - R	0.33
Perfluorodecanoic acid (PFDA) - R	0.66
Perfluorohexanesulfonic acid (PFHxS) -R	11
Sum of Maximum Detected Concentration	208.8
Sum of Maximum Concentrations of MassDEP-Regulated PFAS Compounds	185.5

R - MassDEP regulated PFAS compound.

ND Not detected.

APPENDIX C-5
Risk Characterization
Construction/Utility Workers
30 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose (RfD) (mg/kg-dy)	Subchronic Oral Reference Dose (RfDs) (mg/kg-dy)	Chronic Inhalation Reference Concentration (RfC) (mg/m ³)	Subchronic Inhalation Reference Concentration (RfCs) (mg/m ³)	Oral Cancer Slope Factor (OSF) [(mg/kg-dy) ⁻¹]	Inhalation Unit Risk (IUR) [(mg/m ³) ⁻¹]	Soil Relative Absorption Factors (RAF) ^[2,3]	
								(unitless)	
								Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 ^[2]	5.00E-06 ^[2]	2.00E-05 ^[2]	2.00E-05 ^[2]	-	-	1	0.1

- " -- " No information available or not applicable.
mg/kg-dy Milligrams per kilogram of body weight per day.
mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

APPENDIX C-6
Risk Characterization
Construction/Utility Workers
54 Mountain Road, Princeton, Massachusetts
Summary

Exposure Pathway	Non-Carcinogenic Hazard Index
Soil ingestion	0.003
Soil Dermal Contact	0.005
Inhalation of Entrained Soil Particles	0.00003
Ingestion of Inhaled, Entrained Soil Particles	0.0001
Total	0.008
Maximum Acceptable Limit	1

Exposure point concentration is the sum of the maximum detected concentrations of each MassDEP-Regulated PFAS compound. There are no carcinogenic COCs.

APPENDIX C-6
Risk Characterization
Construction/Utility Workers
54 Mountain Road, Princeton, Massachusetts

Soil Ingestion

ADD = $[C_s \times IR \times RA_{Fo} \times ED \times EF \times EP \times CF / AP]$

HQ = $ADD (nc) / RfDs$

HI = $Sum [HQ]$

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogen)

C_s = Constituent concentration in soil (mg/kg)

IR = Soil ingestion rate (kg/day)

RA_{Fo} = Relative oral absorption factor (unitless)

ED = Exposure duration (day/event)

EF = Exposure frequency (events/yr)

EP = Exposure period (yr)

CF = Unit conversion factor (yr/dy)

BW = Body weight (kg)

AP = Averaging period (yr)

HQ = Non-carcinogenic hazard quotient (unitless)

HI = Total hazard index (unitless)

RfDs = Subchronic oral reference dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _s (mg/kg)	IR (kg/day)	RA _{Fo} (unitless)	ED (day/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0221	0.0001	1	1	130	1	2.74E-03	58.7	0.5	1.34E-08	5.00E-06	0.003
Total										HI =	0.003	

APPENDIX C-6
Risk Characterization
Construction/Utility Workers
54 Mountain Road, Princeton, Massachusetts

Soil Dermal Contact

$$ADD = [C_{soil} \times SA \times AF \times RAFd \times ED \times EF \times EP \times CF] / (BW \times AP)$$

- ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
- C_{soil} = Constituent concentration in soil (mg/kg)
- SA = Exposed skin surface area (cm²/day)
- AF = Soil adherence factor (kg/cm²)
- RAF_d = Dermal Relative Absorption Factor (unitless)
- ED = Exposure duration (day/event)
- EF = Exposure frequency (events/yr)
- EP = Exposure period (yr)
- CF = Unit conversion factor (yr/dy)
- BW = Body weight (kg)
- AP = Averaging period (yr)

$$HQ = \frac{ADD(nc)}{RfDs}$$

$$HI = \text{Sum [HQ]}$$

- HQ = Non-carcinogenic Hazard Quotient (unitless)
- HI = Total Hazard Index (unitless)
- RfDs = Reference Dose (mg/kg-dy)

No carcinogens in this pathway.

Constituent	C _{soil} (mg/kg)	SA (cm ² /dy)	AF (kg/cm ²)	RAF _d (unitless)	ED (dy/event)	EF (events/yr)	EP (yr)	CF (yr/dy)	BW (kg)	AP (yr)	ADD (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0221	3,473	2.90E-07	0.1	1	130	1	2.74E-03	58.7	0.5	2.70E-08	5.00E-06	0.005
Total	HI =										0.005		

APPENDIX C-6
Risk Characterization
Construction/Utility Workers
54 Mountain Road, Princeton, Massachusetts

Inhalation of Entrained Soil Particles

$$ADE = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RAFi \times EF \times ED \times EP \times CF1 \times CF2}{AP \times IH_A}$$

HQ = ADE(nc) / RfCs
HI = Sum [HQ]

ADE = Average daily exposure (mg/m³) (nc = noncarcinogen)
C_{soil} = Constituent concentration in soil (mg/kg)
FI = Fraction inhaled that is retained in lungs (unitless)
PM₁₀ = Particulate matter concentration in air (<= 10 microns) (mg/m³)
IH_W = Worker inhalation rate (L/min)
RAFi = Inhalation Relative absorption fraction (unitless)
EF = Exposure frequency (events/yr)
ED = Exposure duration (hr/event)
EP = Exposure period (yr)

CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
CF2 = Unit conversion factor (yr/dy)
IH_A = Assumed inhalation rate (m³/dy)
AP = Averaging period (dy)
RfCs = Subchronic reference concentration (mg/m³)
HQ = Non-carcinogenic Hazard Quotient (unitless)
HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RAFi (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 (min-kg-m ³)/(hr-ug-L)	CF2 (yr/dy)	IH _A (m ³ /dy)	AP (nc) (yr)	ADE (nc) (mg/m ³)	RfCs (mg/m ³)	HQ (unitless)
All PFAS Compounds	0.0221	0.5	60	60	1	130	8	1	6.00E-11	2.74E-03	20	0.5	6.79E-10	2.00E-05	0.00003
Total												HI =	0.00003		

APPENDIX C-6
Risk Characterization
Construction/Utility Workers
54 Mountain Road, Princeton, Massachusetts

Ingestion of Inhaled, Entrained Soil Particles

$$ADD = \frac{C_{soil} \times FI \times PM_{10} \times IH_W \times RA_{Fo} \times EF \times ED \times EP \times CF1 \times CF2}{BW \times AP}$$

HQ = ADD(nc)/RfDs
HI = Sum [HQ]

ADD = Average daily dose (mg/kg-dy) (nc = non-carcinogens)
C_{soil} = Constituent concentration in soil (mg/kg)
FI = Fraction inhaled that is ingested (unitless)
PM₁₀ = Particulate matter concentration in air (</= 10 microns) (mg/m³)
IH_W = Worker inhalation rate (L/min)
RA_{Fo} = Relative absorption fraction (unitless)
EF = Exposure frequency (events/yr)
ED = Exposure duration (hr/event)
EP = Exposure period (yr)

CF1 = Unit conversion factor [(min-kg-m³)/(hr-ug-L)]
CF2 = Unit conversion factor (yr/dy)
BW = Body weight (kg)
AP = Averaging period (yr)
HQ = Non-carcinogenic Hazard Quotient (unitless)
RfDs = Subchronic Reference Dose (mg/kg-dy)
HI = Total Hazard Index (unitless)

No carcinogens present

Constituent	C _{soil} (mg/kg)	FI (unitless)	PM ₁₀ (mg/m ³)	IH _W (L/min)	RA _{Fo} (unitless)	EF (events/yr)	ED (hr/event)	EP (yr)	CF1 [(min-kg-m ³)/(hr-ug-L)]	CF2 (yr/dy)	BW (kg)	AP (nc) (yr)	ADD (nc) (mg/kg-dy)	RfDs (mg/kg-dy)	HQ (unitless)
All PFAS Compounds	0.0221	1.5	60	60	1	130	8	1	6.00E-11	2.74E-03	58.7	0.5	6.95E-10	0.000005	0.0001
Total												HI =	0.0001		

APPENDIX C-6
Risk Characterization
Construction/Utility Workers
54 Mountain Road, Princeton, Massachusetts
Constituent Properties

Parameter	Maximum Detected Concentration µg/kg
Perfluorobutanoic acid (PFBA)	0.47
Perfluorobutanesulfonic acid (PFBS)	0.31
Perfluoropentanoic acid (PFPeA)	0.76
Perfluorohexanoic acid (PFHxA)	0.99
Perfluorododecanoic acid (PFDoA)	0.50
Perfluoroheptanesulfonic acid (PFHpS)	ND
N-EtFOSAA	ND
N-MeFOSAA	ND
Perfluorotetradecanoic acid (PFTA)	0.25
Perfluorotridecanoic acid (PFTrDA)	0.27
Perfluorodecanesulfonic acid (PFDS)	0.65
Perfluorooctanesulfonamide (FOSA)	0.21
Perfluorononanesulfonic acid (PFNS)	ND
Perfluoro-1-hexanesulfonamide (FHxSA)	ND
Perfluoro-1-butanesulfonamide (FBSA)	ND
6:2 Fluorotelomersulfonic acid (6:2FTS A)	0.29
Perfluoropetanesulfonic acid (PFPeS)	ND
Perfluoroundecanoic acid (PFUnA)	0.41
Perfluoroheptanoic acid (PFHpA) -R	1.9
Perfluorooctanoic acid (PFOA) - R	5.0
Perfluorooctanesulfonic acid (PFOS) - R	13
Perfluorononanoic acid (PFNA) - R	0.68
Perfluorodecanoic acid (PFDA) - R	1.5
Perfluorohexanesulfonic acid (PFHxS) -R	ND
Sum of Maximum Detected Concentration	27.2
Sum of Maximum Concentration of each MassDEP-Regulated PFAS	22.1

R - MassDEP regulated PFAS compound.

ND Not detected

APPENDIX C-6
Risk Characterization
Construction/Utility Workers
54 Mountain Road, Princeton, Massachusetts

Toxicity Values and Relative Absorption Factors

Constituent	Carcinogenic Weight of Evidence Category ^[1]	Chronic Oral Reference Dose (RfD) (mg/kg-dy)	Subchronic Oral Reference Dose (RfDs) (mg/kg-dy)	Chronic Inhalation Reference Concentration (RfC) (mg/m ³)	Subchronic Inhalation Reference Concentration (RfCs) (mg/m ³)	Oral Cancer Slope Factor (OSF) [(mg/kg-dy) ⁻¹]	Inhalation Unit Risk (IUR) [(mg/m ³) ⁻¹]	Soil Relative Absorption Factors (RAF) ^[2,3]	
								(unitless)	
								Oral	Dermal
All PFAS Compounds	Not assessed	5.00E-06 ^[2]	5.00E-06 ^[2]	2.00E-05 ^[2]	2.00E-05 ^[2]	-	-	1	0.1

- " -- " No information available or not applicable.
mg/kg-dy Milligrams per kilogram of body weight per day.
mg/m³ Milligrams per cubic meter in air.
- US EPA's Weight of Evidence Category with respect to human carcinogenicity:
 - A = Known human carcinogen
 - B1, B2 = Probable human carcinogen
 - C = Possible human carcinogen
 - D = Not classifiable as to human carcinogenicity
 - MassDEP (2019) Method 1 Numerical Standards and supporting documentation (draft).

Tighe&Bond

APPENDIX E

P-0534
November 13, 2023

VIA CERTIFIED US MAIL

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

**Re: Public Notification of Phase II Comprehensive Site Assessment Submittal
Town of Princeton
6 Town Hall Drive
Princeton, Massachusetts
MassDEP RTN 2-21072**

To whom it may concern:

In accordance with the Public Notification procedures of the Massachusetts Contingency Plan (MCP) 310 CMR 40.1403, Tighe & Bond, on behalf of the Town of Princeton, is hereby notifying you of the submittal of a Phase II Comprehensive Site Assessment (Phase II Report) to the Massachusetts Department of Environmental Protection (MassDEP) for the above-referenced site.

As required in 210 CMR 140.1403(e) we are notifying you of the findings and conclusions that were provided in the Phase II Report as follows:

Phase II Completion Statement

Tighe & Bond has prepared this Phase II CSA on behalf of the Town of Princeton, Massachusetts in accordance with the MCP at 310 CMR 40.0835 through 40.0840. This report provides a summary of the Phase II assessment activities performed, the results of soil, groundwater, and surface water analyses, and the findings of an MCP Method 1 risk characterization (along with a focused method 3 Risk Characterization for direct contact to soil and a Stage I Environmental Screening).

Based on the findings of the Phase II CSA, comprehensive remedial actions are necessary at the site to achieve a Permanent or Temporary Solution as described in 310 CMR 40.1000. A Phase III study is necessary for the identification and evaluation of any Comprehensive Remedial Action Alternatives which are reasonably likely to achieve a level of No Significant Risk for RTN 2-21072. Prior to submittal of the Phase III evaluation, additional soil and surface water samples will be collected to further define the extent of PFAS impacts in those media. IRA Activities will continue at the Site, which consist of semi-annual monitoring of private wells and quarterly monitoring of locations with POET systems until a Temporary or Permanent Solution can be achieved.

Conceptual Site Model

Apart from potential sources of PFAS at residences in the area, such as historical discharge of domestic water that contains PFAS (from common household sources as well as impacted well water prior to POET installation), three potential sources were initially identified for evaluation in the vicinity of upper and lower Mountain Road:

- 1. The known use of AFFF during the firefighting efforts at 30 Mountain Road in May 2017*
- 2. The report of a fire at 54 Mountain Road in 1967 where it is considered possible a material containing PFAS was used to fight the fire*
- 3. The report of fire training at an accessory building on the Town Campus property several decades ago.*



It is assumed that PFAS from the AFFF used at 30 Mountain Road in May 2017 impacting overburden soil on that property (and downhill areas where firefighting water flowed) has leached and percolated with precipitation into the shallow bedrock and deeper bedrock groundwater.

To investigate the potential use of a material containing PFAS during the reported fire training at the brick building on the west side of the property at the Town Campus, four soil samples were collected from the perimeter of the former building . There was one detection of PFOS (several compounds were reported at estimated (J-qualified) in a single sample; there were no other detections. The PFOS concentration detected (0.95 µg/kg) is below the S-1/GW-1 standard of 2 µg/kg. This one very low concentration and the lack of any other PFAS detections supports a conclusion that fire training occurring in this area of the THC did not involve the use of material containing PFAS. Therefore, this area was removed from consideration as a source of the PFAS that is being detected in the deep bedrock groundwater supplying drinking water and is eliminated from the CSM.

According to a single 1967 local newspaper report, there was a major fire at 54 Mountain Road in April 1967. Although details of the firefighting method utilized on that property (i.e., whether a material containing PFAS was used) are not available, the soil sampling data from 54 Mountain Road show PFAS detections around the perimeter of the building, as would be expected from the use of AFFF in firefighting (although the PFAS around the perimeter of a building also could be associated with use of compost containing PFAS as a soil supplement for plantings near the foundation). Further, the soil data generally agree with the well water data, with PFHxS notably absent from both media.

Groundwater in deep bedrock with PFAS detections extends radially from both the vicinity of 54/58/64 Mountain Road and the vicinity of 30 Mountain Road, but generally groundwater impacted by PFAS appears to have migrated primarily to the south-southwest from both areas, as evidenced by PFAS detections in deep bedrock private water supply wells on properties extending in that direction (primarily toward Radford Road).

- *The apparent northern boundary of PFAS impacts in deep bedrock groundwater has migrated north with the detections at 105 Merriam Road and 92 Mountain Road, but PFAS were not detected at 7 Thompson Road. The latest IRA Status Report indicated that 108 Mountain Road would be sampled as well; however, there is no house currently at this location. The nearest private well to the north is 116 Mountain Road which is approximately 1,200 feet to the north (this well will be sampled to confirm the northern extent of PFAS contamination).*
- *Merriam Road and East Princeton Road appear to be the current easterly limit of PFAS impact in deep bedrock groundwater, as PFAS have not been detected northeast of Merriam Road or beyond 18 and 26 Prospect Street.*
- *The southerly limits of the PFAS impact in deep bedrock groundwater appear to be limited to 27 Worcester Road, 17 Boylston Ave, and 18 Connor Lane.*
- *The western limit appears to be the properties identified as 18 and 28 Radford Road.*

As reported in previous IRA Status Reports, it appears that two distinct PFAS signatures are present. Potable wells north and west-northwest of 30 Mountain Road ("northern area" -51, 54, 58, 64 Mountain Road, 43 Hubbardston Road and 15 Radford Road) generally have higher concentrations of PFOA (represents an average of 37 percent of PFAS6) and no PFHxS. Potable wells at and to the south of 30 Mountain Road ("southern area" 14, 18, 19, 21, 29 and 30 Mountain, 15 Hubbardston, 12 Boylston and now 11, 13, and 14 Gregory Hill Road) have elevated PFHxS concentrations (54 percent average) and little PFOA (6 percent average). PFOS concentrations are similar in the northern and southern signatures with a 30 to 35 percent average. As mentioned, PFOS and PFHxS are understood to be associated with 3M AFFF. The presence/absence of PFHxS

appears to be a good marker analyte to indicate the limits of the AFFF impacts from the 30 Mountain Road firefighting.

A review of the groundwater data from samples collected in the monitoring wells on the THC indicate a high percentage of PFHxS and PFOS, consistent with the concentrations identified in potable wells located within the southern portion of the disposal site and the runoff samples collected from the drain pipe at 30 Mountain Road.

In summary, based on the activities completed to date, the current CSM is that there are two possible sources of PFAS at the Site: (1) the known use of AFFF during firefighting at 30 Mountain Road in 2017, and (2) a report of firefighting at 54 Mountain Road in 1967 with the potential use of a material containing PFAS. While not a discrete source, septic systems are a known secondary source of PFAS contamination due to laundering PFAS-treated clothing, washing of non-stick cookware, and various other consumer sources, as well as discharge of PFAS impacted well water prior to POET installation.

There are subcategories for each of the three potential sources: (a) the impact to soil from the initial surface discharge of water with AFFF at 30 Mountain Road during the fire response in May 2017, (b) runoff of water with AFFF to adjacent downhill locations, (c) infiltration of rainfall through impacted soil to groundwater, (d) surface runoff of stormwater that is in contact with impacted soil, reaching roadway drainage systems and surface water bodies, and (e) groundwater discharge to surface water, including the potential for any surface water bodies to be spring-fed.

The Risk Characterization completed as part of this Phase II Assessment indicates that a condition of no significant risk likely exists at the Site with respect to soil exposure points, public welfare, public safety and the environment. However, a potential risk of harm exists with respect to PFAS leaching from soil to groundwater. The Risk Characterization will be updated as necessary, based on future data.

Based on the findings of this Phase II CSA, a Phase III Remedial Actions Alternative Analysis is required for the Site. Additional soil and surface water sampling are planned to further define the extent of PFAS impacts in those media. IRA Activities will continue at the Site, which consist of semi-annual monitoring of private wells and quarterly monitoring of locations with two-vessel POET systems until a Temporary or Permanent Solution can be achieved.

A copy of the Phase II submittal is available for review online at MassDEP's website (see below) under files listed for MassDEP RTN 2-21072. In addition, public file review sessions are scheduled by appointment at the Central Regional Office of the MassDEP. For more information on public involvement opportunities, please refer to 310 CMR 40.1403(9) and 40.1404 of the MCP.

<https://eeaonline.eea.state.ma.us/portal#!/search/wastesite>

Please note, this notice is for informational purposes and no response is necessary on your part. If you have any questions or require additional information, please contact me at 413.572.3227.

Very truly yours,

TIGHE & BOND, INC.



Jeffrey L. Arps, LSP
Vice President

cc: Sherry Patch, Town Administrator, Princeton Selectboard

P-0534

August 30, 2023

Martin Fuehrer
18 Mountain Road
Princeton, Massachusetts 01541

Re: **Soil Sampling Results
18 Mountain Road, Princeton**

Dear Mr. Fuehrer:

Enclosed is a copy of the laboratory analytical results for the additional soil samples collected from your property at 18 Mountain Road as part of environmental assessment activities being completed on behalf of the Town of Princeton.

Tighe & Bond personnel collected seven soil samples at depths ranging from 0 to 36 inches below surface grade at your property on July 11, 2023, to further assess a release of per- and polyfluoroalkyl substances (PFAS) that may have originated from AFFF used during firefighting efforts in May 2017 at 30 Mountain Road. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory.

For your reference, a Site Plan showing the locations of the soil samples, a summary table summarizing the laboratory results and the complete laboratory report are attached to this letter. Analytical results have been compared to *Massachusetts Contingency Plan Method 1 S-1/GW-1 Soil Standards and Method 2 Direct Contact Standards (MCP, 310 CMR 40.0000)* for the six specific PFAS compounds (PFAS6) regulated by MassDEP.

As shown on the attached summary table (the new samples are highlighted in blue), regulated PFAS compounds were detected in one of the seven soil samples (18 MTN S-1A) at concentrations above the S-1/GW-1 Standards. The detection is below MassDEP's Method 2 Direct Contact Standards, and although the detection is above MassDEP's S-1/GW-1 Soil Standards, a Method 3 Risk Assessment conducted for Tighe & Bond has determined that soil concentrations at these levels do not pose a significant risk of harm to human health. No specific action is required at this time, but these data will be included in the full data set gathered by Tighe & Bond to determine if additional assessment and/or response actions are necessary or appropriate.

Please call the Princeton Town Administrator, Sherry Patch, at (978) 464-2102 or the undersigned at (413) 572-3227, if you have any questions regarding this information.

Very truly yours,

TIGHE & BOND, INC.



Jeffrey L. Arps, LSP
Vice President

Enclosures

Copy: Sherry Patch, Princeton Town Administrator
MassDEP, Bureau of Waste Site Cleanup





NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

-

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: _____
City/Town: _____ Zip Code: _____

B. This notice is being provided to the following party:

1. Name: _____
2. Street Address: _____
City/Town: _____ Zip Code: _____

C. This notice is being given to inform its recipient (the party listed in Section B):

- 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: _____
City/Town: _____ Zip Code: _____

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|--|---|
| Immediate Response Action | Phase III Feasibility Evaluation |
| Release Abatement Measure | Phase IV Remedy Implementation Plan |
| Utility-related Abatement Measure | Phase V/Remedy Operation Status |
| Phase I Initial Site Investigation | Post-Temporary Solution Operation, Maintenance and Monitoring |
| Phase II Comprehensive Site Assessment | Other _____ |
- (specify)

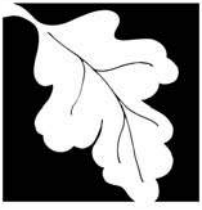
3. Description of property where sampling will be/has been conducted:

residential commercial industrial school/playground Other _____
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____
Street Address: _____
City/Town: _____ Zip Code: _____
Telephone: _____ Email: _____



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

-

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.






Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at <http://www.mass.gov/eea/agencies/massdep/cleanup>. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See <http://public.dep.state.ma.us/SearchableSites2/Search.aspx> to view site-specific files on-line or <http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html> if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

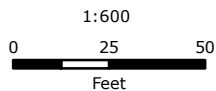


Legend

-  Soil Boring Locations
-  Non-Community Transient Public Water Supply
-  Site Parcel
-  Approximate Parcel Boundary
-  Municipal Boundary



Based on MassGIS Color Orthophotography (2019) and Approximate Parcels from MassGIS, by the town of Princeton (FY2020)



**FIGURE 1
SITE PLAN**

18 Mountain Road
Princeton, Massachusetts

December 2021

TABLE 4 - PFAS Soil Sampling Summary
Princeton, Massachusetts

Parameter	Method 1 S-1/GW-1 Standard	Method 2 S-1 Direct Contact Standard	18MTN																			
			18MTN S-1		18MTN S-1A		18MTN S-2		18MTN S-3		18MTN S-4		18MTN S-5		18MTN S-5A		18MTN S-6		18MTN S-7		18MTN S-8	
			11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023
Sampling Date			11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023	11/17/2021	7/11/2023
Sample Depth (inches)			0-6	6-12	0-6	6-12	0-6	6-12	0-6	6-12	0-6	6-12	0-6	6-12	0-6	6-12	0-6	6-12	0-6	6-12	0-6	6-12
SOP-466 PFAS (µg/kg dry)																						
Perfluorobutanoic acid (PFBA)	~	~	0.19	ND (0.51)	ND (0.46)	0.4	0.1	0.72	ND (0.56)	ND (0.54)	0.12	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluoropentanoic acid (PFPA)	~	~	0.48	ND (0.51)	ND (0.46)	0.14	ND (0.48)	0.4	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluorohexanoic acid (PFHA)	~	~	0.32	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	0.27	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
11CI-PF3OUds (F538 Minor)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
9CI-PF3ONS (F538 Major)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluorododecanoic acid (PFDA)	~	~	0.35	ND (0.51)	0.091	0.088	0.077	0.12	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
N-ETFSAA	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
N-MeFOSAA	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluorotetradecanoic acid (PFTA)	~	~	0.22	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluorotridecanoic acid (PFTDA)	~	~	0.2	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluoro-1-hexanesulfonamide (FHSa)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluoro-1-butanedisulfonamide (FBSA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluoropentanesulfonic acid (PFPS)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluoroundecanoic acid (PFUA)	~	~	0.4	ND (0.51)	0.13	0.19	0.17	0.2	ND (0.56)	ND (0.54)	0.13	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	~	~	ND (0.88)	ND (0.51)	ND (0.46)	ND (0.52)	ND (0.48)	ND (0.69)	ND (0.56)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluorohexanoic acid (PFHpA)	0.5	300	0.33	ND (0.51) *	ND (0.46)	0.13	ND (0.48)	0.44	ND (0.56) *	ND (0.54) *	0.09	ND (0.54) *	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluorooctanoic acid (PFDA)	0.72	300	1.3	1.1	ND (0.46)	0.24	ND (0.48)	2.4	ND (0.56)	ND (0.54)	0.29	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							
Perfluorooctanesulfonic acid (PFOS)	2	300	2.7	1.4	0.18	2.1	1.4	4	ND (0.56)	ND (0.54)	1.4	2.4	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)						
Perfluorononanoic acid (PFNA)	0.32	300	0.32	ND (0.51) *	ND (0.46) *	0.51	0.26	0.67	ND (0.56) *	ND (0.54) *	0.28	ND (0.54) *	ND (0.46) *	ND (0.50) *	ND (0.47) *							
Perfluorodecanoic acid (PFDA)	0.3	300	0.4	ND (0.51) *	ND (0.46) *	0.23	0.26	0.3	ND (0.56) *	ND (0.54) *	0.18	ND (0.54) *	ND (0.46) *	ND (0.50) *	ND (0.47) *							
Perfluorohexanesulfonic acid (PFHS)	0.3	300	ND (0.88) *	ND (0.51) *	ND (0.46) *	ND (0.52) *	ND (0.48) *	ND (0.69) *	ND (0.56) *	ND (0.54) *	ND (0.53) *	ND (0.54) *	ND (0.46) *	ND (0.50) *	ND (0.47) *							
		Total	7.21	2.50	0.40	4.03	2.27	9.52	ND (0.56)	1.40	3.49	ND (0.54)	ND (0.46)	ND (0.50)	ND (0.47)							

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 compound
 Bolded values exceed Method 1 Standard
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit exceeds one or more of the regulatory criteria

P-0534

August 30, 2023

Nicole Patterson
19 Mountain Road
Princeton, Massachusetts 01541

Re: **Soil Sampling Results
19 Mountain Road, Princeton**

Dear Ms. Patterson:

Enclosed is a copy of the laboratory analytical results for soil samples collected from your property at 19 Mountain Road as part of environmental assessment activities being completed on behalf of the Town of Princeton.

Tighe & Bond personnel collected nine soil samples from 0 to 60 inches below surface grade from your property on July 11, 2023, to assess a release of per- and polyfluoroalkyl substances (PFAS) that may have originated from 30 Mountain Road during firefighting efforts in 2017. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory.

For your reference, a Site Plan showing the locations of the soil samples, a summary table summarizing the laboratory results and the complete laboratory report are attached to this letter. Analytical results have been compared to *Massachusetts Contingency Plan Method 1 S-1/GW-1 Soil Standards and Method 2 Direct Contact Standards (MCP, 310 CMR 40.0000)* for six specific PFAS compounds (PFAS6) regulated by MassDEP.

As shown on the attached summary table (the new samples are highlighted in blue), regulated PFAS compounds were detected in two of the nine soil samples (19MTN S-4A 6 to 12 inches and 12 to 24 inches) at concentrations above the Method 1 S-1/GW-1 Soil Standards. The detections are below MassDEP's Method 2 Direct Contact Standards, and although the detections are above MassDEP's S-1/GW-1 Soil Standards, a Method 3 Risk Assessment conducted for Tighe & Bond has determined that soil concentrations at these levels do not pose a significant risk of harm to human health. No specific action is required at this time, but these data will be included in the full data set gathered by Tighe & Bond to determine if additional assessment and/or response actions are necessary or appropriate.

Please call the Princeton Town Administrator, Sherry Patch, at (978) 464-2102 or the undersigned at (413) 572-3227, if you have any questions regarding this information.

Very truly yours,

TIGHE & BOND, INC.



Jeffrey L. Arps, LSP
Vice President

Enclosures

Copy: Sherry Patch, Princeton Town Administrator
MassDEP, Bureau of Waste Site Cleanup





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

-

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: _____
City/Town: _____ Zip Code: _____

B. This notice is being provided to the following party:

1. Name: _____
2. Street Address: _____
City/Town: _____ Zip Code: _____

C. This notice is being given to inform its recipient (the party listed in Section B):

- 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: _____
City/Town: _____ Zip Code: _____
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|--|---|
| Immediate Response Action | Phase III Feasibility Evaluation |
| Release Abatement Measure | Phase IV Remedy Implementation Plan |
| Utility-related Abatement Measure | Phase V/Remedy Operation Status |
| Phase I Initial Site Investigation | Post-Temporary Solution Operation, Maintenance and Monitoring |
| Phase II Comprehensive Site Assessment | Other _____ |
- (specify)
3. Description of property where sampling will be/has been conducted:
residential commercial industrial school/playground Other _____
(specify)
4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____
Street Address: _____
City/Town: _____ Zip Code: _____
Telephone: _____ Email: _____



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

	-	
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NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.






Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at <http://www.mass.gov/eea/agencies/massdep/cleanup>. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See <http://public.dep.state.ma.us/SearchableSites2/Search.aspx> to view site-specific files on-line or <http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html> if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

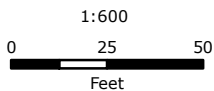


Legend

-  Soil Boring Locations
-  Non-Community Transient Public Water Supply
-  Sampling Area
-  Approximate Parcel Boundary
-  Municipal Boundary

Tighe & Bond

Based on MassGIS Color Orthophotography (2019) and Approximate Parcels from MassGIS, by the town of Princeton (FY2020)



**FIGURE 1
SITE PLAN**

19 Mountain Road
Princeton, Massachusetts

December 2021

TABLE 4 - PFAS Soil Sampling Summary
Princeton, Massachusetts

Parameter	Method 1 S-1/GW-1 Standard	Method 2 S-1 Direct Contact Standard	19MTN 5-1												19MTN 5-4			19MTN 5-5			
			19MTN 5-1 (DUP)		19MTN 5-1A				19MTN 5-2		19MTN 5-3		19MTN 5-3A				19MTN 5-4		19MTN 5-4A		19MTN 5-5
			11/17/2021	11/17/2021	7/11/2023		7/11/2023		11/17/2021		11/17/2021		7/11/2023		11/17/2021		7/11/2023		11/17/2021		
Sample Depth (inches)			0-6	0-6	6-12	12-24	24-36	0-6	0-6	6-12	12-24	24-48	48-60	0-6	6-12	12-24	0-6				
SOP-466 PFAS (ug/kg dry)																					
Perfluorobutanoic acid (PFBA)	~	~	0.1	0.073	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	0.3	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	0.17	ND (0.52)	ND (0.59)	0.064				
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluoropentanoic acid (PFPeA)	~	~	0.1	0.28	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	0.11	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluorohexanoic acid (PFHxA)	~	~	ND (0.48)	0.14	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
1,1,1-Trifluoro-2,2,2-trifluoroethane (PFOS)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
9CI-PFOS (FS38 Major)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
4,8-dioxa-3H-perfluorooctanoic acid (ADONA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Hexafluoroisopropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluorodecanoic acid (PFDA)	~	~	0.12	0.26	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	0.17	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluoro(2-ethoxyethanesulfonic acid) (PFEE-SA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.48)	0.22	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
N-FluorSA	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
N-FluorSA	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluorotetradecanoic acid (PFTDA)	~	~	ND (0.48)	0.13	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluoro-1-hexanesulfonamide (HxSA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluoro-1-butanedisulfonamide (FBSA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluoro-1-octanesulfonamide (FOSA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluoropentanesulfonic acid (PFPeS)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluorodecanesulfonic acid (PFDSA)	~	~	0.14	0.28	ND (0.57)	ND (0.54)	ND (0.56)	0.18	0.12	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	0.28	ND (0.52)	ND (0.59)	ND (0.46)				
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	~	~	ND (0.48)	ND (0.52)	ND (0.57)	ND (0.54)	ND (0.56)	ND (0.50)	ND (0.54)	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	ND (0.58)	ND (0.52)	ND (0.59)	ND (0.46)				
Perfluorohexanoic acid (PFHpA)	0.5	300	ND (0.48)	0.083	ND (0.57) *	ND (0.54) *	ND (0.56) *	ND (0.50)	0.2	ND (0.52) *	ND (0.55) *	ND (0.50)	ND (0.51) *	0.1	ND (0.52) *	ND (0.59) *	0.078				
Perfluorooctanoic acid (PFOA)	0.72	300	0.18	0.45	0.67	ND (0.54)	ND (0.56)	ND (0.50)	0.59	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	0.41	0.57	ND (0.52)	0.21				
Perfluorooctanesulfonic acid (PFOS)	2	300	0.72	1.2	0.57	0.58	ND (0.56)	1.4	0.8	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	2.2	2.3	0.82	0.28				
Perfluorononanoic acid (PFNA)	0.32	300	0.1	0.22	ND (0.57) *	ND (0.54) *	ND (0.56) *	0.11	0.37	ND (0.52) *	ND (0.55) *	ND (0.50) *	ND (0.51) *	0.23	ND (0.52) *	ND (0.59) *	0.21				
Perfluorodecanoic acid (PFDA)	0.3	300	0.17	0.34	ND (0.57) *	ND (0.54) *	ND (0.56) *	0.19	0.22	ND (0.52) *	ND (0.55) *	ND (0.50) *	ND (0.51) *	0.31	ND (0.52) *	ND (0.59) *	0.11				
Perfluorohexanesulfonic acid (PFHxS)	0.3	300	ND (0.48) *	ND (0.52) *	ND (0.57) *	ND (0.54) *	ND (0.56) *	ND (0.50) *	ND (0.54) *	ND (0.52) *	ND (0.55) *	ND (0.50) *	ND (0.51) *	ND (0.58) *	ND (0.52) *	ND (0.59) *	ND (0.46) *				
Total			1.63	3.68	1.24	0.58	ND (0.56)	1.88	3.60	ND (0.52)	ND (0.55)	ND (0.50)	ND (0.51)	3.98	2.83	0.82	0.95				

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
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit exceeds one or more of the regulatory criteria.

P-0534

August 30, 2023

Robert and Paula Leary
21 Mountain Road
Princeton, Massachusetts 01541

Re: **Soil Sampling Results
21 Mountain Road, Princeton**

Dear Mr. and Mrs. Leary:

Enclosed is a copy of the laboratory analytical results for soil samples collected from your property at 21 Mountain Road as part of environmental assessment activities being completed on behalf of the Town of Princeton.

Tighe & Bond personnel collected five soil samples from 0 to 12 inches below surface grade from your property on July 11, 2023, to assess a release of per- and polyfluoroalkyl substances (PFAS) that may have originated from 30 Mountain Road during firefighting efforts in 2017. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory.

For your reference, a Site Plan showing the locations of the soil samples, a summary table summarizing the laboratory results and the complete laboratory report are attached to this letter. Analytical results have been compared to *Massachusetts Contingency Plan Method 1 S-1/GW-1 Soil Standards and Method 2 Direct Contact Standards (MCP, 310 CMR 40.0000)* for six specific PFAS compounds (PFAS6) regulated by MassDEP.

As shown on the attached summary table (the new samples are highlighted in blue), regulated PFAS compounds were detected in four of the five soil samples [21MTN S-8 (0 to 6 inches and 6 to 12 inches), 21MTN S-9 (0 to 6 inches), and 21MTN S-10 (0 to 6-inches and 6 to 12 inches)] at concentrations above Method 1 S-1/GW-1 Soil Standards. The detections are below MassDEP's Method 2 Direct Contact Standards, and although the detection is above MassDEP's S-1/GW-1 Soil Standards, a Method 3 Risk Assessment conducted for Tighe & Bond has determined that soil concentrations at these levels do not pose a significant risk of harm to human health. No specific action is required at this time, but these data will be included in the full data set gathered by Tighe & Bond to determine if additional assessment and/or response actions are necessary or appropriate.

Please call the Princeton Town Administrator, Sherry Patch, at (978) 464-2102 or the undersigned at (413) 572-3227, if you have any questions regarding this information.

Very truly yours,

TIGHE & BOND, INC.

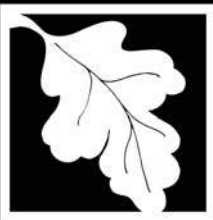


Jeffrey L. Arps, LSP
Vice President

Enclosures

Copy: Sherry Patch, Princeton Town Administrator
MassDEP, Bureau of Waste Site Cleanup





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
 Release Tracking Number

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

-

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: _____
 City/Town: _____ Zip Code: _____

B. This notice is being provided to the following party:

1. Name: _____
 2. Street Address: _____
 City/Town: _____ Zip Code: _____

C. This notice is being given to inform its recipient (the party listed in Section B):

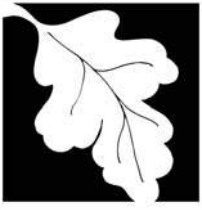
1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: _____
 City/Town: _____ Zip Code: _____
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|--|---|
| Immediate Response Action | Phase III Feasibility Evaluation |
| Release Abatement Measure | Phase IV Remedy Implementation Plan |
| Utility-related Abatement Measure | Phase V/Remedy Operation Status |
| Phase I Initial Site Investigation | Post-Temporary Solution Operation, Maintenance and Monitoring |
| Phase II Comprehensive Site Assessment | Other _____ |
- (specify)
3. Description of property where sampling will be/has been conducted:
 residential commercial industrial school/playground Other _____
(specify)
4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____
 Street Address: _____
 City/Town: _____ Zip Code: _____
 Telephone: _____ Email: _____



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

-

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at <http://www.mass.gov/eea/agencies/massdep/cleanup>. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See <http://public.dep.state.ma.us/SearchableSites2/Search.aspx> to view site-specific files on-line or <http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html> if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.



Legend

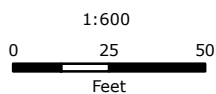
- Proposed Sample Location
- ⊕ Soil Boring Locations
- Non-Community Transient Public Water Supply
- Sampling Area
- Approximate Parcel Boundary
- ▨ Municipal Boundary

**FIGURE 1
SITE PLAN**

21 Mountain Road
Princeton, Massachusetts



Based on MassGIS Color Orthophotography (2019)
and Approximate Parcels from MassGIS, by the town of Princeton (FY2020)



June 2023

TABLE 4 - PFAS Soil Sampling Summary
Princeton, Massachusetts

Parameter	Method 1 S-1/GW-1 Standard	Method 2 S-1 Direct Contact Standard	21MTN S-1													
			19MTN S-1	21MTN S-1	21MTN S-2	21MTN S-3	21MTN S-4	21MTN S-5	21MTN S-6	21MTN S-7	21MTN S-8		21MTN S-9	21MTN S-10		
			11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	7/11/2023	7/11/2023	7/11/2023	
Sampling Date			11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	7/11/2023	7/11/2023	7/11/2023	
Sample Depth (inches)			0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	6-12	0-6	0-6	6-12
SOP-466 PFAS (µg/kg dry)																
Perfluorobutanoic acid (PFBA)	~	~	0.1	0.2	0.17	0.15	ND (0.49)	0.63	0.21	0.25	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluorobutanesulfonic acid (PFBS)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.54)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluoropentanoic acid (PFPA)	~	~	0.1	ND (0.48)	ND (0.50)	0.12	0.075	1.6	0.17	0.15	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluorohexanoic acid (PFHA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	0.12	ND (0.49)	1.2	0.22	0.11	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
11Cl-PF3OUds (F538 Minor)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
9Cl-PF3ONS (F538 Major)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluorododecanoic acid (PFDA)	~	~	0.12	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluoroheptanesulfonic acid (PFHpS)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
N-ETFSAA	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
N-MeFOSAA	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluorotetradecanoic acid (PFTA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluorotridecanoic acid (PFTDA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluorodecanesulfonic acid (PFDS)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluorooctanesulfonamide (FOSA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluorononanesulfonic acid (PFNS)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluoro-1-hexanesulfonamide (FHSAA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluoro-1-butanesulfonamide (FBSA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluoro-4-oxopentanoic acid (PFMPA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
6:2 Fluorotelomersulfonic acid (6:2FTS A)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	1	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluoropentanesulfonic acid (PFPS)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluoroundecanoic acid (PFUA)	~	~	0.14	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	0.15	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	~	~	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.54)	ND (0.49)	ND (0.57)	ND (0.57)	ND (0.54)	ND (0.61)	ND (0.60)	ND (0.72)	ND (0.53)	ND (0.62)	
Perfluoroheptanoic acid (PFHpA)	0.5	300	ND (0.48)	0.081	0.08	0.098	ND (0.49)	0.27	0.21	0.14	ND (0.61) *	ND (0.60) *	ND (0.72) *	ND (0.53) *	ND (0.62) *	
Perfluorooctanoic acid (PFDA)	0.72	300	0.18	0.2	0.16	0.23	0.2	0.91	0.55	0.46	0.7	0.81	0.72	0.95	0.8	
Perfluorooctanesulfonic acid (PFOS)	2	300	0.72	0.46	0.45	0.72	1	1.9	2.5	0.83	10	6.9	19	0.95	8	
Perfluorononanoic acid (PFNA)	0.32	300	0.1	0.13	0.14	0.18	0.14	0.46	0.26	0.2	ND (0.61) *	ND (0.60) *	ND (0.72) *	ND (0.53) *	ND (0.62) *	
Perfluorodecanoic acid (PFDA)	0.3	300	0.17	ND (0.48) *	ND (0.50) *	0.11	0.11	0.15	0.25	0.084	ND (0.61) *	ND (0.60) *	ND (0.72) *	ND (0.53) *	ND (0.62) *	
Perfluorohexanesulfonic acid (PFHS)	0.3	300	ND (0.48) *	ND (0.48) *	ND (0.50) *	ND (0.54) *	ND (0.49) *	0.48	0.78	ND (0.54) *	ND (0.61) *	ND (0.60) *	1.5	ND (0.53) *	ND (0.62) *	
		Total	1.63	1.07	1.00	1.73	1.53	7.75	6.15	2.22	10.70	7.71	21.22	0.95	8.00	

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 compound
 Bolded values exceed Method 1 Standard
 An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit exceeds one or more of the regulatory criteria

P-0534

August 30, 2023

Hugh & Rachel Wiese
22 Mountain Road
Princeton, Massachusetts 01540

Re: **Soil Sampling Results
22 Mountain Road, Princeton**

Dear Mr. & Mrs. Wiese:

Enclosed is a copy of the laboratory analytical results for soil samples collected from your property at 22 Mountain Road as part of environmental assessment activities being completed on behalf of the Town of Princeton.

Tighe & Bond personnel collected the soil samples from your property on July 11, 2023, to assess a release of per- and polyfluoroalkyl substances (PFAS) that may have originated from 30 Mountain Road during firefighting efforts in 2017. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory.

For your reference, a Site Plan showing the locations of the soil samples, a summary table summarizing the laboratory results and the complete laboratory report are attached to this letter. Analytical results have been compared to *Massachusetts Contingency Plan Method 1 S-1/GW-1 Soil Standards and Method 2 Direct Contact Standards (MCP, 310 CMR 40.0000)* for six specific PFAS compounds (PFAS6) regulated by MassDEP.

As shown on the attached summary table (the new samples are highlighted in blue), regulated PFAS compounds were detected in one soil sample [22MTN S-15 (6 to 12 inches)] concentrations above Method 1 S-1/GW-1 Soil Standards. The detection is below MassDEP's Method 2 Direct Contact Standards, and although the detection is above MassDEP's S-1/GW-1 Soil Standards, a Method 3 Risk Assessment conducted for Tighe & Bond has determined that soil concentrations at these levels do not pose a significant risk of harm to human health. No specific action is required at this time, but these data will be included in the full data set gathered by Tighe & Bond to determine if additional assessment and/or response actions are necessary or appropriate.

Please call the Princeton Town Administrator, Sherry Patch, at (978) 464-2102 or the undersigned at (413) 572-3227, if you have any questions regarding this information.

Very truly yours,

TIGHE & BOND, INC.



Jeffrey L. Arps, LSP
Vice President

Enclosures

Copy: Sherry Patch, Princeton Town Administrator
MassDEP, Bureau of Waste Site Cleanup





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

-

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: _____
City/Town: _____ Zip Code: _____

B. This notice is being provided to the following party:

1. Name: _____
2. Street Address: _____
City/Town: _____ Zip Code: _____

C. This notice is being given to inform its recipient (the party listed in Section B):

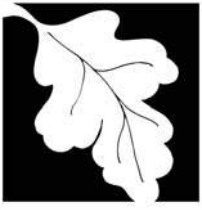
1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: _____
City/Town: _____ Zip Code: _____
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|--|---|
| Immediate Response Action | Phase III Feasibility Evaluation |
| Release Abatement Measure | Phase IV Remedy Implementation Plan |
| Utility-related Abatement Measure | Phase V/Remedy Operation Status |
| Phase I Initial Site Investigation | Post-Temporary Solution Operation, Maintenance and Monitoring |
| Phase II Comprehensive Site Assessment | Other _____ |
- (specify)
3. Description of property where sampling will be/has been conducted:
residential commercial industrial school/playground Other _____
(specify)
4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

E. Contact information related to the party providing this notice:

Contact Name: _____
Street Address: _____
City/Town: _____ Zip Code: _____
Telephone: _____ Email: _____



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

	-	
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NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

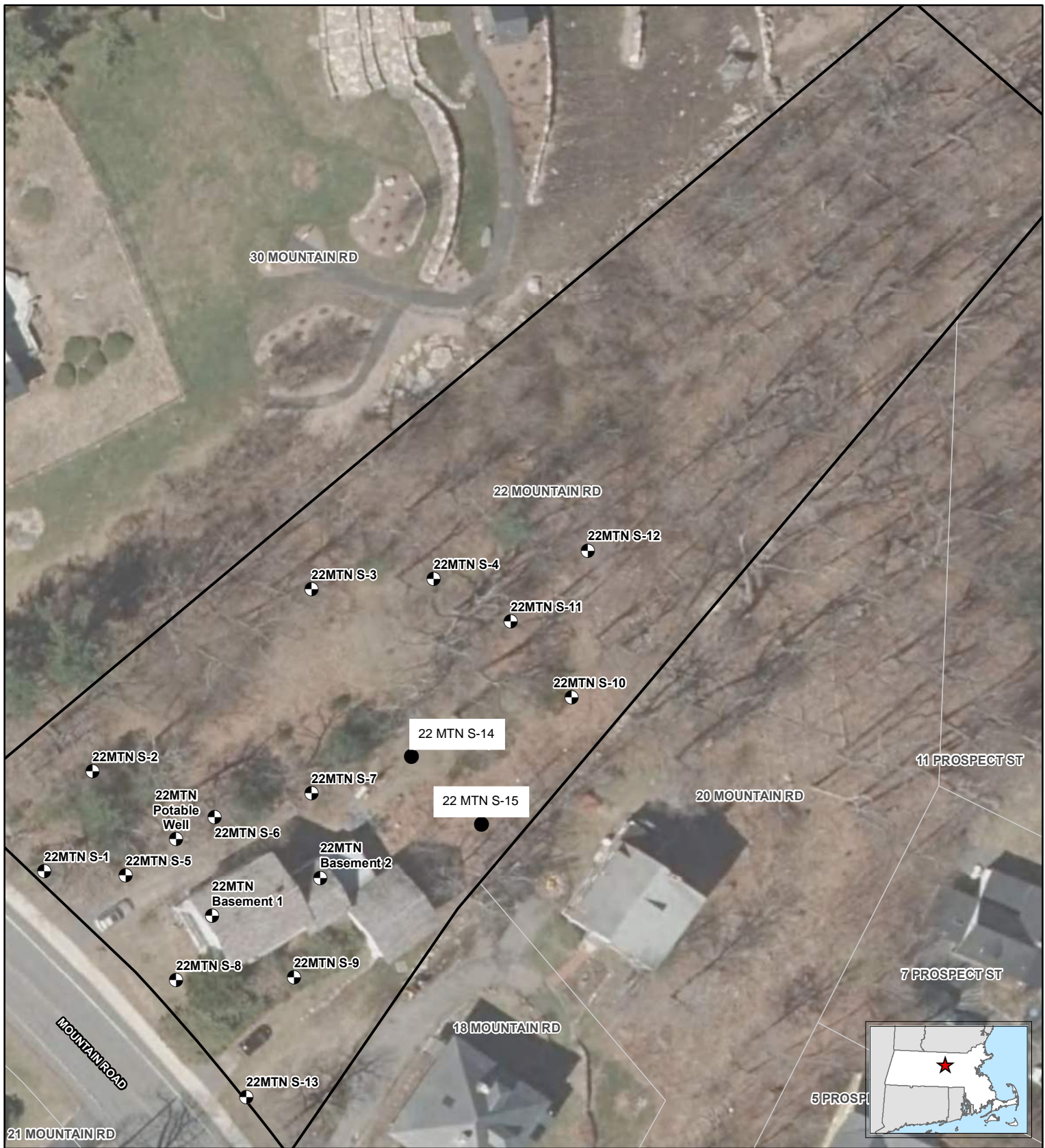
When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at <http://www.mass.gov/eea/agencies/massdep/cleanup>. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See <http://public.dep.state.ma.us/SearchableSites2/Search.aspx> to view site-specific files on-line or <http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html> if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

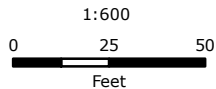


Legend

- Proposed Sample Location
- ⊗ Soil Boring Locations
- Non-Community Transient Public Water Supply
- ▭ Site Parcel
- ▭ Approximate Parcel Boundary
- ▭ Municipal Boundary



Based on MassGIS Color Orthophotography (2019) and Approximate Parcels from MassGIS, by the town of Princeton (FY2020)



**FIGURE 1
SITE PLAN**

22 Mountain Road
Princeton, Massachusetts

June 2023

TABLE 4 - PFAS Soil Sampling Summary
Princeton, Massachusetts

Parameter	Method 1 5-2/GW-1 Standard	Method 2 5-1 Direct Standard	22MTN 5-1		22MTN 5-2		22MTN 5-3		22MTN 5-4		22MTN 5-5		22MTN 5-6		22MTN 5-7		22MTN 5-8		22MTN 5-9		22MTN 5-10		22MTN 5-11		22MTN 5-12		22MTN 5-13		22MTN 5-14		22MTN 5-15		Basement-1		Basement-2	
			7/29/2021	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	7/29/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021	10/27/2021	7/29/2021	10/27/2021	7/11/2023	7/11/2023	10/29/2021	10/29/2021				
SOP 466 PFAS (ug/kg dry)			0.91	0.72	0.25	0.21	0.6	0.58	0.23	0.48	0.18	ND (0.55)	0.48	ND (0.39)	ND (0.40)	1.3	ND (0.44)	1.3	ND (0.58)	0.59	ND (0.51)	0.67	0.62	0.36	1.4	0.08	0.09	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	0.087	0.38		
Perfluorobutanoic acid (PFBA)	--	--	0.4	0.27	ND (0.51)	ND (0.52)	0.6	0.25	0.11	0.086	ND (0.57)	ND (0.55)	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)	0.12	ND (0.57)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	0.12			
Perfluoropentanoic acid (PFPA)	--	--	0.97	0.71	0.22	0.13	0.38	0.24	0.13	0.19	ND (0.57)	ND (0.55)	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)	0.13	0.30	0.17	0.50	0.09	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	0.29		
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)	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)	0.17	0.29	0.17	0.43	0.11	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	0.16		
11C-PFOuDS (F538 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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
BC-PFOuDS (F538 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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
1,6-Dioxo-3H-perfluorooctanoic 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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
6,2-Fluorotelomer sulfonic acid (6:2FTS A)	--	--	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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	0.13	0.11	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	0.12		
Perfluorododecanoic acid (PFDA)	--	--	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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	0.13	0.11	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	0.12		
Perfluoro(2-ethylhexyl)sulfonic acid (PFESA)	--	--	1.3	0.9	ND (0.53)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
Perfluorooctanesulfonic acid (PFOS)	--	--	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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
N-ETOSAA	--	--	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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	0.29	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	0.42	ND (0.43)	ND (0.77)		
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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
Perfluorodecanoic 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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
6,2-Fluorotelomer sulfonic acid (6:2FTS 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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
Perfluorodecane sulfonic 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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	0.13	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	0.36	ND (0.43)	ND (0.77)		
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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
Perfluorooctanesulfonic acid (PFOS)	--	--	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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
Perfluoro-1-butanedisulfonamide (FBISA)	--	--	0.16	0.8	ND (0.51)	ND (0.52)	ND (0.57)	ND (0.64)	ND (0.68)	ND (0.55)	ND (0.57)	ND (0.55)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
Perfluoro-1-butanedisulfonic acid (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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
Perfluoro-4-octanesulfonic acid (PFOMA)	--	--	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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
Perfluoro-8-octanesulfonic acid (PFOMA)	--	--	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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
6,2-Fluorotelomer sulfonic acid (6:2FTS A)	--	--	ND (0.53)	ND (0.56)	ND (0.51)	0.72	0.32	ND (0.57)	ND (0.64)	0.28	ND (0.55)	ND (0.57)	ND (0.55)	ND (0.50)	ND (0.39)	ND (0.40)	0.18	ND (0.44)	ND (0.62)	ND (0.58)	ND (0.49)	ND (0.51)	ND (0.49)	ND (0.68)	ND (0.57)	0.25	0.45	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
Perfluorooctanesulfonic acid (PFOS)	--	--	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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	ND (0.77)	ND (0.53)	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
Perfluoroundecanoic acid (PFUuA)	--	--	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)	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)	ND (0.49)	ND (0.68)	ND (0.57)	0.27	0.18	ND (0.48)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.43)	ND (0.77)		
Nonafluoro-2,6-dioxahexanoic acid (NFDA)	--	--	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)	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)	ND (0.49)	ND (0.68)	ND (0.57)											

Tighe&Bond

APPENDIX F

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

	Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status		
Radius 1	21 MountainRoad	12/5/2019	12/13/2019	1/12/2020	Submitted with IRA Status No. 1		
	5 HubbardstonRoad	12/5/2020	12/13/2019	1/12/2020			
	7 HubbardstonRoad	12/5/2020	12/13/2019	1/12/2020			
	15 HubbardstonRoad	12/5/2020	12/13/2019	1/12/2020			
	19 HubbardstonRoad	12/5/2020	12/13/2019	1/12/2020			
	6 MountainRoad	12/5/2020	12/13/2019	1/12/2020			
	19 MountainRoad	12/4/2020	12/13/2019	1/12/2020			
	10 MountainRoad	12/9/2020	12/30/2019	1/29/2020			
	7 Prospect	12/9/2020	12/30/2019	1/29/2020			
	5 Prospect	1/13/2020	1/16/2020	2/15/2020			
	14 MountainRoad	1/9/2020	1/21/2020	2/20/2020			
	23 HubbardstonRoad	1/10/2020	1/23/2020	2/22/2020			
	18 MountainRoad	1/13/2020	1/23/2020	2/22/2020			
	20 MountainRoad	1/13/2020	1/23/2020	2/22/2020			
	19 MountainRoad	1/10/2020	1/30/2020	2/29/2020			
	19 MountainRoad	1/17/2020	1/30/2020	2/29/2020			
	21 MountainRoad	1/24/2020	1/30/2020	2/29/2020			
	5 Prospect	1/24/2020	2/6/2020	3/7/2020			
	19 MountainRoad	1/31/2020	2/7/2020	3/8/2020			
	21 MountainRoad	1/31/2020	2/7/2020	3/8/2020			
	19 MountainRoad	1/31/2020	2/7/2020	3/8/2020			
	5 Prospect	1/31/2020	2/7/2020	3/8/2020			
	14 MountainRoad	1/22/2020	2/7/2020	3/8/2020			
	21 MountainRoad	2/7/2020	2/18/2020	3/19/2020			
	5 HubbardstonRoad	2/5/2020	2/18/2020	3/19/2020			
	5 Prospect	2/7/2020	2/18/2020	3/19/2020			
	6 MountainRoad	2/5/2020	2/19/2020	3/20/2020			
	Radius 2	13 Boylston	1/8/2020	1/21/2020		2/20/2020	Submitted with IRA Status No. 1
		16 Boylston	1/9/2020	1/21/2020		2/20/2020	
		17 Boylston	1/8/2020	1/21/2020		2/20/2020	
24 Boylston		1/9/2020	1/21/2020	2/20/2020			
14 Gregory Hill		1/9/2020	1/21/2020	2/20/2020			
1 Hubbardston		1/8/2020	1/21/2020	2/20/2020			
2 Mountain		1/7/2020	1/21/2020	2/20/2020			
29 Mountain		1/8/2020	1/21/2020	2/20/2020			
11 Prospect		1/8/2020	1/21/2020	2/20/2020			
17 Prospect		1/8/2020	1/21/2020	2/20/2020			
18 Prospect		1/8/2020	1/21/2020	2/20/2020			
1 Worcester		1/7/2020	1/21/2020	2/20/2020			
10 Worcester		1/9/2020	1/21/2020	2/20/2020			
13 Gregory Hill		1/10/2020	1/23/2020	2/22/2020			
15 Gregory Hill		1/13/2020	1/23/2020	2/22/2020			
12 Boylston		1/10/2020	1/29/2020	2/28/2020			
30 Mountain		1/27/2020	1/30/2020	2/29/2020			
11 Gregory Hill		1/22/2020	2/6/2020	3/7/2020			
16 Prospect		1/22/2020	2/7/2020	3/8/2020			
7 Boylston		1/27/2020	2/13/2020	3/14/2020			
33 Mountain		2/7/2020	2/14/2020	3/15/2020			
21 Prospect		2/5/2020	2/14/2020	3/15/2020			

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status	
12 Radford	5/1/2020	5/13/2020	6/12/2020	Submitted with IRA Status No. 2	
64 Mountain	1/30/2020	2/5/2020	3/6/2020		
28 Radford	1/30/2020	2/5/2020	3/6/2020		
32 Allen Hill	2/2/2020	2/6/2020	3/7/2020		
9 Gregory	2/1/2020	2/7/2020	3/8/2020		
17 Worcester	2/10/2020	2/14/2020	3/15/2020		
44 Gregory Hill	2/5/2020	2/14/2020	3/15/2020		
33 Hubbardston	2/5/2020	2/14/2020	3/15/2020		
36 Hubbardston	2/6/2020	2/14/2020	3/15/2020		
26 Prospect St	2/6/2020	2/14/2020	3/15/2020		
16 Worcester	2/5/2020	2/14/2020	3/15/2020		
23 Worcester	2/5/2020	2/14/2020	3/15/2020		
2 Radford	2/19/2020	2/26/2020	3/27/2020		
21 Boylston	2/19/2020	2/27/2020	3/28/2020		
12 Allen Hill	2/14/2020	2/27/2020	3/28/2020		
38 Mountain	2/14/2020	2/27/2020	3/28/2020		
11 Radford	2/14/2020	2/27/2020	3/28/2020		
9 Allen Hill	2/12/2020	2/28/2020	3/29/2020		
42 Hubbardston	2/10/2020	2/28/2020	3/29/2020		
44 Hubbardston	2/10/2020	2/28/2020	3/29/2020		
46 Hubbardston	2/12/2020	2/28/2020	3/29/2020		
52 Hubbardston	2/12/2020	2/28/2020	3/29/2020		
51 Mountain	2/12/2020	2/28/2020	3/29/2020		
48 Hubbardston	2/12/2020	2/28/2020	3/29/2020		
54 Mountain	2/26/2020	3/6/2020	4/5/2020		
21 Gregory Hill	2/28/2020	3/6/2020	4/5/2020		
58 Mountain	2/26/2020	3/6/2020	4/5/2020		
85 Merriam	2/26/2020	3/6/2020	4/5/2020		
105 Merriam	2/28/2020	3/6/2020	4/5/2020		
7 Radford	2/28/2020	3/6/2020	4/5/2020		
8 Radford	2/28/2020	3/6/2020	4/5/2020		
13 Radford	3/3/2020	3/16/2020	4/15/2020		
15 Worcester	3/6/2020	3/16/2020	4/15/2020		
20 Worcester	3/17/2020	4/1/2020	5/1/2020		
5 Hubbardston	2/5/2020	2/18/2020	3/19/2020		Submitted with IRA Status No.2
5 Hubbardston	3/5/2020	3/12/2020	4/11/2020		
20 Mountain	2/14/2020	2/26/2020	3/27/2020		
20 Mountain	3/17/2020	4/1/2020	5/1/2020		
7 Boylston	3/17/2020	4/1/2020	5/1/2020		
18 Mountain	2/14/2020	3/3/2020	4/2/2020		
18 Mountain	3/11/2020	3/17/2020	4/16/2020		
15 HubbardstonRoad	2/26/2020	3/9/2020	4/8/2020		
19 HubbardstonRoad	2/26/2020	3/9/2020	4/8/2020		
21 Mountain	3/17/2020	4/1/2020	5/1/2020		
64 Mountain	3/3/2020	3/12/2020	4/11/2020		
6 Mountain	3/5/2020	3/12/2020	4/11/2020		
19 Mountain	3/3/2020	3/17/2020	4/16/2020		
29 Mountain	3/11/2020	3/18/2020	4/17/2020		
1 Hubbardston	3/11/2020	3/18/2020	4/17/2020		
15 Gregory	3/11/2020	3/18/2020	4/17/2020		

Radius 3

POET Sampling

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

	Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
Radius 4	15 Radford	9/18/2020	10/8/2020	11/7/2020	Submitted with IRA Status No.3
	18 Radford	9/18/2020	10/8/2020	11/7/2020	
	23 Radford	7/22/2020	8/7/2020	9/6/2020	
	29 Radford	3/17/2020	4/1/2020	5/1/2020	Submitted with IRA Status No.2
	81 Hubbardston	4/28/2020	5/13/2020	6/12/2020	
	57 Merriam	4/28/2020	5/13/2020	6/12/2020	
	59 Merriam	4/28/2020	5/13/2020	6/12/2020	
	70 Merriam	4/28/2020	5/13/2020	6/12/2020	
	15 Allen Hill	4/28/2020	5/14/2020	6/13/2020	
	19 Allen Hill	4/28/2020	5/14/2020	6/13/2020	
	40 Boylston	4/28/2020	5/14/2020	6/13/2020	
	37 Radford	4/28/2020	5/14/2020	6/13/2020	
	4 Goodnow	4/28/2020	5/18/2020	6/17/2020	
	20 Allen Hill	5/8/2020	5/19/2020	6/18/2020	
41 Prospect	5/15/2020	6/1/2020	7/1/2020		
33 Radford	5/29/2020	6/15/2020	7/15/2020		
32 Boylston	5/28/2020	6/15/2020	7/15/2020		
73 Hubbardston	6/11/2020	6/22/2020	7/22/2020		
May 2020 POET Sampling	12 Boylston	5/1/2020	5/13/2020	6/12/2020	Submitted with IRA Status No.2
	1 Hubbardston	5/1/2020	5/13/2020	6/12/2020	
	5 Hubbardston	5/1/2020	5/13/2020	6/12/2020	
	15 Hubbardston	5/1/2020	5/13/2020	6/12/2020	
	18 Mountain	5/1/2020	5/13/2020	6/12/2020	
	7 Boylston	5/1/2020	5/18/2020	6/17/2020	
	43 Hubbardston	5/8/2020	5/26/2020	6/25/2020	
	6 Mountain	5/8/2020	5/26/2020	6/25/2020	
	19 Mountain	5/8/2020	5/26/2020	6/25/2020	
	21 Mountain	5/8/2020	5/26/2020	6/25/2020	
	64 Mountain	5/8/2020	5/26/2020	6/25/2020	
	29 Mountain	5/8/2020	6/15/2020	7/15/2020	
51 Mountain	5/28/2020	6/15/2020	7/15/2020		
Quarterly Sampling	11 Prospect	9/10/2020	9/29/2020	10/29/2020	Submitted with IRA Status No.3
	21 Gregory Hill	9/18/2020	10/8/2020	11/7/2020	
	52 Hubbardston	9/18/2020	10/8/2020	11/7/2020	
	7 Hubbardston	6/5/2020	6/15/2020	7/15/2020	Submitted with IRA Status No.2
	19 Hubbardston	6/5/2020	6/15/2020	7/15/2020	
	23 Hubbardston	5/29/2020	6/15/2020	7/15/2020	
	14 Mountain	5/29/2020	6/15/2020	7/15/2020	
	7 Prospect	6/5/2020	6/15/2020	7/15/2020	
	13 Boylston	5/28/2020	6/15/2020	7/15/2020	
	16 Boylston	5/28/2020	6/15/2020	7/15/2020	
	17 Boylston	5/28/2020	6/15/2020	7/15/2020	
	24 Boylston	5/29/2020	6/15/2020	7/15/2020	
	11 Gregory Hill	5/29/2020	6/15/2020	7/15/2020	
	13 Gregory Hill	5/29/2020	6/15/2020	7/15/2020	
	14 Gregory Hill	5/29/2020	6/15/2020	7/15/2020	
	2 Mountain	6/5/2020	6/15/2020	7/15/2020	
	16 Prospect	6/5/2020	6/15/2020	7/15/2020	
	17 Prospect	6/5/2020	6/15/2020	7/15/2020	
	18 Prospect	6/5/2020	6/15/2020	7/15/2020	
	10 Mountain	6/11/2020	6/22/2020	7/22/2020	
	30 Mountain	6/5/2020	6/22/2020	7/22/2020	
	1 Worcester	6/11/2020	6/22/2020	7/22/2020	
	10 Worcester	6/11/2020	6/22/2020	7/22/2020	
	13 Radford	7/21/2020	8/6/2020	9/5/2020	
	15 Worcester	7/21/2020	8/6/2020	9/5/2020	
	17 Worcester	7/21/2020	8/6/2020	9/5/2020	
	20 Worcester	7/21/2020	8/6/2020	9/5/2020	
	23 Worcester	7/21/2020	8/6/2020	9/5/2020	
36 Hubbardston	7/22/2020	8/7/2020	9/6/2020		
48 Hubbardston	7/23/2020	8/7/2020	9/6/2020		
11 Radford	7/22/2020	8/7/2020	9/6/2020		

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
9 Allen Hill	7/23/2020	8/10/2020	9/9/2020	Submitted with IRA Status No.3
32 Allen Hill	7/22/2020	8/10/2020	9/9/2020	
21 Boylston	7/22/2020	8/10/2020	9/9/2020	
44 Gregory Hill	7/22/2020	8/10/2020	9/9/2020	
33 Hubbardston	7/23/2020	8/10/2020	9/9/2020	
42 Hubbardston	7/23/2020	8/10/2020	9/9/2020	
46 Hubbardston	7/23/2020	8/10/2020	9/9/2020	
85 Merriam	7/22/2020	8/10/2020	9/9/2020	
105 Merriam	7/21/2020	8/10/2020	9/9/2020	
33 Mountain	7/22/2020	8/10/2020	9/9/2020	
38 Mountain	7/21/2020	8/10/2020	9/9/2020	
21 Prospect	7/22/2020	8/10/2020	9/9/2020	
7 Radford	7/21/2020	8/10/2020	9/9/2020	
8 Radford	7/21/2020	8/10/2020	9/9/2020	
28 Radford	7/21/2020	8/10/2020	9/9/2020	
29 Radford	7/21/2020	8/10/2020	9/9/2020	
44 Hubbardston	7/23/2020	8/11/2020	9/10/2020	
26 Prospect	7/23/2020	8/11/2020	9/10/2020	
12 Allen Hill	7/27/2020	8/12/2020	9/11/2020	
16 Worcester	7/29/2020	8/17/2020	9/16/2020	
22 Mountain	7/30/2020	8/17/2020	9/16/2020	
15 Gregory Hill	6/23/2020	7/7/2020	8/6/2020	
12 Radford	6/30/2020	7/8/2020	8/7/2020	
20 Mountain	6/18/2020	7/7/2020	8/6/2020	
51 Mountain	6/23/2020	7/7/2020	8/6/2020	
5 Prospect	6/18/2020	7/7/2020	8/6/2020	
12 Boylston	6/23/2020	7/7/2020	8/6/2020	
1 Hubbardston	6/18/2020	7/7/2020	8/6/2020	
15 Hubbardston	6/18/2020	7/7/2020	8/6/2020	
43 Hubbardston	6/23/2020	7/7/2020	8/6/2020	
18 Mountain	6/18/2020	7/7/2020	8/6/2020	
7 Boylston	6/18/2020	7/7/2020	8/6/2020	
6 Mountain	6/23/2020	7/7/2020	8/6/2020	
19 Mountain	6/18/2020	7/7/2020	8/6/2020	
54 Mountain	6/22/2020	7/7/2020	8/6/2020	
64 Mountain	6/18/2020	7/7/2020	8/6/2020	
5 Hubbardston	6/30/2020	7/8/2020	8/7/2020	
21 Mountain	6/30/2020	7/8/2020	8/7/2020	
29 Mountain	6/30/2020	7/14/2020	8/13/2020	
29 MountainEFF	7/14/2020	7/29/2020	8/28/2020	
58 Mountain	7/14/2020	7/30/2020	8/29/2020	Submitted with IRA Status No.3
19 Mountain	7/29/2020	8/12/2020	9/11/2020	
5 Prospect	7/27/2020	8/12/2020	9/11/2020	
1 Hubbardston	7/29/2020	8/17/2020	9/16/2020	
12 Boylston	7/31/2020	8/17/2020	9/16/2020	
12 Radford	7/31/2020	8/17/2020	9/16/2020	
15 Gregory Hill	7/31/2020	8/17/2020	9/16/2020	
15 Hubbardston	7/30/2020	8/17/2020	9/16/2020	
21 Mountain	7/31/2020	8/17/2020	9/16/2020	
51 Mountain	7/31/2020	8/17/2020	9/16/2020	
43 Hubbardston	7/29/2020	8/18/2020	9/17/2020	
18 Mountain	7/29/2020	8/19/2020	9/18/2020	
20 Mountain	7/29/2020	8/19/2020	9/18/2020	
29 Mountain	7/29/2020	8/19/2020	9/18/2020	
6 Mountain	7/29/2020	8/19/2020	9/18/2020	
64 Mountain	7/29/2020	8/19/2020	9/18/2020	
7 Boylston	7/29/2020	8/19/2020	9/18/2020	
5 Hubbardston	8/4/2020	8/21/2020	9/20/2020	
54 Mountain	8/4/2020	8/21/2020	9/20/2020	
22 Mountain	9/10/2020	9/29/2020	10/29/2020	Submitted with IRA Status No.3
12 Radford	8/31/2020	9/23/2020	10/23/2020	
58 Mountain	8/31/2020	9/22/2020	10/22/2020	
54 Mountain	9/2/2020	9/23/2020	10/23/2020	
6 Connor	8/31/2020	9/17/2020	10/17/2020	Submitted with IRA Status No.3
58 Merriam	10/6/2020	11/20/2020	12/20/2020	
19 Hubbardston	11/21/2020	12/14/2020	1/13/2021	
1 Worcester	12/16/2020	1/5/2021	2/4/2021	
2 Radford	11/30/2020	12/21/2020	1/20/2021	
15 Allen Hill Rd	10/1/2020	10/26/2020	11/25/2020	
19 Allen Hill Rd	10/2/2020	10/26/2020	11/25/2020	
20 Allen Hill Rd	10/2/2020	10/26/2020	11/25/2020	
24 Boylston	10/2/2020	10/26/2020	11/25/2020	
40 Boylston	10/1/2020	10/26/2020	11/25/2020	
4 Goodnow	10/1/2020	10/26/2020	11/25/2020	
11 Gregory Hill	10/1/2020	10/26/2020	11/25/2020	
13 Gregory Hill	10/1/2020	10/26/2020	11/25/2020	
14 Gregory Hill	10/1/2020	10/26/2020	11/25/2020	

June 2020 POET Sampling

July 2020 POET Sampling

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

	Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status		
October 2020 Quarterly Sampling	7 Hubbardston	10/1/2020	10/26/2020	11/25/2020	Submitted with IRA Status No.3		
	23 Hubbardston	10/2/2020	10/26/2020	11/25/2020			
	73 HubbardstonRd	10/2/2020	10/26/2020	11/25/2020			
	81 HubbardstonRd	10/2/2020	10/26/2020	11/25/2020			
	57 Merriam Rd	10/1/2020	10/26/2020	11/25/2020			
	59 Merriam Rd	10/1/2020	10/26/2020	11/25/2020			
	13 Boylston	10/7/2020	11/9/2020	12/9/2020			
	16 Boylston	10/7/2020	11/9/2020	12/9/2020			
	17 Boylston	10/7/2020	11/9/2020	12/9/2020			
	32 Boylston	10/7/2020	11/9/2020	12/9/2020			
	2 Mountain	10/7/2020	11/9/2020	12/9/2020			
	10 Mountain	10/7/2020	11/9/2020	12/9/2020			
	70 Merriam Rd	10/8/2020	11/17/2020	12/17/2020			
	30 Mountain	10/13/2020	11/17/2020	12/17/2020			
	37 RadfordRd	10/8/2020	11/17/2020	12/17/2020			
	7 Prospect	10/8/2020	11/17/2020	12/17/2020			
	17 Prospect	10/8/2020	11/17/2020	12/17/2020			
	41 Prospect	10/13/2020	11/17/2020	12/17/2020			
	10 Worcester	10/8/2020	11/17/2020	12/17/2020			
	33 RadfordRd	10/8/2020	11/18/2020	12/18/2020			
	16 Prospect	10/8/2020	11/18/2020	12/18/2020			
	18 Prospect	10/8/2020	11/18/2020	12/18/2020			
	35 Hubbardston	11/11/2020	12/8/2020	1/7/2021			
	33 Allen Hill	11/13/2020	12/8/2020	1/7/2021			
	14 Mountain	11/11/2020	12/10/2020	1/9/2021			
	January 2021 POET Sampling	29 Mountain	11/3/2020	12/28/2020		1/27/2021	Submitted with IRA Status No.3
		15 Radford	10/30/2020	12/28/2020		1/27/2021	
		15 Gregory Hill	11/3/2020	11/20/2020		12/20/2020	
		18 Mountain	11/6/2020	11/20/2020		12/20/2020	
		12 Radford	11/3/2020	11/20/2020		12/20/2020	
		19 Mountain	11/6/2020	11/30/2020		12/30/2020	
		7 Boylston	11/6/2020	12/2/2020		1/1/2021	
		15 Hubbardston	11/6/2020	12/2/2020		1/1/2021	
21 Mountain		11/6/2020	12/2/2020	1/1/2021			
58 Mountain		11/6/2020	12/2/2020	1/1/2021			
64 Mountain		11/6/2020	12/2/2020	1/1/2021			
5 Prospect		11/6/2020	12/2/2020	1/1/2021			
1 Hubbardston		11/13/2020	12/8/2020	1/7/2021			
43 Hubbardston		11/11/2020	12/10/2020	1/9/2021			
22 Mountain		11/18/2020	12/10/2020	1/9/2021			
51 Mountain		11/11/2020	12/10/2020	1/9/2021			
12 Boylston		11/6/2020	12/14/2020	1/13/2021			
5 Hubbardston		11/18/2020	12/14/2020	1/13/2021			
6 Mountain		11/6/2020	12/14/2020	1/13/2021			
20 Mountain		11/18/2020	12/15/2020	1/14/2021			
54 Mountain		11/19/2020	12/15/2020	1/14/2021			
15 Radford		12/4/2020	12/21/2020	1/20/2021			

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
1 Worcester	12/16/2020	1/4/2021	2/3/2021	Submitted with 6/2021 Quarterly Status Report
20 Allen Hill	1/18/2021	2/5/2021	3/7/2021	
17 Boylston	1/18/2021	2/5/2021	3/7/2021	
23 Hubbardston	1/18/2021	2/5/2021	3/7/2021	
42 Hubbardston	1/19/2021	2/5/2021	3/7/2021	
44 Hubbardston	1/19/2021	2/5/2021	3/7/2021	
15 Allen Hill	1/19/2021	2/8/2021	3/10/2021	
19 Allen Hill	1/19/2021	2/8/2021	3/10/2021	
24 Boylston	1/19/2021	2/8/2021	3/10/2021	
11 Gregory Hill	1/19/2021	2/8/2021	3/10/2021	
13 Gregory Hill	1/19/2021	2/8/2021	3/10/2021	
16 Boylston	1/20/2021	2/9/2021	3/11/2021	
40 Boylston	1/20/2021	2/9/2021	3/11/2021	
14 Gregory Hill	1/20/2021	2/9/2021	3/11/2021	
44 Gregory Hill	1/20/2021	2/9/2021	3/11/2021	
105 Merriam	1/20/2021	2/9/2021	3/11/2021	
38 Mountain	1/20/2021	2/9/2021	3/11/2021	
16 Prospect	1/20/2021	2/9/2021	3/11/2021	
37 Radford	1/20/2021	2/9/2021	3/11/2021	
20 Worcester	1/20/2021	2/9/2021	3/11/2021	
32 Boylston	1/20/2021	2/12/2021	3/14/2021	
4 Goodnow	1/21/2021	2/12/2021	3/14/2021	
36 Hubbardston	1/21/2021	2/12/2021	3/14/2021	
33 Mountain	1/21/2021	2/12/2021	3/14/2021	
29 Radford	1/21/2021	2/12/2021	3/14/2021	
17 Worcester	1/21/2021	2/12/2021	3/14/2021	
9 Allen Hill	1/19/2021	2/15/2021	3/17/2021	
12 Allen Hill	1/19/2021	2/15/2021	3/17/2021	
21 Boylston	1/19/2021	2/15/2021	3/17/2021	
17 Prospect	1/19/2021	2/15/2021	3/17/2021	
16 Worcester	1/19/2021	2/15/2021	3/17/2021	
21 Gregory Hill	1/21/2021	2/16/2021	3/18/2021	
57 Merriam	1/21/2021	2/16/2021	3/18/2021	
58 Merriam	1/21/2021	2/16/2021	3/18/2021	
2 Radford	1/21/2021	2/16/2021	3/18/2021	
10 Worcester	1/21/2021	2/16/2021	3/18/2021	
39 Hubbardston	1/22/2021	2/23/2021	3/25/2021	
46 Hubbardston	1/22/2021	2/23/2021	3/25/2021	
70 Merriam	1/22/2021	2/23/2021	3/25/2021	
2 Mountain	1/22/2021	2/23/2021	3/25/2021	
18 Prospect	1/22/2021	2/23/2021	3/25/2021	
23 Radford	1/22/2021	2/23/2021	3/25/2021	
12 Boylston	1/29/2021	2/25/2021	3/27/2021	
33 Hubbardston	1/21/2021	2/25/2021	3/27/2021	
48 Hubbardston	1/22/2021	2/25/2021	3/27/2021	
85 Merriam	1/21/2021	2/25/2021	3/27/2021	
14 Mountain	1/22/2021	2/25/2021	3/27/2021	
28 Radford	1/21/2021	2/25/2021	3/27/2021	
7 Radford	1/21/2021	2/26/2021	3/28/2021	
32 Allen Hill	1/22/2021	2/26/2021	3/28/2021	
13 Boylston	1/22/2021	2/26/2021	3/28/2021	
6 Connor	1/21/2021	2/26/2021	3/28/2021	
15 Gregory Hill	1/29/2021	2/26/2021	3/28/2021	
10 Mountain	1/22/2021	2/26/2021	3/28/2021	
29 Mountain	1/29/2021	2/26/2021	3/28/2021	
7 Prospect	1/19/2021	2/26/2021	3/28/2021	
8 Radford	1/21/2021	2/26/2021	3/28/2021	
11 Radford	1/21/2021	2/26/2021	3/28/2021	
13 Radford	1/22/2021	2/26/2021	3/28/2021	
18 Mountain	1/29/2021	3/1/2021	3/31/2021	
7 Hubbardston	1/29/2021	3/1/2021	3/31/2021	
19 Mountain	1/29/2021	3/1/2021	3/31/2021	
64 Mountain	1/29/2021	3/1/2021	3/31/2021	
18 Radford	1/29/2021	3/1/2021	3/31/2021	
15 Worcester	1/29/2021	3/1/2021	3/31/2021	
23 Worcester	1/29/2021	3/1/2021	3/31/2021	
1 Hubbardston	1/29/2021	3/8/2021	4/7/2021	
15 Hubbardston	1/29/2021	3/8/2021	4/7/2021	
21 Prospect	1/29/2021	3/8/2021	4/7/2021	
12 Radford	1/29/2021	3/8/2021	4/7/2021	
33 Radford	1/29/2021	3/8/2021	4/7/2021	
20 Mountain	1/29/2021	3/8/2021	4/7/2021	
5 Prospect	1/29/2021	3/8/2021	4/7/2021	
15 Radford	2/5/2021	3/9/2021	4/8/2021	
19 Hubbardston	1/23/2021	3/9/2021	4/8/2021	
52 Hubbardston	1/29/2021	3/9/2021	4/8/2021	
21 Mountain	2/5/2021	3/9/2021	4/8/2021	
11 Prospect	1/28/2021	3/9/2021	4/8/2021	
43 Hubbardston	2/5/2021	3/11/2021	4/10/2021	

January 2021 Quarterly Sampling

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
22 Mountain	2/5/2021	3/11/2021	4/10/2021	
41 Prospect	2/12/2021	3/17/2021	4/16/2021	
54 Mountain	2/11/2021	3/18/2021	4/17/2021	
5 Hubbardston	2/5/2021	3/22/2021	4/21/2021	
55 Merriam	2/5/2021	3/22/2021	4/21/2021	
6 Mountain	2/5/2021	3/22/2021	4/21/2021	
51 Mountain	2/5/2021	3/22/2021	4/21/2021	
58 Mountain	2/5/2021	3/22/2021	4/21/2021	
30 Mountain	2/22/2021	3/23/2021	4/22/2021	
7 Boylston	2/22/2021	3/29/2021	4/28/2021	
33 Mountain	4/16/2021	5/5/2021	6/4/2021	Submitted with 9/2021 IRA Status
85 Merriam	4/19/2021	5/10/2021	6/9/2021	Submitted with 9/2021 IRA Status
12 Allen Hill	4/20/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
20 Allen Hill	4/20/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
32 Allen Hill	4/20/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
7 Boylston	4/20/2021	5/10/2021	6/9/2021	Submitted with 9/2021 IRA Status
40 Boylston	4/20/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
6 Connor	4/20/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
11 Gregory Hill	4/21/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
13 Gregory Hill	4/21/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
14 Gregory Hill	4/20/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
7 Hubbardston	4/21/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
48 Hubbardston	4/19/2021	5/10/2021	6/9/2021	Submitted with 9/2021 IRA Status
6 Mountain	4/19/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
10 Mountain	4/19/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
14 Mountain	4/20/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
18 Mountain	4/20/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
21 Mountain	4/19/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
22 Mountain	4/19/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
29 Mountain	4/20/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
5 Prospect	4/19/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
17 Prospect	4/20/2021	5/10/2021	6/9/2021	Submitted with 9/2021 IRA Status
18 Prospect	4/19/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
21 Prospect	4/19/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
41 Prospect	4/21/2021	5/10/2021	6/9/2021	Submitted with 9/2021 IRA Status
2 Radford	4/21/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
7 Radford	4/21/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
8 Radford	4/21/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
33 Radford	4/19/2021	5/10/2021	6/9/2021	Submitted with 9/2021 IRA Status
37 Radford	4/20/2021	5/10/2021	6/9/2021	Submitted with 9/2021 IRA Status
10 Worcester	4/19/2021	5/10/2021	6/9/2021	Submitted with 6/2021 Quarterly Status
33 Allen Hill	4/20/2021	5/12/2021	6/11/2021	Submitted with 9/2021 IRA Status
4 Goodnow	4/20/2021	5/12/2021	6/11/2021	Submitted with 9/2021 IRA Status
15 Gregory Hill	4/21/2021	5/12/2021	6/11/2021	Submitted with 9/2021 IRA Status
13 Radford	4/21/2021	5/12/2021	6/11/2021	Submitted with 9/2021 IRA Status
15 Radford	4/21/2021	5/12/2021	6/11/2021	Submitted with 9/2021 IRA Status
19 Allen Hill	4/21/2021	5/14/2021	6/13/2021	Submitted with 9/2021 IRA Status
23 Hubbardston	4/22/2021	5/14/2021	6/13/2021	Submitted with 9/2021 IRA Status
58 Mountain	4/21/2021	5/14/2021	6/13/2021	Submitted with 9/2021 IRA Status
64 Mountain	4/21/2021	5/14/2021	6/13/2021	Submitted with 9/2021 IRA Status
16 Prospect	4/22/2021	5/14/2021	6/13/2021	Submitted with 9/2021 IRA Status
17 Worcester	4/22/2021	5/14/2021	6/13/2021	Submitted with 9/2021 IRA Status
13 Boylston	4/26/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
13 Boylston(RESAMPLE)	5/18/2021	6/2/2021	7/2/2021	Submitted with 9/2021 IRA Status
21 Boylston	4/26/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
1 Hubbardston	4/23/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
33 Hubbardston	4/26/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
52 Hubbardston	4/26/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
59 Merriam	4/26/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
19 Mountain	4/22/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
54 Mountain	4/23/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
7 Prospect	4/23/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
11 Prospect	4/21/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
11 Radford	4/22/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
12 Radford	4/23/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
29 Radford	4/22/2021	5/17/2021	6/16/2021	Submitted with 9/2021 IRA Status
15 Allen Hill	4/23/2021	5/18/2021	6/17/2021	Submitted with 9/2021 IRA Status
17 Boylston	4/27/2021	5/18/2021	6/17/2021	Submitted with 6/2021 Quarterly Status
24 Boylston	4/27/2021	5/18/2021	6/17/2021	Submitted with 9/2021 IRA Status
16 Worcester	4/23/2021	5/18/2021	6/17/2021	Submitted with 9/2021 IRA Status
9 Allen Hill	4/27/2021	5/19/2021	6/18/2021	Submitted with 9/2021 IRA Status
32 Boylston	4/27/2021	5/19/2021	6/18/2021	Submitted with 9/2021 IRA Status
51 Mountain	4/26/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status
21 Gregory Hill	4/26/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status
44 Gregory Hill	4/26/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status
5 Hubbardston	4/27/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status
35 Hubbardston	4/26/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status
43 Hubbardston	4/27/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status
30 Mountain	4/26/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status

April 2021 Sampling

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
28 Radford	4/26/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status
1 Worcester	4/26/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status
15 Worcester	4/26/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status
20 Worcester	4/26/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status
23 Worcester	4/26/2021	5/20/2021	6/19/2021	Submitted with 9/2021 IRA Status
18 Radford	4/26/2021	5/21/2021	6/20/2021	Submitted with 9/2021 IRA Status
36 Hubbardston	4/27/2021	5/21/2021	6/20/2021	Submitted with 9/2021 IRA Status
23 Radford	4/26/2021	5/21/2021	6/20/2021	Submitted with 9/2021 IRA Status
38 Mountain	4/27/2021	5/21/2021	6/20/2021	Submitted with 9/2021 IRA Status
30 Boylston	5/6/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
15 Hubbardston	4/26/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
19 Hubbardston	4/30/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
39 Hubbardston	5/3/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
39 Hubbardston	5/27/2021	6/9/2021	7/9/2021	Submitted with 9/2021 IRA Status
42 Hubbardston	4/26/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
42 Hubbardston	6/3/2021	6/22/2021	7/22/2021	Submitted with 9/2021 IRA Status
46 Hubbardston	4/26/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
73 Hubbardston	5/3/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
81 Hubbardston	5/3/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
70 Merriam	4/30/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
105 Merriam	4/26/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
2 Mountain	4/26/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
20 Mountain	4/26/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
7 Thompson	5/6/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
44 Hubbardston	4/26/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
55 Merriam	4/26/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
57 Merriam	4/26/2021	5/24/2021	6/23/2021	Submitted with 9/2021 IRA Status
16 Boylston	5/27/2021	6/14/2021	7/14/2021	Submitted with 9/2021 IRA Status
12 Boylston	7/22/2021	8/5/2021	9/4/2021	Submitted with 9/2021 IRA Status
29 Brooks Station	7/24/2021	8/10/2021	9/9/2021	Submitted with 9/2021 IRA Status
18 Connor	9/23/2021	10/6/2021	11/5/2021	Submitted with 12-2021 Quarterly Status Report
7 Prospect	7/22/2021	8/5/2021	9/4/2021	Submitted with 9/2021 IRA Status
38 Boylston	8/31/2021	9/14/2021	10/14/2021	Submitted with 12-2021 Quarterly Status Report
24 Boylston	10/18/2021	10/25/2021	11/24/2021	Submitted with 12-2021 Quarterly Status Report
13 Gregory Hill	10/14/2021	10/25/2021	11/24/2021	Submitted with 12-2021 Quarterly Status Report
15 Hubbardston	10/18/2021	10/25/2021	11/24/2021	Submitted with 12-2021 Quarterly Status Report
23 Hubbardston	10/14/2021	10/25/2021	11/24/2021	Submitted with 12-2021 Quarterly Status Report
35 Hubbardston	10/18/2021	10/25/2021	11/24/2021	Submitted with 12-2021 Quarterly Status Report
36 Hubbardston	10/18/2021	10/25/2021	11/24/2021	Submitted with 12-2021 Quarterly Status Report
44 Hubbardston	10/18/2021	10/25/2021	11/24/2021	Submitted with 12-2021 Quarterly Status Report
2 Mountain	10/18/2021	10/25/2021	11/24/2021	Submitted with 12-2021 Quarterly Status Report
33 Hubbardston	10/18/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
15 Allen Hill	10/14/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
33 Allen Hill	10/18/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
21 Boylston	10/18/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
40 Boylston	10/14/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
6 Connor	10/14/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
4 Goodnow	10/14/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
11 Gregory Hill	10/14/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
14 Gregory Hill	10/14/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
44 Gregory Hill	10/19/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
7 Hubbardston	10/14/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
48 Hubbardston	10/18/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
57 Merriam	10/18/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
105 Merriam	10/18/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
33 Mountain	10/18/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
58 Mountain	10/18/2021	10/27/2021	11/26/2021	Submitted with 12-2021 Quarterly Status Report
12 Allen Hill	10/14/2021	11/2/2021	12/2/2021	Submitted with 03-2022 IRA Status Report
10 Mountain	10/19/2021	11/2/2021	12/2/2021	Submitted with 03-2022 IRA Status Report
20 Allen Hill	10/19/2021	11/3/2021	12/3/2021	Submitted with 03-2022 IRA Status Report
73 Hubbardston	10/19/2021	11/3/2021	12/3/2021	Submitted with 03-2022 IRA Status Report
81 Hubbardston	10/19/2021	11/3/2021	12/3/2021	Submitted with 03-2022 IRA Status Report
59 Merriam	10/19/2021	11/3/2021	12/3/2021	Submitted with 03-2022 IRA Status Report
85 Merriam	10/19/2021	11/3/2021	12/3/2021	Submitted with 03-2022 IRA Status Report
14 Mountain	10/19/2021	11/3/2021	12/3/2021	Submitted with 03-2022 IRA Status Report
18 Mountain	10/19/2021	11/3/2021	12/3/2021	Submitted with 03-2022 IRA Status Report
64 Mountain	10/19/2021	11/3/2021	12/3/2021	Submitted with 03-2022 IRA Status Report
28 Radford	10/25/2021	11/5/2021	12/5/2021	Submitted with 03-2022 IRA Status Report
29 Radford	10/25/2021	11/5/2021	12/5/2021	Submitted with 03-2022 IRA Status Report
19 Allen Hill	10/29/2021	11/9/2021	12/9/2021	Submitted with 03-2022 IRA Status Report
54 Mountain	10/28/2021	11/9/2021	12/9/2021	Submitted with 03-2022 IRA Status Report
19 Mountain	11/3/2021	11/11/2021	12/11/2021	Submitted with 03-2022 IRA Status Report
32 Allen Hill	11/4/2021	11/11/2021	12/11/2021	Submitted with 03-2022 IRA Status Report
30 Boylston	11/3/2021	11/11/2021	12/11/2021	Submitted with 03-2022 IRA Status Report
46 Hubbardston	11/3/2021	11/11/2021	12/11/2021	Submitted with 03-2022 IRA Status Report
16 Worcester	11/4/2021	11/11/2021	12/11/2021	Submitted with 03-2022 IRA Status Report
23 Worcester	11/3/2021	11/11/2021	12/11/2021	Submitted with 03-2022 IRA Status Report
21 Mountain	11/3/2021	11/15/2021	12/15/2021	Submitted with 03-2022 IRA Status Report

July 2021 Sampling

October 2021 Sampling

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
22 Mountain	10/29/2021	11/15/2021	12/15/2021	Submitted with 03-2022 IRA Status Report
52 Hubbardston	11/8/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
16 Prospect	11/5/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
18 Prospect	11/5/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
2 Radford	11/5/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
18 Radford	11/5/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
37 Radford	11/5/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
7 Thompson	11/4/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
32 Boylston	11/4/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
10 Hubbardston	11/6/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
70 Merriam	11/4/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
11 Prospect	11/3/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
17 Prospect	11/9/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
41 Prospect	11/4/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
7 Radford	11/3/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
8 Radford	11/3/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
11 Radford	11/5/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
13 Radford	11/4/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
23 Radford	11/5/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
1 Worcester	11/4/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
10 Worcester	11/5/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
20 Worcester	11/3/2021	11/16/2021	12/16/2021	Submitted with 03-2022 IRA Status Report
33 Radford	11/8/2021	11/17/2021	12/17/2021	Submitted with 03-2022 IRA Status Report
17 Worcester	11/11/2021	11/22/2021	12/22/2021	Submitted with 03-2022 IRA Status Report
13 Boylston	11/11/2021	11/22/2021	12/22/2021	Submitted with 03-2022 IRA Status Report
17 Boylston	11/11/2021	11/22/2021	12/22/2021	Submitted with 03-2022 IRA Status Report
21 Gregory Hill	11/11/2021	11/22/2021	12/22/2021	Submitted with 03-2022 IRA Status Report
55 Merriam	11/11/2021	11/22/2021	12/22/2021	Submitted with 03-2022 IRA Status Report
38 Mountain	11/11/2021	11/22/2021	12/22/2021	Submitted with 03-2022 IRA Status Report
11 Gregory Hill	11/11/2021	11/22/2021	12/22/2021	Submitted with 03-2022 IRA Status Report
9 Allen Hill	11/3/2021	11/23/2021	12/23/2021	Submitted with 03-2022 IRA Status Report
15 Worcester	11/17/2021	11/29/2021	12/29/2021	Submitted with 03-2022 IRA Status Report
21 Prospect	2/4/2022	2/21/2022	3/23/2022	Submitted with 03-2022 IRA Status Report
26 Prospect	12/6/2021	12/14/2022	1/13/2023	Submitted with 03-2022 IRA Status Report
14 Gregory Hill	2/4/2022	2/23/2022	3/25/2022	Submitted with 03-2022 IRA Status Report
7 Hubbardston	2/18/2022	3/7/2022	4/6/2022	
68 Hubbardston	11/17/2021	11/29/2021	12/29/2021	Submitted with 03-2022 IRA Status Report
80 Hubbardston	12/16/2022	1/3/2022	2/2/2022	Submitted with 03-2022 IRA Status Report
7 Goodnow	1/18/2022	2/8/2022	3/10/2022	Submitted with 03-2022 IRA Status Report
1 Hubbardston	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
1 Worcester	4/21/2022	5/4/2022	6/3/2022	Submitted with 6-2022 Quarterly Status Report
10 Mountain	4/15/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
10 Worcester	4/13/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
105 Merriam	4/13/2022	4/26/2022	5/26/2022	Submitted with 6-2022 Quarterly Status Report
11 Gregory Hill	4/11/2022	4/18/2022	5/18/2022	Submitted with 6-2022 Quarterly Status Report
11 Prospect	4/21/2022	5/4/2022	6/3/2022	Submitted with 6-2022 Quarterly Status Report
11 Radford	4/14/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
12 Allen Hill	4/11/2022	4/18/2022	5/18/2022	Submitted with 6-2022 Quarterly Status Report
12 Boylston	4/14/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
13 Gregory Hill	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
13 Radford	4/14/2022	4/28/2022	5/28/2022	Submitted with 6-2022 Quarterly Status Report
14 Mountain	4/15/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
15 Allen Hill	4/21/2022	5/5/2022	6/4/2022	Submitted with 6-2022 Quarterly Status Report
15 Gregory Hill	4/12/2022	4/21/2022	5/21/2022	Submitted with 6-2022 Quarterly Status Report
15 Hubbardston	4/13/2022	4/26/2022	5/26/2022	Submitted with 6-2022 Quarterly Status Report
15 Worcester	4/14/2022	4/27/2022	5/27/2022	Submitted with 6-2022 Quarterly Status Report
16 Prospect	4/12/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
16 Worcester	4/14/2022	4/27/2022	5/27/2022	Submitted with 6-2022 Quarterly Status Report
17 Boylston	4/18/2022	5/4/2022	6/3/2022	Submitted with 6-2022 Quarterly Status Report
17 Prospect	4/12/2022	5/3/2022	6/2/2022	Submitted with 6-2022 Quarterly Status Report
17 Worcester	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
18 Connor	4/13/2022	4/26/2022	5/26/2022	Submitted with 6-2022 Quarterly Status Report
18 Mountain	4/12/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
18 Prospect	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
18 Radford	4/15/2022	4/26/2022	5/26/2022	Submitted with 6-2022 Quarterly Status Report
19 Allen Hill	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
19 Hubbardston	4/16/2022	5/4/2022	6/3/2022	Submitted with 6-2022 Quarterly Status Report
19 Mountain	4/12/2022	4/21/2022	5/21/2022	Submitted with 6-2022 Quarterly Status Report
2 Mountain	4/11/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
2 Radford	4/14/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
20 Allen Hill	4/13/2022	4/27/2022	5/27/2022	Submitted with 6-2022 Quarterly Status Report
20 Mountain	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
20 Worcester	5/4/2022	5/16/2022	6/15/2022	Submitted with 6-2022 Quarterly Status Report
21 Boylston	4/12/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
21 Mountain	4/12/2022	4/26/2022	5/26/2022	Submitted with 6-2022 Quarterly Status Report
21 Prospect	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
22 Mountain	4/14/2022	4/27/2022	5/27/2022	Submitted with 6-2022 Quarterly Status Report

New POET

New Location

TABLE F-1
 Public Notification Schedule
 Princeton, Massachusetts
 RTN 2-21072

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Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
23 Hubbardston	4/11/2022	4/18/2022	5/18/2022	Submitted with 6-2022 Quarterly Status Report
23 Radford	4/14/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
23 Worcester	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
24 Boylston	4/12/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

April 2022 Sa

Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
26 Prospect	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
28 Radford	4/14/2022	4/26/2022	5/26/2022	Submitted with 6-2022 Quarterly Status Report
29 Mountain	4/12/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
29 Radford	4/13/2022	4/28/2022	5/28/2022	Submitted with 6-2022 Quarterly Status Report
30 Boylston	4/21/2022	5/4/2022	6/3/2022	Submitted with 6-2022 Quarterly Status Report
30 Mountain	5/10/2022	6/1/2022	7/1/2022	Submitted with 6-2022 Quarterly Status Report
32 Allen Hill	4/12/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
32 Boylston	4/14/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
33 Allen Hill	4/12/2022	4/21/2022	5/21/2022	Submitted with 6-2022 Quarterly Status Report
33 Hubbardston	4/12/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
33 Mountain	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
33 Radford	4/13/2022	4/26/2022	5/26/2022	Submitted with 6-2022 Quarterly Status Report
35 Hubbardston	4/12/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
36 Hubbardston	4/14/2022	4/27/2022	5/27/2022	Submitted with 6-2022 Quarterly Status Report
37 Radford	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
38 Boylston	4/14/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
38 Mountain	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
4 Goodnow	4/11/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
40 Boylston	4/11/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
43 Hubbardston	4/12/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
44 Hubbardston	4/11/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
46 Hubbardston	4/15/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
48 Hubbardston	4/11/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
5 Hubbardston	4/13/2022	4/26/2022	5/26/2022	Submitted with 6-2022 Quarterly Status Report
5 Prospect	4/14/2022	4/27/2022	5/27/2022	Submitted with 6-2022 Quarterly Status Report
51 Mountain	4/14/2022	4/27/2022	5/27/2022	Submitted with 6-2022 Quarterly Status Report
55 Merriam	5/4/2022	5/16/2022	6/15/2022	Submitted with 6-2022 Quarterly Status Report
57 Merriam	4/11/2022	4/18/2022	5/18/2022	Submitted with 6-2022 Quarterly Status Report
59 Merriam	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
6 Connor	4/13/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
6 Mountain	4/12/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
64 Mountain	4/21/2022	5/4/2022	6/3/2022	Submitted with 6-2022 Quarterly Status Report
68 Hubbardston	4/16/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
7 Boylston	4/11/2022	5/10/2022	6/9/2022	Submitted with 6-2022 Quarterly Status Report
7 Goodnow	4/18/2022	5/4/2022	6/3/2022	Submitted with 6-2022 Quarterly Status Report
7 Radford	4/14/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
7 Thompson	4/12/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
70 Merriam	4/15/2022	5/2/2022	6/1/2022	Submitted with 6-2022 Quarterly Status Report
73 Hubbardston	4/16/2022	4/25/2022	5/25/2022	Submitted with 6-2022 Quarterly Status Report
8 Radford	4/14/2022	4/27/2022	5/27/2022	Submitted with 6-2022 Quarterly Status Report
80 Hubbardston	4/13/2022	4/26/2022	5/26/2022	Submitted with 6-2022 Quarterly Status Report
81 Hubbardston	4/19/2022	5/4/2022	6/3/2022	Submitted with 6-2022 Quarterly Status Report
85 Merriam	4/12/2022	4/21/2022	5/21/2022	Submitted with 6-2022 Quarterly Status Report
9 Allen Hill	4/12/2022	4/21/2022	5/21/2022	Submitted with 6-2022 Quarterly Status Report

July 2022 Quarterly POET Sampling

7 Boylston	7/28/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
12 Boylston	7/28/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
5 Hubbardston	7/26/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
35 Hubbardston	7/26/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
43 Hubbardston	7/26/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
6 Mountain	7/28/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
51 Mountain	7/26/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
11 Prospect	7/29/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
12 Radford	7/26/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
15 Radford	7/26/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
27 Worcester	7/26/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
29 Worcester	7/26/2022	8/16/2022	9/15/2022	Submitted with 3-2023 IRA Status
15 Gregory Hill	7/26/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status
15 Hubbardston	7/26/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status
18 Mountain	7/26/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status
19 Mountain	7/26/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status
20 Mountain	7/27/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status
21 Mountain	7/27/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status
22 Mountain	7/26/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status
29 Mountain	7/26/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status
54 Mountain	7/26/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status
58 Mountain	7/26/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status
64 Mountain	7/27/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status
5 Prospect	7/26/2022	8/18/2022	9/17/2022	Submitted with 3-2023 IRA Status

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
9 Allen Hill	10/24/2022	11/16/2022	12/16/2022	Submitted with 3-2023 IRA Status
12 Allen Hill	10/24/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
15 Allen Hill	10/31/2022	11/21/2022	12/21/2022	Submitted with 3-2023 IRA Status
19 Allen Hill	10/27/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
20 Allen Hill	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
32 Allen Hill	10/27/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
33 Allen Hill	10/26/2022	11/10/2022	12/10/2022	Submitted with 3-2023 IRA Status
7 Boylston	10/24/2022	11/7/2022	12/7/2022	Submitted with 3-2023 IRA Status
12 Boylston	10/26/2022	11/10/2022	12/10/2022	Submitted with 3-2023 IRA Status
16 Boylston	12/6/2022	12/16/2022	1/15/2023	Submitted with 3-2023 IRA Status
17 Boylston	10/26/2022	11/10/2022	12/10/2022	Submitted with 3-2023 IRA Status
21 Boylston	10/24/2022	11/8/2022	12/8/2022	Submitted with 3-2023 IRA Status
24 Boylston	10/25/2022	11/7/2022	12/7/2022	Submitted with 3-2023 IRA Status
30 Boylston	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
32 Boylston	10/25/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
38 Boylston	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
40 Boylston	10/26/2022	11/10/2022	12/10/2022	Submitted with 3-2023 IRA Status
6 Connor	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
18 Connor	10/25/2022	11/7/2022	12/7/2022	Submitted with 3-2023 IRA Status
4 Goodnow	10/26/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
11 Gregory Hill	10/26/2022	11/10/2022	12/10/2022	Submitted with 3-2023 IRA Status
13 Gregory Hill	10/25/2022	11/7/2022	12/7/2022	Submitted with 3-2023 IRA Status
15 Gregory Hill	10/26/2022	11/10/2022	12/10/2022	Submitted with 3-2023 IRA Status
21 Gregory Hill	10/24/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
44 Gregory Hill	10/24/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
1 Hubbardston	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
5 Hubbardston	10/27/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
15 Hubbardston	10/26/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
19 Hubbardston	11/2/2022	11/21/2022	12/21/2022	Submitted with 3-2023 IRA Status
23 Hubbardston	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
33 Hubbardston	10/27/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
35 Hubbardston	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
36 Hubbardston	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
42 Hubbardston	10/31/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
43 Hubbardston	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
44 Hubbardston	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
46 Hubbardston	10/27/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
48 Hubbardston	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
52 Hubbardston	10/26/2022	11/10/2022	12/10/2022	Submitted with 3-2023 IRA Status
68 Hubbardston	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
73 Hubbardston	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
80 Hubbardston	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
81 Hubbardston	10/25/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
55 Merriam	10/27/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
57 Merriam	10/24/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
59 Merriam	10/27/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
70 Merriam	10/26/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
85 Merriam	10/24/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
105 Merriam	10/24/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
2 Mountain	10/26/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
6 Mountain	10/26/2022	11/10/2022	12/10/2022	Submitted with 3-2023 IRA Status
10 Mountain	10/27/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
14 Mountain	10/26/2022	11/10/2022	12/10/2022	Submitted with 3-2023 IRA Status
18 Mountain	10/25/2022	11/16/2022	12/16/2022	Submitted with 3-2023 IRA Status
19 Mountain	11/2/2022	11/21/2022	12/21/2022	Submitted with 3-2023 IRA Status
21 Mountain	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
22 Mountain	10/27/2022	11/21/2022	12/21/2022	Submitted with 3-2023 IRA Status
29 Mountain	10/27/2022	11/16/2022	12/16/2022	Submitted with 3-2023 IRA Status
51 Mountain	10/27/2022	11/16/2022	12/16/2022	Submitted with 3-2023 IRA Status
54 Mountain	11/2/2022	11/21/2022	12/21/2022	Submitted with 3-2023 IRA Status
58 Mountain	10/27/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
64 Mountain	10/31/2022	11/21/2022	12/21/2022	Submitted with 3-2023 IRA Status
5 Prospect	10/27/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
7 Prospect	10/25/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
11 Prospect	10/27/2022	11/16/2022	12/16/2022	Submitted with 3-2023 IRA Status
16 Prospect	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
17 Prospect	10/31/2022	11/14/2022	12/14/2022	Submitted with 3-2023 IRA Status
18 Prospect	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
21 Prospect	10/31/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
26 Prospect	10/24/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
41 Prospect	10/31/2022	11/21/2022	12/21/2022	Submitted with 3-2023 IRA Status
2 Radford	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
7 Radford	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
8 Radford	10/24/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
11 Radford	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
12 Radford	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
13 Radford	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
15 Radford	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status

October Semi-annual Sampling

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
23 Radford	10/26/2022	11/10/2022	12/10/2022	Submitted with 3-2023 IRA Status
28 Radford	12/7/2022	12/22/2022	1/21/2023	Submitted with 3-2023 IRA Status
29 Radford	10/24/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
33 Radford	10/27/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
37 Radford	10/31/2022	11/21/2022	12/21/2022	Submitted with 3-2023 IRA Status
7 Thompson	10/27/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
1 Worcester	10/25/2022	11/11/2022	12/11/2022	Submitted with 3-2023 IRA Status
10 Worcester	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
15 Worcester	10/31/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
16 Worcester	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
17 Worcester	10/26/2022	11/16/2022	12/16/2022	Submitted with 3-2023 IRA Status
20 Worcester	10/24/2022	11/9/2022	12/9/2022	Submitted with 3-2023 IRA Status
26 Worcester	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
27 Worcester	10/27/2022	11/10/2022	12/10/2022	Submitted with 3-2023 IRA Status
29 Worcester	10/28/2022	11/15/2022	12/15/2022	Submitted with 3-2023 IRA Status
41 Worcester	12/8/2022	12/22/2022	1/21/2023	Submitted with 3-2023 IRA Status
14 Gregory Hill	1/18/2023	1/26/2023	2/25/2023	Submitted with 3-2023 IRA Status
5 Hubbardston	1/18/2023	1/26/2023	2/25/2023	Submitted with 3-2023 IRA Status
19 Mountain	1/18/2023	1/26/2023	2/25/2023	Submitted with 3-2023 IRA Status
64 Mountain	1/18/2023	1/26/2023	2/25/2023	Submitted with 3-2023 IRA Status
12 Boylston	1/19/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
32 Boylston	1/18/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
40 Boylston	1/19/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
11 Gregory Hill	1/19/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
13 Gregory Hill	1/18/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
15 Gregory Hill	1/20/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
15 Hubbardston	1/19/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
43 Hubbardston	1/20/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
55 Merriam	1/18/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
85 Merriam	1/20/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
6 Mountain	1/19/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
18 Mountain	1/20/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
22 Mountain	1/19/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
29 Mountain	1/19/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
38 Mountain	1/17/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
54 Mountain	1/19/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
58 Mountain	1/18/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
5 Prospect	1/19/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
11 Prospect	1/20/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
7 Radford	1/18/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
12 Radford	1/19/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
23 Radford	1/19/2023	2/2/2023	3/4/2023	Submitted with 3-2023 IRA Status
7 Boylston	1/18/2023	2/7/2023	3/9/2023	Submitted with 3-2023 IRA Status
7 Hubbardston	1/20/2023	2/7/2023	3/9/2023	Submitted with 3-2023 IRA Status
20 Mountain	1/20/2023	2/7/2023	3/9/2023	Submitted with 9-2023 IRA Status
51 Mountain	1/20/2023	2/7/2023	3/9/2023	Submitted with 3-2023 IRA Status
15 Radford	1/20/2023	2/7/2023	3/9/2023	Submitted with 3-2023 IRA Status
19 Hubbardston	1/28/2023	2/9/2023	3/11/2023	Submitted with 3-2023 IRA Status

January 2023 Quarterly POET Sampling

TABLE F-1
Public Notification Schedule
Princeton, Massachusetts
RTN 2-21072

Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
25 Worcester	4/3/2023	4/13/2023	5/13/2023	Submitted with 9-2023 IRA Status
17 Boylston	4/21/2023	5/1/2023	5/31/2023	Submitted with 9-2023 IRA Status
32 Boylston	4/20/2023	5/1/2023	5/31/2023	Submitted with 9-2023 IRA Status
105 Merriam	4/21/2023	5/1/2023	5/31/2023	Submitted with 9-2023 IRA Status
16 Prospect	4/21/2023	5/1/2023	5/31/2023	Submitted with 9-2023 IRA Status
17 Prospect	4/21/2023	5/1/2023	5/31/2023	Submitted with 9-2023 IRA Status
8 Radford	4/21/2023	5/1/2023	5/31/2023	Submitted with 9-2023 IRA Status
17 Worcester	4/21/2023	5/1/2023	5/31/2023	Submitted with 9-2023 IRA Status
36 Hubbardston	4/21/2023	5/3/2023	6/2/2023	Submitted with 9-2023 IRA Status
70 Merriam	4/20/2023	5/3/2023	6/2/2023	Submitted with 9-2023 IRA Status
38 Mountain	4/20/2023	5/3/2023	6/2/2023	Submitted with 9-2023 IRA Status
21 Prospect	4/20/2023	5/3/2023	6/2/2023	Submitted with 9-2023 IRA Status
26 Prospect	4/20/2023	5/3/2023	6/2/2023	Submitted with 9-2023 IRA Status
1 Worcester	4/20/2023	5/3/2023	6/2/2023	Submitted with 9-2023 IRA Status
20 Worcester	4/20/2023	5/3/2023	6/2/2023	Submitted with 9-2023 IRA Status
6 Connor	4/20/2023	5/3/2023	6/2/2023	Submitted with 9-2023 IRA Status
21 Boylston	4/20/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
19 Allen Hill	4/21/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
20 Allen Hill	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
38 Boylston	4/21/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
21 Gregory Hill	4/20/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
5 Hubbardston	4/21/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
43 Hubbardston	4/21/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
19 Mountain	4/21/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
2 Radford	4/20/2023	5/4/2023	5/4/2023	Submitted with 9-2023 IRA Status
7 Radford	4/21/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
28 Radford	4/20/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
14 Gregory Hill	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
15 Gregory Hill	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
15 Hubbardston	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
23 Hubbardston	4/26/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
73 Hubbardston	4/27/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
80 Hubbardston	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
58 Mountain	4/27/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
16 Worcester	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
27 Worcester	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
12 Allen Hill	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
15 Allen Hill	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
32 Allen Hill	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
33 Allen Hill	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
7 Boylston	4/26/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
13 Boylston	4/26/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
24 Boylston	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
30 Boylston	4/27/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
40 Boylston	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
11 Gregory Hill	4/26/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
33 Hubbardston	4/27/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
46 Hubbardston	4/26/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
55 Merriam	4/27/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
57 Merriam	4/27/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
59 Merriam	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
10 Mountain	4/26/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
18 Mountain	4/26/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
29 Mountain	4/25/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
54 Mountain	4/27/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
7 Prospect	4/26/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
18 Prospect	4/26/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
13 Radford	4/26/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
15 Radford	4/27/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
29 Radford	4/26/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
15 Worcester	4/27/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
29 Worcester	4/27/2023	5/4/2023	6/3/2023	Submitted with 9-2023 IRA Status
39 Hubbardston	4/25/2023	5/8/2023	6/7/2023	Submitted with 9-2023 IRA Status
7 Hubbardston	4/27/2023	5/10/2023	6/9/2023	Submitted with 9-2023 IRA Status
81 Hubbardston	4/26/2023	5/10/2023	6/9/2023	Submitted with 9-2023 IRA Status
4 Goodnow	5/5/2023	5/18/2023	6/17/2023	Submitted with 9-2023 IRA Status
21 Mountain	5/5/2023	5/18/2023	6/17/2023	Submitted with 9-2023 IRA Status
51 Mountain	5/5/2023	5/18/2023	6/17/2023	Submitted with 9-2023 IRA Status
11 Radford	5/5/2023	5/18/2023	6/17/2023	Submitted with 9-2023 IRA Status
23 Radford	5/5/2023	5/18/2023	6/17/2023	Submitted with 9-2023 IRA Status
10 Worcester	5/5/2023	5/18/2023	6/17/2023	Submitted with 9-2023 IRA Status
12 Boylston	5/5/2023	5/22/2023	6/21/2023	Submitted with 9-2023 IRA Status
35 Hubbardston	5/5/2023	5/22/2023	6/21/2023	Submitted with 9-2023 IRA Status
42 Hubbardston	5/5/2023	5/22/2023	6/21/2023	Submitted with 9-2023 IRA Status
41 Prospect	5/5/2023	5/22/2023	6/21/2023	Submitted with 9-2023 IRA Status
18 Radford	5/5/2023	5/22/2023	6/21/2023	Submitted with 9-2023 IRA Status
68 Hubbardston	5/9/2023	5/24/2023	6/23/2023	Submitted with 9-2023 IRA Status
85 Merriam	5/9/2023	5/24/2023	6/23/2023	Submitted with 9-2023 IRA Status
30 Mountain	5/15/2023	5/24/2023	6/23/2023	Submitted with 9-2023 IRA Status

April 2023 Semi-annual Sampling


TABLE F-1
 Public Notification Schedule
 Princeton, Massachusetts
 RTN 2-21072

Sample Location	Date Sampled	Date Data Received	Final Letter Due Date	MassDEP Submittal Status
7 Boylston	8/1/2023	8/17/2023	9/16/2023	
12 Boylston	8/4/2023	8/11/2023	9/10/2023	
16 Boylston	7/31/2023	8/15/2023	9/14/2023	
15 Gregory Hill	8/4/2023	8/11/2023	9/10/2023	
1 Hubbardston	7/31/2023	8/15/2023	9/14/2023	
5 Hubbardston	7/31/2023	8/15/2023	9/14/2023	
15 Hubbardston	8/1/2023	8/21/2023	9/20/2023	
42 Hubbardston	7/31/2023	8/11/2023	9/10/2023	
104 Merriam	7/31/2023	8/15/2023	9/14/2023	
6 Mountain	8/1/2023	8/17/2023	9/16/2023	
18 Mountain	7/31/2023	8/15/2023	9/14/2023	
19 Mountain	7/31/2023	8/15/2023	9/14/2023	
20 Mountain	7/31/2023	8/17/2023	9/16/2023	
21 Mountain	8/1/2023	8/17/2023	9/16/2023	
22 Mountain	8/4/2023	8/11/2023	9/10/2023	
29 Mountain	8/1/2023	8/11/2023	9/10/2023	
33 Mountain	8/2/2023	8/22/2023	9/25/2023	
51 Mountain	8/1/2023	8/17/2023	9/16/2023	
54 Mountain	7/31/2023	8/9/2023	9/8/2023	
58 Mountain	7/31/2023	8/15/2023	9/14/2023	
92 Mountain	8/1/2023	8/22/2023	9/21/2023	
97 Mountain	8/1/2023	8/11/2023	9/10/2023	
5 Prospect	8/1/2023	8/21/2023	9/20/2023	
7 Prospect	8/4/2023	8/11/2023	9/10/2023	
11 Prospect	8/4/2023	8/11/2023	9/10/2023	
41 Prospect	8/2/2023	8/22/2023	9/21/2023	
12 Radford	8/1/2023	8/17/2023	9/16/2023	
15 Radford	7/31/2023	8/15/2023	9/14/2023	
11 E. Princeton Road	8/19/2023	8/30/2023	9/29/2023	
91A Hubbardston Road	8/29/2023	9/5/2023	10/5/2023	
44 Merriam	8/28/2023	9/8/2023	10/8/2023	
20 Mountain	8/28/2023	9/5/2023	10/5/2023	
22 Mountain	8/28/2023	9/5/2023	10/5/2023	
25 Thompson	8/18/2023	8/30/2023	9/29/2023	

July 2023 POET Monitoring

August 2023 Followup



100% Recyclable 

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