

S-2190
January 17, 2023

Ms. Caprice Shaw
Massachusetts Department of Environmental Protection
436 Dwight Street
Springfield, MA 01103

**Re: IRA Status Report No. 1
PFAS Release
Shutesbury Fire Department
42 Leverett Road, Shutesbury
RTN 1-21340**

Dear Ms. Shaw:

On behalf of the Town of Shutesbury (the "Town"), Tighe & Bond has prepared this Immediate Response Action (IRA) Status Report in response to the detection of per- and polyfluoroalkyl substances (collectively known as "PFAS") in the drinking water well that serves the Shutesbury Fire Department at 42 Leverett Road and at proximal properties in Shutesbury ("the Site"). A Site Location Map, a Massachusetts Geographic Information Systems (MassGIS) Priority Resource Areas map showing sensitive environmental receptors in the area, and an Orthophotograph depicting PFAS6 concentrations are provided as Figures 1, 2, and 3, respectively in Appendix A. This report has been prepared in accordance with 310 CMR 40.0425 of the Massachusetts Contingency Plan (MCP).

The IRA Transmittal form (BWSC-105) is being submitted through eDEP concurrently with this report. An IRA Plan summarizing the initial assessment and response actions, and the Release Notification Form (BWSC-103), were submitted on January 17, 2023. Copies of these documents can be viewed using the MassDEP Bureau of Waste Site Cleanup online database hyperlinked below:

<https://eeaonline.eea.state.ma.us/EEA/fileviewer/Rtn.aspx?rtn=1-0021340>

Release History

Release Discovery, June-July 2021

On June 22, 2021, MassDEP BWSC Site Discovery/Risk Reduction group was notified by the University of Massachusetts (UMass) that elevated concentrations of PFAS were detected in private potable water wells located around Leverett Road and Old Orchard Road. Samples from residential properties were obtained through a voluntary sampling program directed by UMass. On June 23, 2021, MassDEP issued a Release Log Form indicating a release that was less than the reporting thresholds. RTN 1-21340 was assigned to Leverett Road and MassDEP initiated a PFAS site investigation.

On July 6, 2021, MassDEP submitted requests for access and consent to enter residential properties in Shutesbury as well as the Shutesbury Fire Department, the Shutesbury Highway Department, and the Shutesbury Town Hall.

Source Discovery Program August-September 2021

In August 2021, MassDEP's residential well sampling program (in partnership with UMass), identified detections of PFAS6 in private drinking water supplies from the 20, 35, 50, 59, and 62 Leverett Road properties at concentrations exceeding the Massachusetts Maximum Contaminant Level (MMCL) and RCGW-1 Reportable Concentration of 20 nanograms per liter (ng/L) for PFAS6. Note that re-sampling at 35 Leverett Road in September 2021 reported a PFAS6 concentration of 18.2 ng/L, slightly below 20 ng/L.

Due to exceedances of the RC/Drinking Water Standard, MassDEP initiated a site/source discovery program to identify potential properties at risk and to identify potential sources of PFAS contamination.

In September 2021, MassDEP sampled two drinking water supply wells at the Shutesbury Fire Department located at 42 Leverett Road, along with other residential and town properties along Leverett Road. Following the September 2021 sampling event, PFAS6 compounds were detected in the Fire Department wells that service the Fire Department, as well as off-site properties (50, 59, and 63 Leverett Road) at concentrations of 104 ng/L and 140 ng/L, which exceeds the 20 ng/L MMCL/RCGW-1 value, as well as the Imminent Hazard (IH) level of 90 ng/L. Following discovery, the Town or MassDEP provided bottled water to properties that exceeded the IH concentration (42, 50, and 59 Leverett Road). Water samples were subsequently obtained from the 62 and 63 Leverett Road properties and PFAS6 compounds were detected above the MMCL/RCGW-1 value and IH level. Subsequently, the Town installed single-vessel Point of Entry Treatment (POET) systems at each of these properties (42, 50, 59 and 63 Leverett Road, which are all served by the two wells on the Fire Department property) where PFAS6 exceeded the IH concentration.

Subsurface Investigation July-August 2022

On July 15 and August 24, 2022, MassDEP conducted a subsurface investigation at the Shutesbury Fire Department property, consisting of the advancement of seven soil borings (SB-1 through SB-7) with the collection of soil samples for PFAS analysis. Three of the borings was completed as a groundwater monitoring well (MW-100, 101 and 102).

Of the seven soil boring locations, soil samples from five borings, located around the fire tower training area, had PFAS concentrations that exceeded one or more MassDEP RCS-1 criteria. Additionally, MassDEP collected groundwater samples from the three monitoring wells, along with four existing monitoring wells associated with a previous RTN. Of the seven monitoring wells sampled, PFAS6 compounds exceeded 20 ng/L in five of the wells. Following the subsurface investigation, MassDEP amended the Release Log Form, changing the status of the release to a reportable release.

Residential Well Sampling

On December 8, 2022, Tighe & Bond collected water samples from the 42, 50, 59, 62, and 63 Leverett Road properties. Water samples were obtained to assess the effectiveness of the installed POET systems and included an influent sample collected before the granular activated carbon (GAC) vessel and an effluent sample collected after the GAC vessel.

Subsequent laboratory results indicated detections of PFAS6 compounds in all five locations. PFAS6 were detected in influent water samples from 42 Leverett Road (170 ng/L), 50 Leverett Road (150 ng/L), 59 Leverett Road (110 ng/L), and 63 Leverett Road (110 ng/L) at concentrations exceeding the 20 ng/L MMCL and the 90 ng/L IH level. PFAS6 compounds were not detected in four of the five effluent water samples (42, 59, 62, and 63 Leverett Road). The effluent water sample collected from 50 Leverett Road had one PFAS6 compound

detected, Perfluoroheptanoic acid (PFHpA), which was reported at a concentration of 4.9 ng/L, below the 20 ng/L MMCL. Since this detection, the Town has replaced the carbon media at the 50 Leverett Road property. Laboratory results from the December 2022 sampling round indicated that the POET systems were effective in removing PFAS from potable water at the properties.

Status of Immediate Response Actions

Radius Sampling

As of the submittal of this Status Report, Tighe & Bond has sampled potable wells at 45 properties. Samples were obtained from accessible properties within a 500-foot radius of the current PFAS detections and included an additional property outside of the 500-foot radius, which was previously sampled and was non-detect (105 Wendell Road). Additionally, Tighe & Bond sampled the effluent from the POET system at 50 Leverett Road, as the carbon vessel had been replaced since the December 2022 sampling round. Out of the 58 total properties within a 500-foot radius of PFAS detections, 43 were accessible for sampling. It should be noted that five of the properties had previously installed and sampled POET systems and did not require additional sampling. Six properties were inaccessible due to homeowner declining access, vacancy, and/or a lack of active water supplies (inaccessible properties described in greater detail below). The Town is currently working with two property owners to gain access to four properties within the 500-foot radius (11 and 16 Town Common Road, and 23 and 25 Wendell Road; 16 Town Common Road and 23 Wendell Road are vacant). During the course of this sampling round, the homeowners were unable to provide access for sampling; however, it is anticipated that samples will be collected from these properties within the next few weeks. Samples were collected from the 50, 73-75, 97, and 128 Leverett Road properties on March 11, 2023. Additionally, Tighe & Bond re sampled water from 25 Leverett Road on March 11, 2023. As of the submission of this report, laboratory results for these samples have not been received.

During the February 17 and 23, and March 11, 2023, sampling dates, Tighe & Bond collected one field blank per sampling day. Field blanks were collected approximately halfway through the completion of the sampling planned for a specific date and were collected under the same conditions as the potable water sample collected immediately before the blank sample.

POET systems are currently installed in the 16 and 35 Leverett Road properties (systems were installed by the owners, not part of the IRA). Tighe & Bond collected influent and effluent samples at these locations to determine the effectiveness of POET systems at these locations. With the exception of 50 Leverett Road, other properties with POET systems within the 500-foot radius (42, 59, 62, and 63 Leverett Road) were not sampled, since influent and effluent water samples were collected from these properties during the December 2022 sampling round and results indicated that the POET systems remained effective in removing PFAS.

Accessible properties that are within the 500-foot radius that have been sampled are as follows:

- 4, 10, 16, 17, 20, 25, 29, 35, 37, 60, 73-75, 87, 91, 94, 97, 105, 113, 117, 121, 128, and 135 Leverett Road;
- 3-5, 11, 16, 21-23, and 25 Wilson Road;
- 1, 15, 23, and 54 Pelham Hill Road;

- 1, 11, 34, and 53 Cooleyville Road;
- 8 & 10, 12, 16, 20-24, 27, 33, 45 and 72 Wendell Road; and
- 6 Town Common Road

Please note that 105 Wendell Road was also sampled due to it being sampled previously and its location near other affected properties. This property will not be sampled going forward unless it falls within a future 500-foot radius of another PFAS detection.

Reasoning for inaccessible properties during the Radius 1 sampling round are as follows:

- 24 Leverett Road could not be sampled due to the homeowner declining access
- 32 and 81 Leverett Road could not be sampled as these homes are currently vacant
- 66 Leverett Road could not be sampled as there is no active water supply on the property; currently, the lot is in proposal for the construction of a new library
- 10 and 21 Cooleyville Road could not be sampled because there is no active water supply at the properties
- 56 Wendell Road could not be sampled as the house burned down and there is no active water supply at the property

Residential Well Sampling Results

Laboratory results for the radius sampling sample locations indicate that PFAS6 concentrations exceeded MMCL of 20 ng/L at three locations (16 Leverett, 20 Leverett Road and 25 Leverett Road). In addition, the PFAS6 concentration at 25 Leverett Road (439 ng/L) also exceeds the IH concentration. MassDEP was notified of the IH conditions within 2 hours of the Town gaining knowledge of the result. Re-analysis of the second sample bottle confirmed the elevated detections. This location is being re-sampled, given that these results show PFAS6 higher than any other location sampled, including the fire station, which is the assumed source area. Bottled water was immediately provided to the home and will continue until a two-vessel POET can be installed.

PFAS6 compounds were detected above the laboratory Reporting Limits (RLs), but below the IH level of 90 ng/L at 15 locations. The Town is working with a plumbing contractor to install two-vessel POET systems at all properties where the 20 ng/L MMCL was exceeded and single-vessel POET systems will be installed at properties where PFAS detections were less than 20 ng/L.

The laboratory data for the 500-foot radius private well sampling including the 105 Wendell Road property is summarized in Table 1, in Appendix B. The laboratory reports for potable wells located are included with the individual notification letters in Appendix C.

Point-of-Entry Treatment System Status

Under the Massachusetts Contingency Plan (MCP), the detection of PFAS compounds in a private well constitutes a "Critical Exposure Pathway" or CEP, and the IRA must mitigate CEP's to the extent feasible. Based on laboratory results from the 500-foot radius sampling round, two properties had PFAS6 detections greater than 20 ng/L and will require installation of two-vessel POET systems (20 and 25 Leverett Road). The Town has opted to install single-vessel POET systems at locations where PFAS6 compounds were detected above the laboratory RLs, but do not exceed 20 ng/L, in lieu of providing bottled water, but depending on the schedule

for availability of POETs, bottled water may be provided in the interim. Based on laboratory results from the radius sampling round, single-vessel POET systems will be installed at 14 properties.

Installed POET systems will consist of vessels with 2-cubic feet of Filtrasorb 400 or 600 carbon, a 1-micron sediment filter ahead of the GAC vessels, and a flow meter. The flow meter readings and the influent data will be used to evaluate the lifespan of the carbon vessels once breakthrough of the primary vessel occurs. Locations where PFAS6 exceeds 20 ng/L will require two carbon vessels connected in series. Locations where PFAS6 compounds were detected, but did not exceed 20 ng/L will have a single carbon vessel installed.

The POET systems previously installed at 42, 50, 59, 62, 63, 42 and 59 Leverett Road will be upgraded from single-vessel to two-vessel systems upon detection of breakthrough of the current carbon systems.

Field Blanks

Field blanks were collected on February 17 and February 23, and March 11, 2023, halfway through the completion of the sampling on each sampling date and were collected under the same conditions as the potable water sample collected immediately before. Laboratory results indicated that PFAS6 compounds were not detected above the laboratory reporting limits in the February 17 and 23, 2023 field blanks. Laboratory results have not yet been received for the March 11, 2023, field blank. Future sampling events will include the collection of one field blank per sampling date.

Additional Sampling and POET Sampling Frequency

Newly installed POET systems will be sampled within 30 days of the system's installation. Two-vessel systems will be sampled at the influent, midfluent (between the carbon vessels) and effluent points, and single-vessel systems will be sampled at influent and effluent points. Samples will then be collected quarterly for the first year to establish the effectiveness of the systems. Using flow meters on the POET systems and influent concentrations, Tighe & Bond will determine the amount of PFAS that can be removed before PFAS breakthrough of the primary carbon vessel occurs. Based on these data, Tighe & Bond may propose a less-frequent POET monitoring schedule in a future IRA Plan Modification.

Imminent Hazard Evaluation

The MCP requires the performance of an Imminent Hazard Evaluation (IHE) as part of all IRA's. The MCP defines six conditions at 310 CMR 40.0321(1) that pose or could pose an IH. These relate to explosive vapors in buildings, a release of reactive or explosive materials, roadway releases that could endanger public safety, a release to the environment that poses a Significant Risk to human health, if present for even a short time, a release to the environment that produces immediate or acute effects to fish or that produces readily apparent effects to human health. The PFAS releases at the site do not meet any of these criteria.

Seven additional specific circumstances that could constitute an Imminent Hazard are listed at 310 CMR 40.0321(2)(b). These relate to arsenic, cadmium, chromium, cyanide, mercury, methyl mercury and PCBs, none of which are contaminants of concern at this site.

Potable Well Imminent Hazards

While not listed in the MCP, MassDEP has indicated that drinking water well PFAS6 concentrations in excess 90 ng/L are considered an Imminent Hazard. Based on this criterion, Imminent Hazards exist at the following eight locations (these locations are indicated by a purple border on Figure 3, but please note that 50, 59 and 63 Leverett Road are served by the two supply wells at the fire station):

- 42 Leverett Road
- 50 Leverett Road
- 59 Leverett Road
- 63 Leverett Road
- 25 Leverett Road

Bottled water was immediately provided and point of entry treatment (POET) systems have been installed at each of the above locations to mitigate the IH condition, except 25 Leverett Road (bottled water has been provided and a POET is scheduled). Additionally, the POET systems were determined to be successfully removing PFAS from potable water during the December 2022 sampling event, except at 50 Leverett Road, where the GAC media was recently replaced.

Remediation Waste

The only remediation waste generated to date is the GAC replaced at 50 Leverett Road. This was a small GAC block or "briquet" (as opposed to loose carbon) that is stored in a marked drum in the fire station. Spent carbon will be retained until such time as there is sufficient volume to send the carbon for regeneration.

Permits

No permits are required for the IRA activities completed to date or the proposed IRA activities planned under RTN 1-21340.

Notification of Environmental Sampling Results

In accordance with the MCP at 310 CMR 40.1403(10) a Notice of Environmental Sampling is required any time environmental samples are taken at a property in the course of investigating a release for which a notification to the Department has been made on behalf of someone other than the owner of the property, within 30 days of the date the sample results are issued by the laboratory. Table C-1 in Appendix C provides a summary of the dates that laboratory reports were received, the dates when public notifications are due, and the dates when the notification letters were sent by the Town. Copies of the public notification letters sent since the submittal of IRA Plan are included in Appendix C. The BWSC-123 Forms for the potable well sampling are included with the individual letters.

Conceptual Site Model

While all potential sources of contamination have not been identified, use of AFFF during fire training is an identified PFAS source at the fire station property, and aside from the detection at 25 Leverett Road, has the highest detection of PFAS in water collected at the Shutesbury Fire Department located at 42 Leverett Road (170 ng/L as of December 2022). It is suspected that the source of PFAS at the Site is a result of Class B aqueous film forming foam (AFFF) used in fire training practice at the property, likely resulting in soil contamination. This soil

contamination was likely transported to groundwater through percolation vertically through the overburden soils with precipitation, impacting groundwater in the bedrock aquifer.

The most elevated detections of PFAS6 compounds exceeding the IH of 90 ng/L were detected at 25 Leverett Road, at 42 Leverett Road (the Fire Department), 50 Leverett Road, 59 Leverett Road, and 63 Leverett Road. 50 Leverett Road abuts the fire department to the west and the 59 and 63 Leverett Road properties are located northwest and in close proximity to the Fire Department. As stated previously, there are two potable wells on the Fire Department property; one serves the Fire Department at 42 Leverett Road and the residence at 50 Leverett Road, and the other serves the residence at 63 Leverett Road and the Highway Department at 59 Leverett Road. Therefore, the elevated detections in potable water at these other addresses do not represent groundwater conditions at those properties.

MassDEP's assessment of the 42 Leverett Road property identified bedrock at depths of approximately 4 to 7 feet, with the bedrock surface elevation declining to the south. Groundwater depths varied from 2.52 to 6.14 feet but the monitoring wells installed on the property by MassDEP's contractor were installed with a "push" type rig and did not significantly penetrate the bedrock surface, such that the groundwater samples likely represent water perched on the bedrock, rather than the bedrock aquifer.

PFAS6 detections exceeding the MMCL of 20 ng/L were detected in properties east-northeast of the Fire Department and include 16 Leverett Road (28 ng/L), 20 Leverett Road (35.1 ng/L), and 25 Leverett Road (45). Detections in private wells extending further east/northeast are frequent with detections of PFAS6 compounds detected above the laboratory RLs, but less than the 20 ng/L MMCL. Properties east-northeast of the Shutesbury Fire Department consistently have detections less than 20 ng/L and include 4, 17, 29, 35, and 37 Leverett Road, 1 and 11 Cooleyville Road, 20 and 24, and 33 Wendell Road. PFAS6 were generally detected at locations in close proximity to the Fire Department and decline with distance from the Fire Department property.

Our current effort is focused on evaluating the extent of private well contamination and getting mitigation measures in place to abate the current CEPs. As the project progresses, additional information will be obtained and the CSM will be updated accordingly.

Conclusions

As discussed above, a substantial sampling effort has been performed to identify the extent of PFAS contamination in private wells in the area surrounding the Shutesbury Fire Department. To date, Tighe & Bond has collected samples from 52 locations, including properties with previously-installed POET systems and all properties within a 500-foot radius of locations with PFAS detections.

The February and March 2023 sampling round consisted of sampling all accessible properties within a 500-foot radius around locations with PFAS detections. Radius sampling was conducted to determine the extent of PFAS contaminations to identify private wells in need of treatment. Elevated PFAS6 concentrations (exceeding 20 ng/L, but less than 90 ng/L) were detected at properties located proximal to the Shutesbury Fire Department at 42 Leverett Road. PFAS6 concentrations generally decrease with distance from the Fire Station.

To date, POETs have been installed at seven locations. Based on laboratory data of the February and March 2023 sampling round, the Town will be installing two-vessel POET systems at the 20 Leverett Road and 25 Leverett Road properties, as the MMCL of 20 ng/L

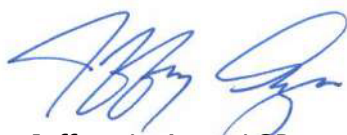
was exceeded at those locations. PFAS6 compounds were detected above the laboratory RLs but below 20 ng/L at 15 locations. One of these locations is 35 Leverett Road, which already has a POET system installed. The Town will be installing single-vessel POET systems at 14 properties. We will notify MassDEP when these systems have been installed and monitoring data in the next status report.

Upcoming IRA activities include sampling additional locations along Pelham Hill Road following PFAS detections at 54 Pelham Hill Road. Quarterly sampling events will be conducted to assess the limits and migration of the PFAS plume. Additionally, newly installed POET systems will be sampled within 30 days of the system’s installation. Samples will then be collected quarterly to establish the effectiveness of the systems. Using flow meters on the POET systems and influent concentrations, Tighe & Bond will determine the amount of PFAS that can be removed before PFAS breakthrough of the primary carbon vessel occurs. Based on these data, Tighe & Bond may propose a less-frequent POET monitoring schedule in an IRA Plan Modification.

An update on these activities will be reported to MassDEP in the next IRA Status report. If you have any questions, please contact me at 413.572.3227.

Very truly yours,

TIGHE & BOND, INC.



Jeffrey L. Arps, LSP
Vice President

cc: Becky Torres, Town of Shutesbury

Appendices

- Appendix A – Figure 1 Site Locus
- Figure 2 Priority Resources Map
- Figure 3 PFAS6 Concentration Summary

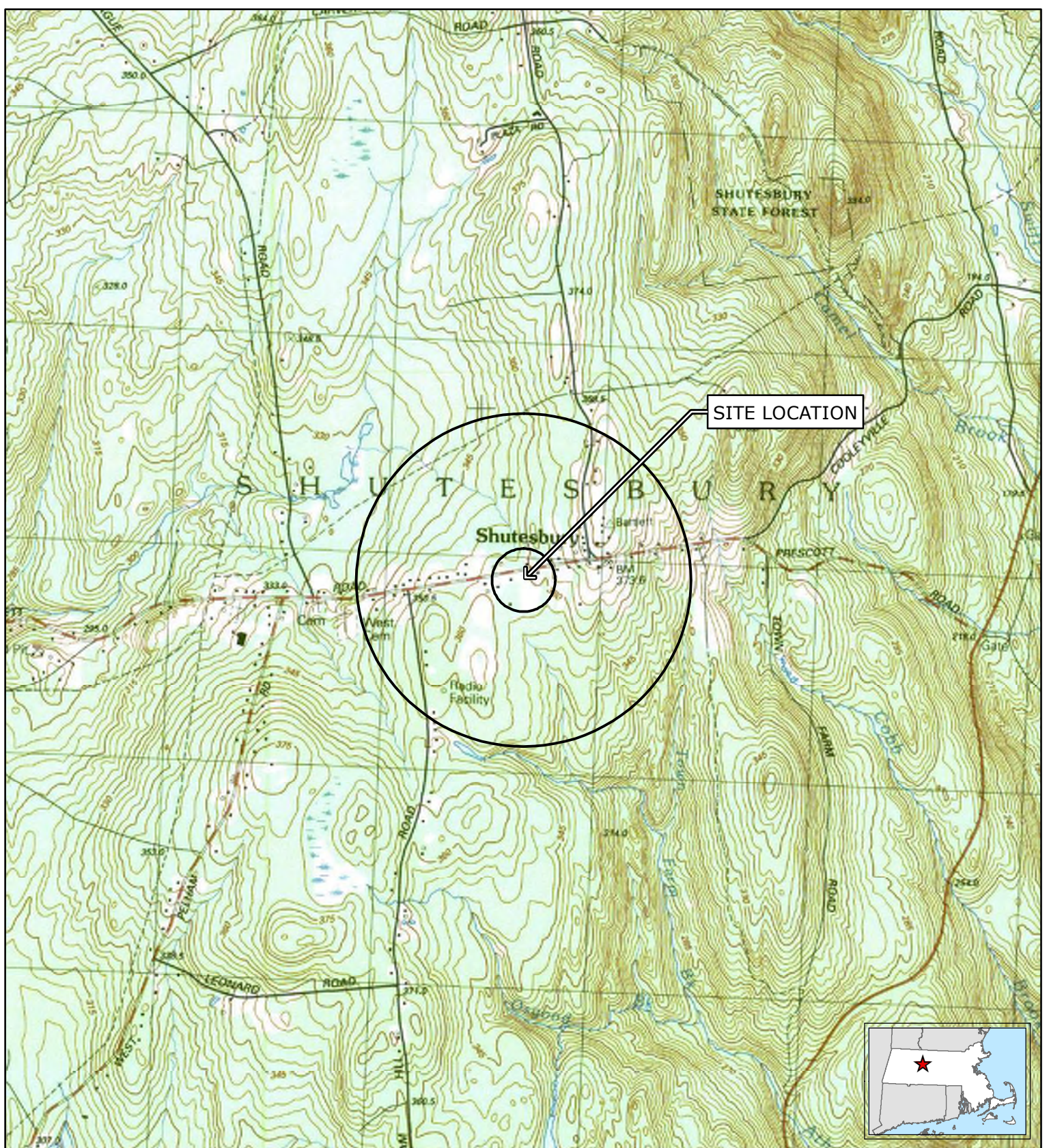
- Appendix B – Table 1 Summary of Non-POET Analytical Results
- Table 2 Summary of POET Analytical Results
- Table 3 Summary of Field Blank Analytical Results

- Appendix C – Public Notification Letters

- Appendix D - Potable Well Laboratory Reports

Tighe&Bond

APPENDIX A



SITE LOCATION

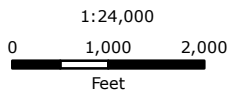
Shutesbury

FIGURE 1
SITE LOCATION

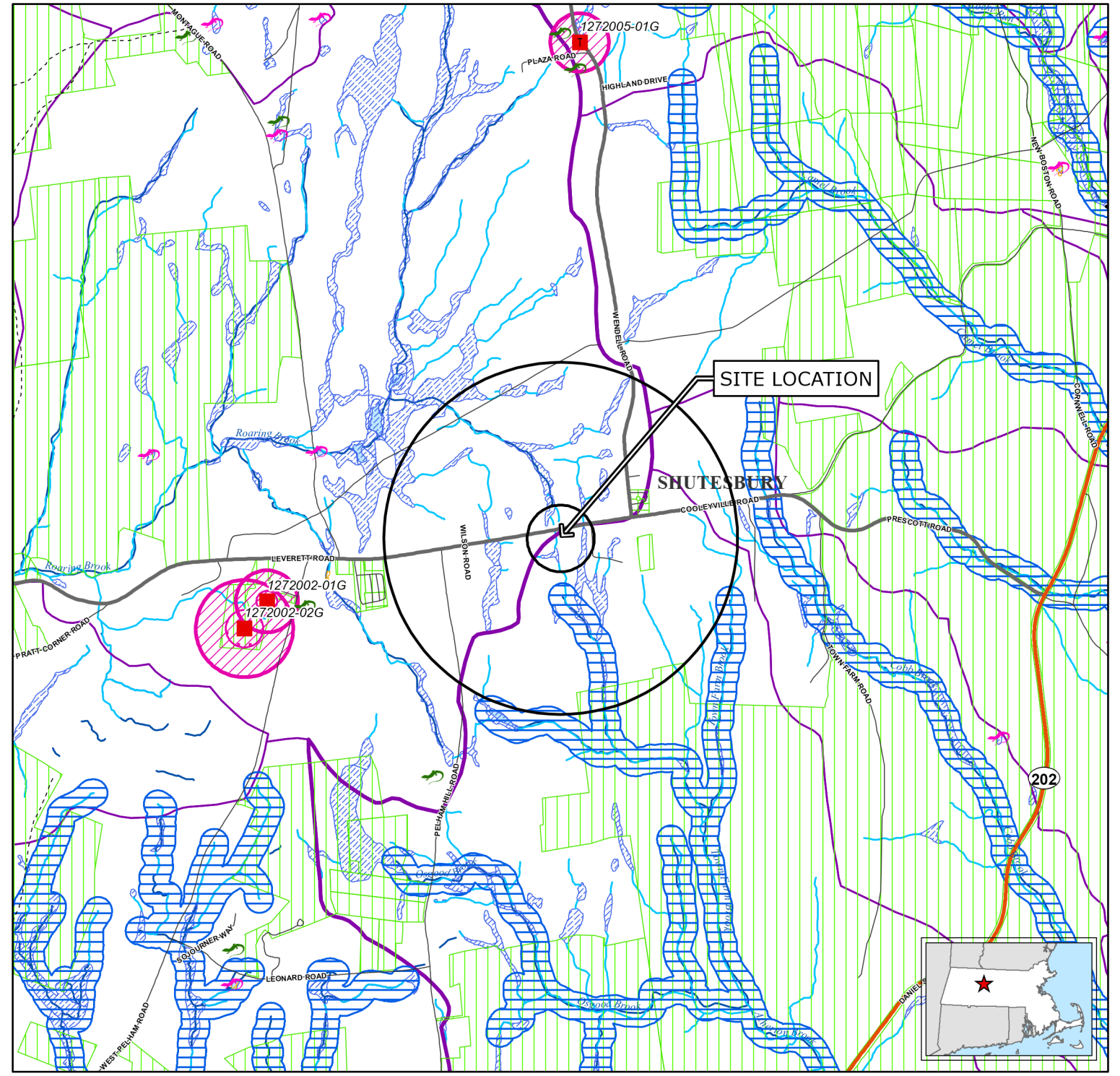
Shutesbury Fire Station
42 Leverett Road
Shutesbury, Massachusetts
RTN 1-21340



Based on USGS Topographic Map for Shutesbury, MA Revised 1990. Contour Interval Equals 3m. Circles indicate 500-foot and half-mile radii



January 2023



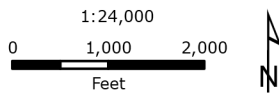
Legend

- 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
- 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
- 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 RESOURCES**

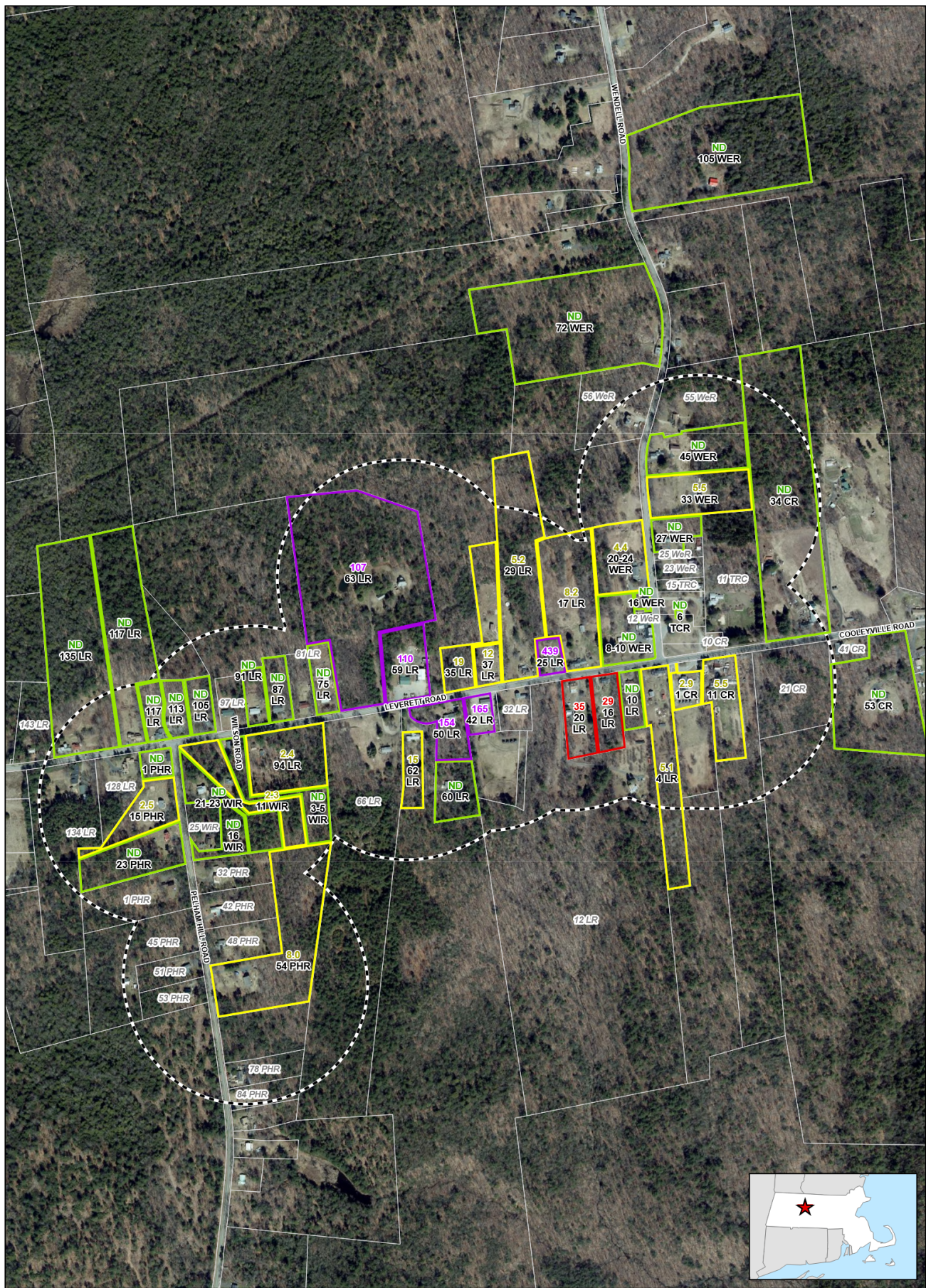
Shutesbury Fire Station
 42 Leverett Road
 Shutesbury, Massachusetts
 RTN 1-21340

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 January 2023.



January 2023





LEGEND

Total Regulated PFAS Concentration In Parts-Per-Trillion (ppt)

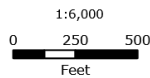
- Non Detect (ND)
- Less Than 20
- Greater Than 20 But Less Than 90
- Greater Than or Equal to 90

- Approximate Parcel Boundary
- 500-foot Buffer

Road names are abbreviated to the following:
 CR - Cooleyville Road
 PHR - Pelham Hill Road
 LR - Leverett Road
 WER - Wendall Road
 WIR - Wilson Road
 TCR - Town Common Road



1. Based on MassGIS Color Orthophotography (2021).
 2. Shutesbury Parcels (FY18) downloaded from MassGIS and are approximate.



**FIGURE 3
 PFAS6 CONCENTRATION
 SUMMARY**

Shutesbury Fire Station
 42 Leverett Road
 Shutesbury, Massachusetts
 RTN 1-21340

March 2023

Tighe&Bond

APPENDIX B

TABLE 1
Summary of Non-POET Analytical Results
Shutesbury, Massachusetts
RTN 1-21340
Last Updated: 03/16/23 (J. Libby)

Parameter	Sample Location/ID	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)						Non-Regulated PFAS Compounds					
					PFHpA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	11-Cl-PF30Uds	9-Cl-PF30Ns	N-EtFOSAA	PFBS	PFHxA
1 Cooleyville Road	DW	8/5/2021	MassDEP MCP Method 1 GW-1 Criteria	1-CVR-95SMT-KIT	<2.00	<2.00	2.42	<2.00	2.42	<2.00	4.8	-	-	<2.00	<2.00	1.42 J
	DW	2/9/2023		23B1524-01	<0.63	<0.60	1.7 J	<0.82	2.9	<0.68	2.9	<0.71	<0.85	<0.65	<0.71	<0.83
11 Cooleyville Road	DW	11/16/2021		11-COOL-KIT	1.17 J	<2.00	3.22	<2.00	2.97	<2.00	6.2	-	-	<2.00	0.880 J	1.09 J
	DW	2/9/2023		23B1528-01	1.0 J	<0.57	2.3	<0.78	3.2	<0.65	5.5	<0.67	<0.80	<0.61	<0.67	0.91 J
34 Cooleyville Road	DW	2/9/2023		23B1447-01	<0.61	<0.58	<0.84	<0.80	<0.78	<0.66	ND	<0.69	<0.82	<0.63	<0.69	<0.80
53 Cooleyville Road	DW	2/23/2023		23B2850-01	<0.87	<0.78	<0.90	<0.80	<0.66	<0.84	ND	<0.58	<0.71	<0.58	<0.72	<0.85
4 Levertt Road	DW	2/23/2023		23B2863-01	<0.91	<0.82	2.7	<0.84	2.4	<0.87	5.1	1.7 J	97	<0.61	<0.67	<0.82
10 Levertt Road	DW	2/16/2023		23B2157-01	<0.89	<0.80	<0.92	<0.82	1.4 J	<0.86	ND	13	330	<0.59	<0.70	<0.83
16 Levertt Road	INF	8/5/2021		16-LR-KIT	0.746 J	1.26 J	2.67	<2.00	4.59	<2.00	7.3	-	-	<2.00	1.65 J	<2.00
	DW	2/16/2023		23B2160-01	<0.88	<0.80	0.92	<0.82	2.8	<0.85	29	<0.59	<0.72	<0.59	<0.70	<0.83
17 Levertt Road	DW	9/2/2021		17-LR-KIT	1.86 J	1.78 J	4.39	<2.00	3.6	<2.00	8.0	<0.60	<0.74	<0.60	1.1 J	<0.85
	DW	2/17/2023		23B2200-01	6.9	0.837 J	14.8	0.879 J	2.13	<2.00	24	<0.57	<0.70	<0.57	1.42 J	3.35
20 Levertt Road	DW	8/4/2021		20-LR-KIT	11	<0.77	21	1.1 J	3.1	<0.83	35	<0.68	<0.83	<0.68	1.7 J	62
25 Levertt Road	DW	2/23/2023		23B2142-01	160	1.6 J	250	22	7.3	<1.94	439	<0.61	<0.75	<0.61	1.94	1.7 J
29 Levertt Road	DW	8/4/2021		29-LR-KIT	1.55 J	0.736 J	3.91	<1.94	1.90 J	<1.94	3.9	<0.61	<0.75	<0.61	1.94	1.1 J
	DW	2/17/2023		23B2204-01	<0.92	<0.83	2.7	<0.85	2.5	<0.88	5.2	<0.61	<0.75	<0.61	1.97	3.7
35 Levertt Road	DW	8/4/2021		35-LR-KIT	3.38	0.984 J	12	0.866 J	5.71	<1.97	21	-	-	<1.97	3.7	6.38
	DW	9/2/2021		35-LR-KIT	3.03	<2.00	10.3	<2.00	4.91	<2.00	18	<0.56	<0.69	<0.57	2.88	5.88
	INF	2/16/2023		23B2172-01	3.6	0.98 J	9.1	<0.78	6.2	<0.82	1.8	<0.65	<0.78	<0.59	<0.66	3.4
37 Levertt Road	DW	8/4/2021		37-LR-KIT	1.15 J	<2.00	5.55	<2.00	3.35	<2.00	8.9	<0.65	<0.78	<0.59	<0.66	3.4
	DW	2/9/2023		23B1533-01	1.7 J	0.77 J	5.9	<0.76	5.8	<0.63	1.2	<0.65	<0.78	<0.59	<0.66	3.4
42 Levertt Road	INF	9/2/2021		42-LR-KIT	58.9	9.19	48.7	18.5	4.56	<2.00	140	-	-	<2.00	8.49	45.2
	DW	12/8/2022		22L1517-01	69	13	57	21	5	<1.8	165	-	-	<1.8	8.9	51
50 Levertt Road	DW	8/4/2021		50-LR-KIT	53.8	8.88	45.4	17.3	3.68	<1.91	129	-	-	<1.91	7.01	40.7
	DW	9/2/2021		50-LR-KIT	58.2	9.83	46.3	16.6	4.4	<2.00	135	-	-	<2.00	7.76	48.6
	INF	12/8/2022		22L1516-01	65	12	52	20	5.3	<2.0	154	-	-	<2.0	8.4	48
59 Levertt Road	DW	8/5/2021		59-LR-BATH	44.3	8.2	29.2	10.8	2.86	<2.00	95	-	-	<2.00	4.83	35
	DW	9/2/2021		59-LR-BATH	41	7.67	35.8	15.5	3.78	<2.00	104	-	-	<2.00	5.26	33.7
	INF	12/8/2022		22L1517-03	51	7.7	33	14	4.6	<2.0	110	-	-	<2.0	4.9	34
60 Levertt Road	DW	8/4/2021		60-LR-KIT	<1.89	<1.89	<1.89	<1.89	0.642 J	<1.89	ND	<0.66	<0.78	<0.60	<0.66	<0.76
	DW	2/9/2023		23B1451-01	<0.58	<0.56	<0.81	<0.76	<0.74	<0.63	ND	<0.66	<0.78	<0.60	<0.66	<0.76
62 Levertt Road	DW	8/4/2021		62-LR-KIT	2.14	11.1	7.39	<1.78	19.6	<1.78	40	-	-	<1.78	1.57 J	2.93
	DW	9/2/2021		62-LR-KIT	1.38 J	7.69	4.96	<2.00	12.8	<2.00	25	-	-	<2.00	1.60 J	1.72 J
	DW	11/16/2021		62-LR-KIT-TREATED	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	ND	-	-	<2.00	<2.00	<2.00
	INF	12/8/2022		22L1515-01	<1.8	6.7	1.9	<1.8	6.8	<1.8	15	-	-	<1.8	<1.8	<1.8
63 Levertt Road	INF	12/8/2022		22L1514-01	50	7.6	31	15	3.5	<2.0	107	-	-	<2.00	5.2	32
73-75 Levertt Road	DW	9/2/2021		75-LR-KIT	<2.00	1.29 J	1.96 J	<2.00	1.41 J	<2.00	ND	-	-	<2.00	0.862 J	<2.00
	DW	8/11/2021		82-LR-KIT	<1.92	<1.92	1.23 J	<1.92	0.692 J	<1.92	ND	<0.57	<0.70	<1.92	0.692 J	<2.00
87 Levertt Road	DW	2/16/2023		23B2159-01	<0.86	<0.77	1.2 J	<0.80	0.86 J	<0.83	ND	<0.64	<0.79	<0.64	<0.76	<0.91
91 Levertt Road	DW	8/5/2021		91-LR-KIT	<1.87	0.784 J	0.838 J	<1.87	<1.87	<1.87	ND	<0.64	<0.79	<0.64	<0.76	<0.91
	DW	2/16/2023		23B2128-01	<0.96	<0.87	<1.0	<0.89	<0.73	<0.93	ND	<0.60	<0.74	<0.60	<0.71	<0.84
94 Levertt Road	DW	2/23/2023		23B2995-01	<0.90	<0.81	<0.93	<0.83	2.4	<0.87	2.4	<0.60	<0.74	<0.60	<0.71	<0.84
105 Levertt Road	DW	8/4/2021		105-LR-KIT	<1.94	<1.94	2.37	<1.94	0.661 J	<1.94	2.4	<0.60	<0.74	<0.60	1.24 J	1.20 J
	DW	2/23/2023		23B2988-01	<0.90	<0.81	1.8 J	<0.83	0.76 J	<0.87	ND	<0.60	<0.74	<0.60	1.6 J	1.4 J
113 Levertt Road	DW	2/16/2023		23B2165-01	<0.88	<0.80	1.5 J	<0.82	1.6 J	<0.85	ND	<0.59	<0.72	<0.59	1.6 J	<0.83
117 Levertt Road	DW	2/16/2023		23B2148-01	<0.87	<0.79	<0.91	<0.81	<0.66	<0.84	ND	<0.58	<0.72	<0.58	<0.69	<0.82
121 Levertt Road	DW	2/17/2023		23B2205-01	<0.89	<0.80	<0.92	<0.82	2.5	<0.86	2.5	<0.59	<0.73	<0.59	<0.70	<0.84
135 Levertt Road	DW	2/9/2023		23B1445-01	<0.62	1.1 J	1.2 J	<0.81	<0.80	<0.68	ND	<0.59	<0.73	<0.59	<0.70	<0.82
1 Pelham Hill Road	DW	2/17/2023		23B2198-01	<0.85	<0.77	<0.89	<0.79	<0.65	<0.82	ND	<0.57	<0.70	<0.57	<0.67	<0.80
15 Pelham Hill Road	DW	2/9/2023		23B1532-01	<0.66	<0.64	1.4 J	<0.87	2.5	<0.72	2.5	<0.75	<0.89	<0.68	<0.75	<0.87
23 Pelham Hill Road	DW	2/17/2023		23B2201-01	<0.87	<0.79	0.96 J	<0.81	<0.66	<0.84	ND	<0.58	<0.72	<0.58	<0.69	<0.82
54 Pelham Hill Road	DW	2/16/2023		23B2145-01	3.6	<0.84	4.4	<0.86	<0.71	<0.90	8.0	<0.62	<0.76	<0.62	<0.74	1.6 J
6 Town Common Road	DW	2/16/2023		23B2166-01	<0.88	<0.79	1.1 J	<0.81	0.82 J	<0.85	ND	<0.58	<0.72	<0.58	<0.69	<0.82
8 & 10 Wendell Road	DW	2/17/2023		23B2202-01	<0.87	<0.79	1.3 J	<0.81	1.4 J	<0.84	ND	<0.58	<0.72	<0.58	<0.69	<0.82
16 Wendell Road	DW	2/16/2023		23B2170-01	<0.77	<0.69	<0.80	<0.71	0.99 J	<0.74	ND	<0.51	0.74 J	<0.51	<0.61	<0.72

TABLE 1
 Summary of Non-POET Analytical Results
 Shutesbury, Massachusetts
 RTN 1-21340
 Last Updated: 03/16/23 (J. Libby)

Parameter	Sample Location/ID	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)										Non-Regulated PFAS Compounds					
					PFHpA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	11Cl-PF30Uds	9Cl-PF30NS	N-ETFSAA	PFBS	PFHxA				
20 & 24 Wendell Road	2382206-01	2/17/2023	DW	2382206-01	<0.94	<0.85	2.5	<0.87	1.9	<0.91	4.4	<0.63	<0.77	<0.63	1.2 J	<0.88				
27 Wendell Road	2382136-01	2/16/2023	DW	2382136-01	<0.86	<0.77	<0.89	<0.80	0.94 J	<0.83	ND	<0.57	<0.70	<0.57	<0.68	<0.81				
33 Wendell Road	2382161-01	2/16/2023	INF	2382161-01	<0.89	0.95 J	3.3	<0.82	2.2	<0.85	5.5	<0.59	<0.73	<0.59	0.81 J	1.3 J				
45 Wendell Road	2382854-01	2/23/2023	DW	2382854-01	<0.92	<0.83	<0.95	<0.85	<0.70	<0.88	ND	<0.61	<0.75	<0.61	<0.73	<0.86				
72 Wendell Road	2382163-01	2/16/2023	DW	2382163-01	<0.96	<0.86	<1.0	<0.89	<0.73	<0.93	ND	<0.64	<0.79	<0.64	<0.76	<0.90				
105 Wendell Road	105-WR-KIT	8/4/2021	DW	105-WR-KIT	<1.91	<1.91	1.07 J	<1.91	<1.91	<1.91	ND	-	-	<1.91	0.878 J	<1.91				
3 & 5 Wilson Road	2382168-01	2/16/2023	DW	2382168-01	<0.94	<0.85	<0.98	<0.87	0.73 J	<0.91	ND	<0.63	<0.77	<0.63	<0.75	<0.89				
11 Wilson Road	11-WILSON-KIT	8/5/2021	DW	11-WILSON-KIT	<0.97	<0.88	<1.0	<0.90	<0.74	<0.94	ND	<0.65	<0.80	<0.65	<0.77	<0.92				
16 Wilson Road	16-WILSON-KIT	2/23/2023	DW	16-WILSON-KIT	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	ND	-	-	<1.89	<1.89	<1.89				
21 & 23 Wilson Road	2381449-01	2/9/2023	DW	2381449-01	<0.64	<0.61	2.3	<0.83	1.2 J	<0.69	2.3	<0.72	<0.86	<0.72	<0.84	<0.84				
16 Wilson Road	2381452-01	8/5/2021	DW	2381452-01	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	ND	-	-	<1.95	<1.95	<1.95				
MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates	2382199-01	2/20/2023	DW	2382199-01	<0.62	<0.60	0.97 J	<0.81	0.99 J	<0.67	ND	<0.70	<0.84	<0.70	<0.64	<0.81				
NS - No Standard					<0.88	<0.80	<0.92	<0.82	<0.67	<0.85	ND	<0.59	<0.73	<0.59	<0.70	<0.83				

Italics indicates property has POET installed
 NS - No Standard
 -xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 "-": Sample not analyzed or analysis not provided
 Boxed/Bold values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.
 E - Result outside of laboratory calibration range. Value is estimated.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

TABLE 2
 Summary of POET Analytical Results
 Shutesbury, Massachusetts
 RTN 1-21340
 Last Updated: 03/07/2023 (J. Libby)

Parameter	Sample Location/ID	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)										Non-Regulated PFAS Compounds	
					PFHpA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	PFBS	PFHxA			
16 Leverett Road		8/5/2021	DW	16-LR-KIT	0.746 J	1.26 J	2.67	<2.00	4.59	<2.00	7.3	NS	NS	1.65 J	NS	<2.00
		2/16/2023	INF	23B2160-01	<0.88	<0.80	0.92	<0.82	28	<0.85	29	<0.85	<0.74	<0.70	<0.83	
		2/16/2023	EFF	23B2160-02	<0.93	<0.84	<0.97	<0.86	0.93 J	<0.90	ND	<0.88	<0.74	<0.70	<0.83	
35 Leverett Road		8/4/2021	DW	35-LR-KIT	3.38	0.984 J	12	0.866 J	5.71	<1.97 J	21	NS	NS	3.7	NS	6.38
		9/2/2021	DW	35-LR-KIT	3.03	<2.00	10.3	<2.00	4.91	<2.00	18	<2.00	<2.00	2.88	<2.00	5.88
		2/16/2023	INF	23B2172-01	3.6	0.98 J	9.1	<0.78	6.2	<0.82	19	<2.00	<2.00	2.4	<2.00	5.4
42 Leverett Road		2/16/2023	EFF	23B2172-02	<0.85	<0.77	<0.89	<0.79	<0.65	<0.82	ND	<2.00	<0.67	<0.67	1.2 J	
		9/2/2021	DW	42-LR-KIT	58.9	9.19	48.7	18.5	4.56	<2.00	140	<2.00	8.49	8.9	45.2	
		12/8/2022	INF	2211517-01	69	13	57	21	5	<1.8	165	<2.00	8.9	51	51	
50 Leverett Road		8/4/2021	DW	50-LR-KIT	53.8	8.88	45.4	17.3	3.68	<1.91	129	<2.00	<1.9	7.01	<1.9	40.7
		9/2/2021	DW	50-LR-KIT	58.2	9.83	46.3	16.6	4.4	<2.00	135	<2.00	7.76	7.76	48.6	
		11/16/2021	EFF	50-LR-KIT-TREATED	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	ND	<2.00	<2.00	<2.00	<2.00	
59 Leverett Road		12/8/2022	INF	2211516-01	65	12	52	20	5.3	<2.0	154	<2.00	8.4	8.4	48	
		12/8/2022	EFF	2211516-02	4.9	<1.9	<1.9	<1.9	<1.9	<1.9	4.9	<1.9	<1.9	<1.9	6.4	
		8/5/2021	DW	59-LR-BATH	44.3	8.2	39.2	10.8	2.86	<2.00	95	<2.00	4.83	5.26	35	
62 Leverett Road		9/2/2021	DW	59-LR-BATH	41	7.67	35.8	15.5	3.78	<2.00	104	<2.00	5.26	33.7	33.7	
		12/8/2022	INF	2211517-03	51	7.7	33	14	4.6	<2.0	110	<2.00	4.9	34	34	
		12/8/2022	EFF	2211517-04	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	ND	<1.9	<1.9	<1.9	<1.9	
63 Leverett Road		8/4/2021	DW	62-LR-KIT	2.14	11.1	7.39	<1.78	19.6	<1.76	40	<2.00	1.57 J	1.57 J	2.93	
		9/2/2021	DW	62-LR-KIT	1.38 J	7.69	4.96	<2.00	12.8	<2.00	25	<2.00	1.60 J	1.60 J	1.72 J	
		11/16/2021	DW	62-LR-KIT-TREATED	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	ND	<2.00	<2.00	<2.00	<2.00	
33 Wendell Road		12/8/2022	INF	2211515-01	<1.8	6.7	1.9	<1.8	6.8	<1.8	15	<1.8	<1.8	<1.8	<1.8	
		12/8/2022	EFF	2211515-02	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	ND	<1.8	<1.8	<1.8	<1.8	
		12/8/2022	INF	2211514-01	50	7.6	31	15	3.5	<2.0	107	<2.00	5.2	5.2	32	
MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan. Effective 04/25/2014 and updates		12/8/2022	EFF	2211514-02	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	ND	<1.9	<1.9	<1.9	2	
		2/16/2023	INF	23B2161-01	<0.89	0.95 J	3.3	<0.82	2.2	<0.85	5.5	<0.81 J	0.81 J	1.3 J	1.3 J	
		2/16/2023	EFF	23B2161-02	<0.93	<0.84	1.3 J	<0.86	1.2 J	<0.90	ND	<0.74	<0.74	<0.88	<0.88	

NS - No Standard
 Italics indicates property has POET installed
 <xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 " - Sample not analyzed or analysis not provided
 Boxed/Bold values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.
 Only PFAS with results above RL are shown above
 INF - Influent; EFF - Effluent; DW - Drinking Well; POET - Point-of-Entry Treatment

Tighe&Bond

APPENDIX C

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 8, 2023

Town of Shutesbury
1 Cooleyville Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
1 Cooleyville Rd, Shutesbury
RTN 1-21340

Dear Town of Shutesbury:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 1 Cooleyville Rd as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on February 24, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations does not exceed 20 ppt, the Town will contact you to install a single vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Toffres
Becky Toffres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Town of Shutesbury
2. Street Address: 1 Cooleyville Rd
City/Town: Shutesbury Zip Code: 01072

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: 1 Cooleyville Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 1 Cooleyville Road,
 Shutesbury, Massachusetts
 RTM 1-21300

Last Updated: 2/27/2023 (MassDOT)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)						Non-Regulated PFAS Compounds	
				PFHxA	PFHxS	PFDA	PFNA	PFOS	PFDA	PFAS6	PFHxA
1 Cooleyville Road	4/5/21	MASSDOT NCP Method 1	1-CW-BSMT-KIT	1.1	1.1	2.42	1.1	2.42	1.1	1.42	1
	2/9/23	DW	23BLS34-Q1	1.1	1.1	1.71	1.1	2.90	1.1	1.42	1

MASSDOT NCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates
 N.S. - No Standard

<xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 * - Sample not analyzed or analysis not provided
 Boxed/Bold values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 1 - Value reported above the MDL, but below the RL; value not included in the PFAS6 calculation.
 Only PFAS with results above RL are shown above.
 INF - Inhibit; DW - Drinking Water; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 8, 2023

Frederick Wilson, Jr.
11 Cooleyville Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
11 Cooleyville Rd, Shutesbury
RTN 1-21340

Dear Mr. Wilson:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 1 Cooleyville Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on February 24, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations does not exceed 20 ppt, the Town will contact you to install a single vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format, the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Becky Torres

Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

1 - 21340

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: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Frederick Wilson, Jr.
2. Street Address: 11 Cooleyville Rd
City/Town: Shutesbury Zip Code: 01072

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: 11 Cooleyville Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 11 Codelyville Road
 Shutesbury, Massachusetts
 RTN 1-21340
 Last Updated: 2/27/2023 (Revised)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)										Non-Regulated PFAS Compounds	
				PFHPA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	PFBS	PFHxA			
Sample Location/ID		MassDEP NCP Method 1 GW-1 Criteria		4.5	15	15	25	15	15	20		15			
11 Codelyville Road	11/16/21	DW	L1-COOL-KIT	1.17 J	<2.30	3.22	<2.00	2.97	<2.00	6.19		0.880 J	1.09 J		
	2/9/23	DW	23B1558-01	1.0 J	<2.30	2.30	0.98	3.20	<2.00	5.50		<2.67	0.91 J		

MassDEP NCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates
 NS - No Standard
 <XX indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 -, - - Sample not analyzed or analysis not provided
 Bold/Italic values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and polyfluoroalkyl Substances
 J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment



File Copy

Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 8, 2023

Geoffrey and Andrea Rogers
34 Cooleyville Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
34 Cooleyville Rd, Shutesbury
RTN 1-21340

Dear Mr. and Mrs. Rogers:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

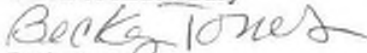
Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 34 Colleyville Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 21, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury


Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Geoffrey and Andrea Rogers
2. Street Address: 34 Cooleyville Rd
City/Town: Shutesbury Zip Code: 01072

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: 34 Cooleyville Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 34 Cooleyville Road
 Shutesbury, Massachusetts
 RTN 1-21340

Last Updated: 3/1/2023 (Jackson)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)							
				PFHxPA	PFHxS	PFQA	PFNA	PFOS	PFDA	PFAS6	PFAS6
34 Cooleyville Road	2/9/23	MassDEP MCP Method 1 GW-1 Criteria DW	Z3B1447-01	NS	NS	NS	NS	NS	NS	NS	20

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates

NS - No Standard

< xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

* - Sample not analyzed or analysis not provided

Boxed/Bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

1 - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment



File Copy

Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Lucy Blakely
53 Cooleyville Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
53 Cooleyville Rd, Shutesbury
RTN 1-21340

Dear Ms. Blakely:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 53 Cooleyville Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on March 7, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury


Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond
MassDEP



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Lucy Blakeley
2. Street Address: 53 Cooleyville Rd
City/Town: Shutesbury Zip Code: 01072

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: 53 Cooleyville Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

53 Coolleyville Road
Shutesbury, Massachusetts
RTN 1 - 21340

Last Updated: 3/1/2023 (Jackson)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)						
				PFHpA	PFHxS	PFQA	PFNA	PFOS	PFDA	PFAS6
53 Coolleyville Road	2/23/2023	DW	23B2850-01	<0.87	<0.78	<0.90	<0.80	<0.66	<0.84	ND
MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates			MassDEP MCP Method 1 GW-1 Criteria	NS	NS	NS	NS	NS	NS	20

NS - No Standard

< xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

"-" - Sample not analyzed or analysis not provided

Boxed/Bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 13, 2023

Samuel Tobin & Isabel Castellanos
10 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
10 Leverett Rd, Shutesbury
RTN 1-21340

Dear Mr. Tobin & Ms. Castellanos:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 10 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 24, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond
MassDEP



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

NOTICE OF ENVIRONMENTAL SAMPLING

1 - 21340

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: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Samuel Tobin & Isabel Castellanos
2. Street Address: 10 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 10 Leverett Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

19 Everett Road,
Shutesbury, Massachusetts
RT# 1-21340

Last Updated: 2/27/2023 (checked)

Parameter	Date Sampled	Location Type	Lab ID	Regulated PFAS Compounds (ng/L)										Non-Regulated PFAS Compounds				
				PFHPA	PFHxS	PFQA	PFNA	PFOS	PFDA	PFAS6	11CI-PF3ONS	9CI-PF3ONS	3FO					
Sample Location / ID	2/16/2023	GW	21BE157-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

MassDEP MGP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 09/25/2013 and updates

ND - No Standard

<XX indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

* - Sample not analyzed or analysis not provided

Boxed/Bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

1 - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.

E - Result outside of laboratory calibration range. Value is estimated.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Water; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Steven Hickey
Kristen McCarthy
16 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
16 Leverett Rd, Shutesbury
RTN 1-21340

Dear Mr. Hickey & Ms. McCarthy:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 16 Leverett Rd as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on February 28, 2023 to monitor the POET system that was installed in your home by the Town of Shutesbury. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are present in the untreated water but the system is successfully removing PFAS, as evidenced by the "midfluent" and "effluent" results being non-detect. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury


Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



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

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Steven Hickey & Kristen McCarthy
2. Street Address: 16 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 16 Leverett Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 16 Leverett Road
 Shutesbury, Massachusetts
 RTN 1-21340
 Last Updated: 3/9/2023 (J.Libby)

Parameter	Sample Location / ID	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)					Non-Regulated PFAS Compounds		
					PFHpA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	PFBS
16 Leverett Road		8/5/2021	MassDEF MCP Method 1	16-LR-KIT	0.746 J	1.26 J	2.67	2.00	4.59	2.0		
		2/16/2023	DW	2382160-01	<0.28	<0.84	0.92	<1.82	28	<2.00	7.3	1.65 J
		2/16/2023	INF	2382160-02	<0.53	<0.34	<0.97	<0.66	0.93 J	<0.90	ND	<0.74

MassDEF MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates

NS - No Standard
 <xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 * - Sample not analyzed or analysis not provided
 Bold/Italic values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Mark & Carrie Hawkins
17 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
17 Leverett Rd, Shutesbury
RTN 1-21340

Dear Mr. and Mrs. Hawkins:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

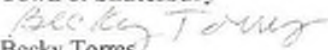
Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 17 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on March 1, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations does not exceed 20 ppt, the Town will contact you to install a single vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury


Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

NOTICE OF ENVIRONMENTAL SAMPLING

1 - 21340

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: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Mark & Carrie Hawkins
2. Street Address: 17 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 17 Leverett Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 17 Leverett Road
 Shutesbury, Massachusetts
 RTH 1-21-340
 Last Updated: 3/9/2023 (J.Libby)

Parameter	Sampling Date	Location	Sample ID	Regulated PFAS Compounds (ng/L)										Non-Regulated PFAS Compounds	
				PFHpA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	PFBS	PFHxA			
17 Leverett Road	9/2/2021	HassDEP MCP Method 1	17-LR-KIT	1.86 J	1.78 J	4.39	<2.00	3.6	<2.00	8.0					
	2/17/2023	DW	2382208-01	1.6 J	1.2 J	4.7	<0.014	3.5	<0.07	8.2	2.13	1.15 J			

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates

NS - No Standard

<xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

-, - Sample not analyzed or analysis not provided

Boxed/bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 17, 2023

Philip Edwards & Rebecca Phillips
20 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
20 Leverett Rd, Shutesbury
RTN 1-21340

Dear Mr. Edwards & Ms. Phillips:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 20 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on February 23, 2023 to monitor your well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations exceeds 20 ppt, the Town will contact you to install a dual-vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury


Becky Torrès
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road

City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Philip Edwards & Rebecca Phillips

2. Street Address: 20 Leverett Rd

City/Town: Shutesbury Zip Code: 01072

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: 20 Leverett Rd

City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres

Street Address: 1 Cooleyville Road

City/Town: Shutesbury Zip Code: 01072

Telephone: (413) 572-3227 Email: townadmin

TABLE 1

20 Leverett Road
Shutesbury, Massachusetts
RTN 1-21340

Last Updated: 2/27/2023 (Jackson)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)										Non-Regulated PFAS Compounds	
				PFHPA	PFHxS	PFQA	PFNA	PFOS	PFDA	PFAS6	PFBS	PFHxA			
Sample Location/ID	8/4/21	MassDEP MCP Method 1 GW-1-Criteria	20-LR-KIT	NS	NS	NS	NS	NS	NS	NS	20	NS	NS		
	2/16/23	DW	23B2142-01	6.9	0.837 J	15	0.879 J	2.1	<2.00	24	1.42 J	NS	3.4		
		DW		11	<0.77	21	1.1 J	3.1	<0.83	35	1.4 J	NS	6.0		

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan. Effective 04/25/2014 and updates

NS - No Standard

<xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

"-" - Sample not analyzed or analysis not provided

Boxed/Bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Lucas Winfield
25 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
25 Leverett Rd, Shutesbury
RTN 1-21340

Dear Mr. Winfield:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 25 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on March 7, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations exceeds 20 ppt, the Town will contact you to install a dual-vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

1 - 21340

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: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Lucas Winfield
2. Street Address: 25 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 25 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

25 Leverett Road
 Shutesbury, Massachusetts

RTN 1-21340

Last Updated: 2/27/2023 (Luzon)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)							Non-Regulated PFAS Compounds		
				PFHPA	PFHxS	PFQA	PFNA	PFOS	PFDA	PFAS6	PFBS	PFHxA	
25 Leverett Road	2/23/2023	DW	23BZ851-01	160	1.6 J	250	22	7.3	<0.98	439	20	17	62

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates.

NS - No Standard

<xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

-/- Sample not analyzed or analysis not provided

Boxed/Bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoralkyl Substances

J - Value reported above the MDL, but below the RL; value not included in the PFAS6 calculation.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Michael Pill
37 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
29 Leverett Rd, Shutesbury
RTN 1-21340

Dear Mr. Pill:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 29 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on March 1, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations does not exceed 20 ppt, the Town will contact you to install a single vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

~~Town of Shutesbury~~

Becky Torres
Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



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

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Michael Pill
2. Street Address: 29 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 29 Leverett Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

Summary of Non-POET Analytical Results
 29 Everett Road
 Shutesbury, Massachusetts
 RTN 1-21340

Last Updated: 2/27/2023 (Judson)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)						Non-Regulated PFAS Compounds		
				PFHxA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	PFBS	PFHxA
29 Everett Road	8/4/21	DW	29-4R-KIT	1.55	0.736	3.91	<1.04	1.90	<1.04	3.91	1.97	1.70

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates

Italics indicates property has POET installed

NS - No Standard

<XX indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

- - Sample not analyzed or analysis not provided

Boxed/Bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.

Only PFAS with results above RL are shown above

IWF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Carol Holzberg
37 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
35 Leverett Rd, Shutesbury
RTN 1-21340

Dear Ms. Holzberg:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 35 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on February 28, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations does not exceed 20 ppt, the Town will contact you to install a single vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format: the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury


Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



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

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Carol Holzberg
2. Street Address: 35 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 35 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

<input checked="" type="checkbox"/> Immediate Response Action	<input type="checkbox"/> Phase III Feasibility Evaluation
<input type="checkbox"/> Release Abatement Measure	<input type="checkbox"/> Phase IV Remedy Implementation Plan
<input type="checkbox"/> Utility-related Abatement Measure	<input type="checkbox"/> Phase V/Remedy Operation Status
<input type="checkbox"/> Phase I Initial Site Investigation	<input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring
<input type="checkbox"/> Phase II Comprehensive Site Assessment	<input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 35 Leverett Road
 Shutesbury, Massachusetts
 RTN 1-21340
 Last Updated: 3/15/23 (J.Libby)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)										Non-Regulated PFAS Compounds	
				PFHxPA	PFFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	PFHxA	PFHxK			
35 Leverett Road	8/4/21	DW	35-LR-KIT	3.38	0.984 J	12.0	0.866 J	5.71	<1.97	21.1	NS	NS	3.70	NS	
	9/2/21	DW	35-LR-KIT	3.03	<2.00	10.3	<2.00	4.91	<2.00	18.2	NS	NS	2.88	6.38	
	2/16/23	INF	23B2172-01	3.6	0.98 J	9.1	<0.78	6.2	<0.82	19	NS	NS	2.4	5.88	
	2/16/23	EFF	23B2172-02	<0.85	<0.77	<0.89	<0.79	<0.65	<0.82	ND	NS	NS	<0.67	1.2 J	

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates
 NS - No Standard
 <xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 * - Sample not analyzed or analysis not provided
 Bold/Italic values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment



File Copy

Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 8, 2023

Carol Holzberg
37 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
37 Leverett Rd, Shutesbury
RTN 1-21340

Dear Ms. Holzberg:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 37 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on February 24, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations does not exceed 20 ppt, the Town will contact you to install a single vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Carol Holzberg
2. Street Address: 37 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 37 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 37 Leverett Road
 Shutesbury, Massachusetts
 RTN 1-21340
 Last Updated: 2/27/2023 (Jackson)

Parameter	Sample Location/ID	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)						Non-Regulated PFAS Compounds	
					PFHpA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	PFHxA
37 Leverett Road	23B1533-01	2/9/2023	MassDEP MCP Method 1	GW-1 Criteria	NS	NS	NS	NS	NS	NS	20	NS
MassDEP MCP - Massachusetts Department of Environmental Protection		DW			1.7 J	0.77 J	5.9	<0.76	5.8	<0.62	12	3.4

NS - No Standard
 <xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 "-" - Sample not analyzed or analysis not provided
 Boxed/Bold values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 J - Value reported above the HDL but below the RL; value not included in the PFAS6 calculation.
 E - Result outside of laboratory calibration range. Value is estimated.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment



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Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 8, 2023

Sandra Olken
60 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
60 Leverett Rd, Shutesbury
RTN 1-21340

Dear Ms. Olken:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 60 Leverett Rd, as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 21, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Becky Torres

Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Sandra Olken
2. Street Address: 60 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 60 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
60 Leverett Road
Shutesbury, Massachusetts
RTN 1-21340

Last Updated: 3/1/2023 (Jblacken)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)							
				PFHxA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	PFAS6
60 Leverett Road	8/4/21	DW	60-LR-KIT	<1.89	<1.85	<1.89	<1.09	0.542 J	<1.89	ND	20
	2/9/23	DW	23B1451-01	<0.50	<0.56	<0.81	<0.76	<0.74	<0.53	ND	ND

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan - Effective 04/25/2014 and updates
NS - No Standard

<xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

-*- Sample not analyzed or analysis not provided

Boxed/Bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Richard Strangman, Jr.
87 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
87 Leverett Rd, Shutesbury
RTN 1-21340

Dear Mr. Strangman:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 87 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 27, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury


Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



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

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Richard Strangman, Jr.
2. Street Address: 87 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 87 Leverett Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

Summary of 40th POET Analytical Results

87 Leverett Road
 Shutesbury, Massachusetts
 RTN 1-21340

Last Modified: 2/27/2023 (Johnson)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)						Non-Regulated PFAS Compounds	
				PFHxA	PFHxS	PFDA	PFNA	PFOA	PFAS6		PFHxA
87 Leverett Road	8/1/21	DW	87-LR-K11	1.03	6.35	1.23	0.088	0.592	0.158	20	0.592
	2/16/23	DW	21R2159-01	0.838	0.000	1.2	0.088	0.86	0.001	0.0	0.001

MassDEP RCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates.
 (Italic indicates property has POET installed)

NS - No Standard

<XX indicates compound was not reported above laboratory limits. Reporting limit (RL) provided.

* - Sample not analyzed or analysis not provided.

Exceed/bolt values indicate exceedance of GW-1 standards.

Results presented in nanograms per liter (ng/L)

PFAS - Per and polyfluorinated substances

1 - Value reported above the MCL but below the RL; value not included in the PFAS6 calculation.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 13, 2023

Jim Henry
91 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
91 Leverett Rd, Shutesbury
RTN 1-21340

Dear Mr. Henry:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 91 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 24, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

NOTICE OF ENVIRONMENTAL SAMPLING

1 - 21340

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: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Jim Henry
2. Street Address: 91 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 91 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

91 Leverett Road
Shutesbury, Massachusetts
RTN 1-21340

Last Updated: 2/27/2023 (2/checked)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)									
				PFHpA	PFHxS	PFDA	PFNA	PFOS	PFDA	PFAS6			
91 Leverett Road	8/5/21	MassDEP MCP Method 1 GW-1 Criteria	91-LR-KIT	NS	NS	NS	NS	NS	NS	NS	NS	20	
	2/16/23	DW	23B2128-01	<1.87	0.784 J	0.858 J	<1.87	<1.87	<1.87	<1.87	<0.93	ND	
		DW		<0.96	<0.87	<1.0	<0.89	<0.73	<0.93		ND		

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates

NS - No Standard

<xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

-, - Sample not analyzed or analysis not provided

Boxed/Bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment



File Copy

Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Robin Marie King-Franklin
94 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
94 Leverett Rd, Shutesbury
RTN 1-21340

Dear Ms. King-Franklin:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 94 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on March 7, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations does not exceed 20 ppt, the Town will contact you to install a single vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Becky Torres

Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Robin Marie King-Franklin
2. Street Address: 94 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 94 Leverett Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 94 Leverett Road
 Shutesbury, Massachusetts
 RTN 1-21340
 Last Updated: 3/15/2023 (J.Libby)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)						
				PFHPA	PFHXS	PFOA	PFNA	PFOS	PFDA	PFAS6
94 Leverett Road	2/23/2023	MassDEP MCP Method 1 GW-1 Criteria DW	23B2995-01	NS	NS	NS	NS	NS	NS	2.4

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates
 NS - No Standard
 < xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 " - Sample not analyzed or analysis not provided
 Boxed/Bold values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Mark Wightman
113 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
113 Leverett Rd, Shutesbury
RTN 1-21340

Dear Mr. Wightman:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 113 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 28, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Mark Wightman
2. Street Address: 113 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 113 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

113 Leverett Road
 Shutesbury, Massachusetts
 RTN 1-21340

Last Updated: 3/9/2023 (J.Libby)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)				Non-Regulated PFAS Compounds			
				PFHxA	PFTxS	PFOA	PFNA	PFOS	PFDA	PFAS6	PFBS
113 Leverett Road	3/16/2023	MassDEP MCP Method 1, GW-1 Criteria	230216S-D1	NS	NS	NS	NS	NS	NS	NS	NS
MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan. Effective 04/25/2014 and updates	DW			0.3	0.07	1.5	0.3	1.6	<0.05	1.2	1.6
NS - No Standard											

<xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

*, - Sample not analyzed or analysis not provided

Boxed/Bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.

E - Result outside of laboratory calibration range. Value is estimated.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 13, 2023

Mark Wightman
117 Leverett Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
117 Leverett Rd, Shutesbury
RTN 1-21340

Dear Mr. Wightman:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 117 Leverett Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 24, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMGLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

1 - 21340

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: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Markk Wightman
2. Street Address: 117 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

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: 117 Leverett Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

117 Leverett Road
Shutesbury, Massachusetts
RTN 1-21340

Last Updated: 2/27/2023 (JLackson)

Parameter	Sample Location/ID	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)								
					PFHpA	PFHxS	PFOA	PFNA	PFOA	PFOS	PFDA	PFAS6	
117 Leverett Road	23B2148-01	2/16/2023	MassDEP MCP Method 1	GW-1 Criteria	NS	NS	NS	NS	NS	NS	NS	NS	20
MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates			DW	DW	<0.87	<0.79	<0.91	<0.81	<0.66	<0.84	<0.66	<0.84	ND

NS - No Standard

<xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

"-x" - Sample not analyzed or analysis not provided

Boxed/Bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.

E - Result outside of laboratory calibration range. Value is estimated.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 13, 2023

George & Martha Arvanitis
15 Pelham Hill Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
15 Pelham Hill Rd, Shutesbury
RTN 1-21340

Dear Mr. and Mrs. Arvanitis:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 15 Pelham Hill Rd, as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on February 24, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations does not exceed 20 ppt, the Town will contact you to install a single vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



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

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: George & Martha Arvanitis
2. Street Address: 15 Pelham Hill Rd
City/Town: Shutesbury Zip Code: 01072

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: 15 Pelham Hill Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
15 Pelham Hill Road
Shutesbury, Massachusetts
RTTI 1-21340

Last Updated: 2/27/2023 (update)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS compounds (ng/L)							
				PFHxA	PFHxS	PFCA	PFNA	PFDA	PFAS6	PFOS	PFDA
15 Pelham Hill Road	2/31/2023	MassDEP MCP Method 1 GW-1 Criteria	DW	<0.56	<0.56	<0.54	1.4 J	<0.117	2.5	<0.72	2.5
MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan. Effective 04/25/2014 and updates	2/9/2023	DW		NS	NS	NS	NS	NS	NS	NS	NS
NS - No Standard											

<xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 -*- Sample not analyzed or analysis not provided
 Boxed/Red values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.
 E - Result outside of laboratory calibration range. Value is estimated.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Water; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 13, 2023

Kenneth Hopkins & Desiree Church
54 Pelham Hill Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
54 Pelham Hill Rd, Shutesbury
RTN 1-21340

Dear Mr. Hopkins & Ms. Church:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 54 Pelham Hill Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on February 24, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations does not exceed 20 ppt, the Town will contact you to install a single vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



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

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Kenneth Hopkins & Desiree Church
2. Street Address: 54 Pelham Hill Rd
City/Town: Shutesbury Zip Code: 01072

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: 54 Pelham Hill Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 54 Peaborn Hill Road
 Shutesbury, Massachusetts
 RTE 1, 21340

(last updated: 2/27/2023 (broken))

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)						Non-Regulated PFAS Compounds		
				PFHPA	PFHxS	PEOA	PFNA	PFOS	PFQA	PFAS6	PFHxA	
54 Peaborn Hill Road	2/28/2023	Mass DEP AOC Method 1 GW-1 Criteria	DW	ND	ND	ND	ND	ND	ND	ND	ND	13.1

Mass DEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates

N.S. - No Standard
 <xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 "x" - Sample not analyzed or analysis not provided.
 Bold/Italic values indicate exceedance of GW-1 standards.
 Results presented in nanograms per liter (ng/L).

PFAS - Per- and polyfluorinated substances
 1 - Value reported above the MDL, but below the RL; value not included in the PFAS6 calculation.
 E - Result outside of laboratory calibration range, Value is estimated.
 OHV - PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Water; POET - Point-of-Entry Treatment

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Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Shutesbury Community Church
6 Town Common Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
6 Town Common Rd, Shutesbury
RTN 1-21340

Dear Shutesbury Community Church:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.


Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 6 Town Common Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on March 3, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury


Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



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

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Shutesbury Community Church
2. Street Address: 6 Town Common Rd
City/Town: Shutesbury Zip Code: 01072

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: 6 Town Common Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

6 Town Center Road
 Shutesbury, Massachusetts
 RTN 1-21340

Last Updated: 3/9/2023 (J. Libby)

Parameter	Sample Location ID	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)																
					PFHpA	PFHxS	PFDA	PFNA	PFOS	PFAS 6	PFNA	PFNA	PFNA	PFNA	PFNA						
6 Town Center Road		2/16/2023	Mass DEP MCP Method 1 GW-1 Criteria	23R2166-01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Mass DEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/23/2014 and updates
 NS - No Standard
 <xx indicates compound was not reported above laboratory limits; Reporting Limit (RL) provided.
 - - - Sample not analyzed or analysis not provided
 Boxed/bold values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 J - Value reported above the MBL but below the RL; value not included in the PFAS6 calculation.
 E - Result outside of laboratory calibration range. Value is estimated.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Kathryn & Gregory Steve
8 & 10 Wendell Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
8 & 10 Wendell Rd, Shutesbury
RTN 1-21340

Dear Mrs. and Mr. Steve:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 8 and 10 Wendell Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on March 1, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations does not exceed 20 ppt, the Town will contact you to install a single vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)



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

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road

City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Kathryn & Gregory Steve

2. Street Address: 8 and 10 Wendell Rd

City/Town: Shutesbury Zip Code: 01072

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: 8 and 10 Wendell Rd

City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres

Street Address: 1 Cooleyville Road

City/Town: Shutesbury

Zip Code: 01072

Telephone: (413) 572-3227

Email: townadmin

TABLE 1

8 & 10 Wendell Road
 Shutesbury, Massachusetts
 RTN 1-21340
 Last Updated: 3/9/2023 (J.Libby)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)							
Sample Location / ID	Date	Method	Criteria	PFHxA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	
8 & 10 Wendell Road	2/17/2023	MassDEP MCP Method 1	GW-1 Criteria	185	115	115	1.3 J	1.4 J	<0.64	20	
MassDEP MCP - Massachusetts Department of Environmental Protection	DW	2382202-01	Reporting Limit (RL) provided.	<0.97	<0.79	1.3 J	<0.53	1.4 J	<0.64	20	

MS - No Standard
 <xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 -, * - Sample not analyzed or analysis not provided
 Boxes/Ital values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 J - Value reported above the MDL but below the RL; value not included in the PFAS calculation.
 E - Result outside of laboratory calibration range. Value is estimated.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Russell Wallack
Katherine Kellman
16 Wendell Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
16 Wendell Rd, Shutesbury
RTN 1-21340

Dear Mr. Wallack & Ms. Kellman:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 16 Wendell Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 28, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Russell Wallack & Katherine Kellman
2. Street Address: 16 Wendell Rd
City/Town: Shutesbury Zip Code: 01072

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: 16 Wendell Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

16 Wendell Road
 Shelburne, Massachusetts
 RTN 1-21340
 Last Updated: 3/9/2023 (J.Lubby)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)										Non-Regulated PFAS Compounds			
Sample Location / ID		MassDEP MCP Method 1	GW-1 Criteria	PFHpA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	PFAS6	PFAS6	PFAS6	PFAS6	PFAS6	PFAS6	PFAS6
16 Wendell Road	2/16/2023	DW	2182170-01	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates

NS - No Standard

<ix indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

- - Sample not analyzed or analysis not provided

Boxed/Bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

J - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.

E - Result outside of laboratory calibration range, Value is estimated.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment



File Copy

Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Greg Steve
20 & 24 Wendell Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
20 & 24 Wendell Rd, Shutesbury
RTN 1-21340

Dear Mr. Steve:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the treatment system located at 20 & 24 Wendell Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water samples on March 7, 2023 to monitor you well for PFAS. The samples were submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS6 are present in your well water. Since the PFAS6 concentrations does not exceed 20 ppt, the Town will contact you to install a single vessel POET to remove PFAS from your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury


Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP, Bureau of Waste Site Cleanup (w/out enclosures)

TABLE 1

20 & 24 Wendell Road
Shutesbury, Massachusetts
PLTN 1-21340

Last Updated: 3/15/2023 (Libby)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)										Non-Regulated PFAS Compounds
				PFHPA	PFHXS	PFQA	PFNA	PFOS	PFDA	PFAS6	PFBS			
20 & 24 Wendell Road	2/17/2023	MassDEP MCLP Permit 1 GW-1 Criteria DW	2382206-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.21

MassDEP MCLP - Massachusetts Department of Environmental Protection, Massachusetts Contingency Plan, Effective 04/25/2014 and updates
MS - No Standard
c/sx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided
n/s - Sample not analyzed or analysis not provided
Baxed/Beld values indicate exceedance of GW-1 standards
Results presented in nanograms per liter (ng/L)
PFAS - Per- and Polyfluoroalkyl Substances
F - Value reported above the MDL but below the RL, value not included in the PFAS6 calculation
E - Result outside of laboratory calibration range, Value is estimated
DHY - PFAS with results above RL are shown above
INF - Influent, GW - Drinking Well, PDET - Point of Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 13, 2023

Anne Ward
Jeff Landsdell
27 Wendell Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
27 Wendell Rd, Shutesbury
RTN 1-21340

Dear Ms. Ward & Mr. Landsdell:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 27 Wendell Rd as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 24, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



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

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Anne Ward & Jeff Landsdell
2. Street Address: 27 Wendell Rd
City/Town: Shutesbury Zip Code: 01072

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: 27 Wendell Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin



File Copy

Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Lori Nichols
45 Wendell Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
45 Wendell Rd, Shutesbury
RTN 1-21340

Dear Ms. Nichols:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 45 Wendell Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on March 7, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres

Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Lori Nichols
2. Street Address: 45 Wendell Rd
City/Town: Shutesbury Zip Code: 01072

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: 45 Wendell Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 45 Wendell Road
 Shutesbury, Massachusetts
 RTN 1-21340
 Last Updated: 3/15/2023 (Libby)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)							
				PFHxA	PFHxS	PFQA	PFNA	PFOS	PFDA	PFAS6	
45 Wendell Road	2/23/2023	MassDEP MCP Method 1 GW-1 Criteria	2302854-01	<0.02	<0.01	<0.01	<0.05	<0.05	<0.70	<0.05	RII
MassDEP MCP		DW		NS	NS	NS	NS	NS	NS	NS	20

NS - No Standard
 <XX indicates compound was not reported above laboratory limits. Reporting Limit (RL) provided.
 -- - Sample not analyzed or analysis not provided
 boxed/bold values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluorinated Substances
 I - Value reported above the MDL, but below the RL; value not included in the PFAS6 calculation.
 E - Result outside of laboratory calibration range. Value is estimated.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Jen Malcolm-Brown
72 Wendell Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
72 Wendell Rd, Shutesbury
RTN 1-21340

Dear Ms. Malcolm-Brown:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 72 Wendell Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on March 3, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Jen Malcolm-Brown
2. Street Address: 72 Wendell Rd
City/Town: Shutesbury Zip Code: 01072

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: 72 Wendell Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 72 Wendell Road
 Shutesbury, Massachusetts
 RTN 1-21340
 Last updated: 3/9/2023 (J.Libby)

Parameter	Sample Location / ID	Sampling Date	Location Type	Sample ID	PFNA	PFHxS	PFDA	PFOS	PFAS	PFDA	PFAS
	72 Wendell Road	2/16/2023	MassDEP MCP Method 1	GW-1 Criteria	115	115	115	115	115	115	20
	MassDEP MCP	DW	Massachusetts Department of Environmental Protection	Massachusetts Contingency Plan	0.005	0.005	0.005	0.005	0.005	0.005	0.005
	MS - Iko Standard										

-c-x- Indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.
 -.- - Sample not analyzed or analysis not provided.
 Bold/Italic values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 J - Value reported above the MDL but below the RL; value not included in the PFAS's calculation.
 E - Result outside of laboratory calibration range. Value is estimated.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Mary Lou Ferro
105 Wendell Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
105 Wendell Rd, Shutesbury
RTN 1-21340

Dear Ms. Ferro:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 105 Wendell Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 28, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

NOTICE OF ENVIRONMENTAL SAMPLING

1 - 21340

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: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Mary Lou Ferro
2. Street Address: 105 Wendell Rd
City/Town: Shutesbury Zip Code: 01072

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: 105 Wendell Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

105 Wendell Road
 Shutesbury, Massachusetts
 RTN 1-21340

Last Updated: 2/27/2023 (Jackson)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)						Non-Regulated PFAS Compounds	
				PFHpA	PFHxS	PFOA	PFNA	PFOS	PFDA	PFAS6	9CI-PF3ONS
105 Wendell Road	8/4/2021	DW	105-WR-KIT	<0.01	<1.91	1.07 J	<1.91	<1.01	<3.06	445	
	2/16/2023	DW	23R2168-01	<0.01	<0.25	<0.03	<0.37	6.73 J	<0.01	111	1.2 J

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates

NS - No Standard

<xx indicates compound was not reported above laboratory limits, Reporting Limit (RL) provided.

, - Sample not analyzed or analysis not provided

Boxed/bold values indicate exceedance of GW-1 standards

Results presented in nanograms per liter (ng/L)

PFAS - Per- and Polyfluoroalkyl Substances

J - Value reported above the MDL but below the RL; value not included in the PFAS calculation.

Only PFAS with results above RL are shown above

INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 8, 2023

Mark Dannenhauer & Jane Urban
16 Wilson Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
16 Wilson Rd, Shutesbury
RTN 1-21340

Dear Mr. Dannenhauer & Ms. Urban:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 16 Wilson Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 21, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres

Becky Torres

Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Mark Dannenhauer & Jane Urban
2. Street Address: 16 Wilson Rd
City/Town: Shutesbury Zip Code: 01072

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: 16 Wilson Rd
City/Town: Shutesbury Zip Code: 01072

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.

Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1
 16 Wilson Road
 Shutesbury, Massachusetts
 RTN 1-21348
 Last Updated: 5/1/2023 (Dhaseen)

Parameter	Sampling Date	Location Type	Sample ID	Regulated PFAS Compounds (ng/L)					
				PFHpA	PFHxS	PFOA	PFNA	PFOS	PFAS6
Sample Location / ID	6/5/21	Mass/DEP MCP Method 1, GW-1 Criteria	16-WILSON-MT	0.000	0.000	0.000	0.000	0.000	0.000
16 Wilson Road	7/9/23	DW	2301432-01	0.000	0.000	0.971	0.000	0.993	0.000

Mass/DEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/25/2014 and updates
 MS - MS Standard
 <XX indicates compound was not reported above laboratory limits, Reporting limit (RL) provided.
 *N - Sample not analyzed or analysis not provided
 Boxes/bold values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 1 - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.
 Only PFAS with results above RL are shown above
 INF - Influent; DW - Drinking Well; POET - Point-of-Entry Treatment

File Copy



Shutesbury Select Board
P.O. Box 276
Shutesbury MA 01072
413.259.1214
selectboard@shutesbury.org

March 9, 2023

Katarina Catalano
Mike Owen
21 Wilson Rd
Shutesbury, MA 01072

Re: **Private Well Sampling**
21 Wilson Rd, Shutesbury
RTN 1-21340

Dear Ms. Catalano & Mr. Owen:

Private well monitoring in the vicinity of the Shutesbury Fire Station located at 42 Leverett Road in Shutesbury has shown impacts from per- and polyfluoroalkyl substances, or PFAS, in the drinking water samples of some residences. The Town is monitoring all homes within 500 feet of any home with a detection and installing point-of-entry treatment (POET) systems, consisting of granular activated carbon (GAC), in homes with PFAS detections. Homes with PFAS6 concentrations below 20 nanograms per liter (ng/L, or parts-per-trillion (ppt)) will have a single-vessel POET system installed and homes with PFAS6 exceeding 20 ppt will receive a dual-vessel POET system. Homes with no PFAS6 detections will continue to be monitored on a semi-annual basis. Please note that J-qualified results are not considered detections for purposes of POET installation.

Enclosed is a copy of the laboratory analytical results for the water samples collected from the private well at 21 Wilson Rd. as part of environmental monitoring required by the Massachusetts Department of Environmental Protection (MassDEP). Tighe & Bond personnel collected the residential well water sample on February 27, 2023 to monitor your water for PFAS. The sample was submitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts, a Massachusetts-certified environmental laboratory, for per- and polyfluoroalkyl substances (PFAS) analysis.

A copy of the laboratory analytical results for the above-referenced samples are attached to this letter. Analytical results have been compared to *Massachusetts Drinking Water Maximum Contaminant Levels (MMCLs, 310 CMR 22.00)* and *Massachusetts Contingency Plan Method 1 GW-1 Groundwater Standard (MCP, 310 CMR 40.0974)* of 20 ppt for PFAS6. These water quality results indicate that PFAS are not present in your well water. A data summary table is attached that shows the data in a table format; the PFAS6 compounds are shaded gray on the table.

Tighe & Bond will continue to monitor the system in accordance with MassDEP requirements. Please call the undersigned at (413) 259-1214 if you have any questions regarding this information.

Very truly yours,

Town of Shutesbury

Becky Torres
Becky Torres
Town Administrator

Enclosures: BWSC-123
Summary Data Table
Laboratory Report

Copy: Jeffrey Arps, Tighe & Bond (w/out enclosures)
MassDEP (w/out enclosures)



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

1 - 21340

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 42 Leverett Road
City/Town: Shutesbury Zip Code: 01072

B. This notice is being provided to the following party:

1. Name: Katrina Catalano & Mike Owen
2. Street Address: 21 Wilson Rd
City/Town: Shutesbury Zip Code: 01072

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: 21 Wilson Rd
City/Town: Shutesbury Zip Code: 01072
2. MCP phase of work during which the sampling will be/has been conducted:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Temporary Solution Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> 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.
Influent and effluent samples from <private well/point of entry treatment system> for PFAS analysis

E. Contact information related to the party providing this notice:

Contact Name: Becky Torres
Street Address: 1 Cooleyville Road
City/Town: Shutesbury Zip Code: 01072
Telephone: (413) 572-3227 Email: townadmin

TABLE 1

21-23 Wilson Road
 Shutesbury, Massachusetts
 RTN 1-21340
 Last Updated: 2/27/2023 (Rutland)

Parameter	Sampling Date	Location Type	Sample ID	PFHpA	PFHxS	PFCA	PFNA	PFOS	PFDA	PFAS6
Sample Location / ID	MassDEP MCP Method 1	GW-1, Caters	23B2195-01							
21-23 Wilson Road	2/20/23	DW	23B2195-01							

MassDEP MCP - Massachusetts Department of Environmental Protection Massachusetts Contingency Plan, Effective 04/23/2014 and updates

MS - No Standard

<xx indicates compound was not reported above laboratory limits, Reporting Unit (RU) provided.
 . . . Sample not analyzed or analysis not provided
 Boxed/acid values indicate exceedance of GW-1 standards
 Results presented in nanograms per liter (ng/L)
 PFAS - Per- and Polyfluoroalkyl Substances
 ; - Value reported above the MDL but below the RL; value not included in the PFAS6 calculation.
 Only PFAS with results above RL are shown above
 INF - Infiltrant; DW - Drinking Water; POET - Point-of-Entry Treatment

Tighe&Bond

APPENDIX D

February 24, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: Shutesbury, Massachusetts 1 Cooleyville Rd
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B1534

Enclosed are results of analyses for samples as received by the laboratory on February 13, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/24/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B1534

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

PROJECT LOCATION: Shutesbury, Massachusetts

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
1 Cooleyville Road	23B1534-01	Ground Water		EPA 537.1	

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: Shutesbury, Massachusetts

Sample Description:

Work Order: 23B1534

Date Received: 2/13/2023

Field Sample #: 1 Cooleyville Road

Sampled: 2/9/2023 09:00

Sample ID: 23B1534-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	0.71	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.9	0.83	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	0.60	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.9	0.63	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
Perfluorooctanoic acid (PFOA)	1.7	1.9	0.88	ng/L	1	J	EPA 537.1	2/20/23	2/22/23 15:36	AMS
Perfluorooctanesulfonic acid (PFOS)	2.9	1.9	0.81	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
Perfluorononanoic acid (PFNA)	ND	1.9	0.82	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
Perfluorodecanoic acid (PFDA)	ND	1.9	0.68	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.9	0.65	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.9	0.63	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.9	0.61	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.9	0.58	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	0.55	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.9	0.48	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	0.82	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.9	0.71	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.9	0.85	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	0.76	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:36	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	81.4	70-130	2/22/23 15:36
M3HFPO-DA	74.1	70-130	2/22/23 15:36
13C-PFDA	86.4	70-130	2/22/23 15:36
D5-NEtFOSAA	90.2	70-130	2/22/23 15:36

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B1534-01 [1 Cooleyville Road]	B331804	269	1.00	02/20/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	----	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B331804 - EPA 537.1
Blank (B331804-BLK1)

Prepared: 02/20/23 Analyzed: 02/22/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.71	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.82	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.60	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.62	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.87	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.80	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.82	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.68	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.64	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.62	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.60	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.57	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.55	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.47	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	0.81	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.70	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.84	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.75	ng/L							
Surrogate: 13C-PFHxA	32.5			ng/L	36.8		88.4	70-130			
Surrogate: M3HFPO-DA	34.0			ng/L	36.8		92.3	70-130			
Surrogate: 13C-PFDA	32.8			ng/L	36.8		89.2	70-130			
Surrogate: D5-NEtFOSAA	134			ng/L	147		90.7	70-130			

LCS (B331804-BS1)

Prepared: 02/20/23 Analyzed: 02/22/23

Perfluorobutanesulfonic acid (PFBS)	1.34	1.8	0.69	ng/L	1.60		83.6	50-150			J
Perfluorohexanoic acid (PFHxA)	1.32	1.8	0.80	ng/L	1.81		73.0	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.19	1.8	0.59	ng/L	1.65		71.9	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.67	1.8	0.61	ng/L	1.81		92.5	50-150			J
Perfluorooctanoic acid (PFOA)	1.47	1.8	0.85	ng/L	1.81		81.5	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.66	1.8	0.78	ng/L	1.68		99.1	50-150			J
Perfluorononanoic acid (PFNA)	1.41	1.8	0.80	ng/L	1.81		77.7	50-150			J
Perfluorodecanoic acid (PFDA)	1.98	1.8	0.66	ng/L	1.81		109	50-150			J
N-EtFOSAA (NEtFOSAA)	1.57	1.8	0.63	ng/L	1.81		86.9	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.65	1.8	0.61	ng/L	1.81		91.0	50-150			J
N-MeFOSAA (NMeFOSAA)	1.68	1.8	0.59	ng/L	1.81		92.6	50-150			J
Perfluorododecanoic acid (PFDoA)	1.40	1.8	0.56	ng/L	1.81		77.3	50-150			J
Perfluorotridecanoic acid (PFTrDA)	1.71	1.8	0.54	ng/L	1.81		94.3	50-150			J
Perfluorotetradecanoic acid (PFTA)	1.43	1.8	0.47	ng/L	1.81		79.3	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.49	1.8	0.80	ng/L	1.81		82.6	50-150			J
11Cl-PF3OUdS (F53B Major)	1.58	1.8	0.69	ng/L	1.71		92.6	50-150			J
9Cl-PF3ONS (F53B Minor)	1.58	1.8	0.82	ng/L	1.69		93.6	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.58	1.8	0.74	ng/L	1.71		92.6	50-150			J
Surrogate: 13C-PFHxA	34.1			ng/L	36.2		94.2	70-130			
Surrogate: M3HFPO-DA	35.8			ng/L	36.2		98.9	70-130			
Surrogate: 13C-PFDA	34.6			ng/L	36.2		95.5	70-130			
Surrogate: D5-NEtFOSAA	138			ng/L	145		95.5	70-130			

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B331804 - EPA 537.1											
LCS Dup (B331804-BSD1)						Prepared: 02/20/23 Analyzed: 02/22/23					
Perfluorobutanesulfonic acid (PFBS)	1.66	1.8	0.69	ng/L	1.58		105	50-150	21.5	50	J
Perfluorohexanoic acid (PFHxA)	1.74	1.8	0.79	ng/L	1.78		97.8	50-150	27.7	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.59	1.8	0.58	ng/L	1.63		97.5	50-150	28.9	50	J
Perfluoroheptanoic acid (PFHpA)	2.14	1.8	0.60	ng/L	1.78		120	50-150	24.4	50	
Perfluorooctanoic acid (PFOA)	1.86	1.8	0.84	ng/L	1.78		105	50-150	23.4	50	
Perfluorooctanesulfonic acid (PFOS)	1.98	1.8	0.77	ng/L	1.66		120	50-150	17.4	50	
Perfluorononanoic acid (PFNA)	1.99	1.8	0.79	ng/L	1.78		111	50-150	34.3	50	
Perfluorodecanoic acid (PFDA)	2.22	1.8	0.66	ng/L	1.78		125	50-150	11.8	50	
N-EtFOSAA (NEtFOSAA)	2.01	1.8	0.62	ng/L	1.78		113	50-150	24.3	50	
Perfluoroundecanoic acid (PFUnA)	1.91	1.8	0.60	ng/L	1.78		107	50-150	14.9	50	
N-MeFOSAA (NMeFOSAA)	1.94	1.8	0.58	ng/L	1.78		109	50-150	14.8	50	
Perfluorododecanoic acid (PFDoA)	1.88	1.8	0.56	ng/L	1.78		105	50-150	29.1	50	
Perfluorotridecanoic acid (PFTTrDA)	1.98	1.8	0.53	ng/L	1.78		111	50-150	14.7	50	
Perfluorotetradecanoic acid (PFTA)	1.48	1.8	0.46	ng/L	1.78		83.2	50-150	3.43	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.07	1.8	0.79	ng/L	1.78		116	50-150	32.4	50	
11Cl-PF3OUdS (F53B Major)	1.97	1.8	0.68	ng/L	1.68		117	50-150	21.7	50	
9Cl-PF3ONS (F53B Minor)	1.99	1.8	0.81	ng/L	1.66		120	50-150	22.9	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.07	1.8	0.73	ng/L	1.69		123	50-150	26.9	50	
Surrogate: 13C-PFHxA	33.7			ng/L	35.7		94.3	70-130			
Surrogate: M3HFPO-DA	35.4			ng/L	35.7		99.1	70-130			
Surrogate: 13C-PFDA	32.5			ng/L	35.7		91.1	70-130			
Surrogate: D5-NEtFOSAA	128			ng/L	143		90.0	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

23B1534

Phone: 413-525-2332
Fax: 413-525-6405

https://www.pacelabs.com

39 Spruce Street
East Longmeadow, MA 01026

Doc. # 381 Rev 2_06262019

Company Name: Pace Analytical
Address: 53 Southampton Road, Westfield, Massachusetts
Phone: (413) 562-1600
Project Name: PFAS Sample Collection - Shutesbury
Project Location: Shutesbury, Massachusetts
Project Number: S-2190
Project Manager: Jeff Arps
Pace Analytical Quote Name/Number: Town of Shutesbury
Invoice Recipient: Samuel Evans

Requested Turnaround Time:
 7 Day
 10-Day
 PFAS 10-Day (std)
 Due Date:
 1-Day
 3-Day
 2-Day
 4-Day

Analysis Requested:
 Field Filtered
 Lab to Filter
 Field Filtered
 Lab to Filter

Matrix Codes:
 GW = Ground Water
 WW = Waste Water
 DW = Drinking Water
 A = Air S = Soil
 SL = Sludge
 SOL = Solid
 O = Other

Preservation Codes:
 I = Iced
 H = HCL
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium Bisulfate
 X = Sodium Hydroxide
 T = Sodium Thiosulfate
 M = Methanol
 DI = DI Water
 O = Other

Client Sample ID / Description	Priority Date/Time	Ending Date/Time	Comp Code	Matrix Code	Preservation Code	Analysis Requested
1 Contoyville Road	2/19/23	0900	Grab	GW	U	X

Requested Turnaround Time:
 7 Day
 10-Day
 PFAS 10-Day (std)
 Due Date:
 1-Day
 3-Day
 2-Day
 4-Day

Analysis Requested:
 Field Filtered
 Lab to Filter
 Field Filtered
 Lab to Filter

Matrix Codes:
 GW = Ground Water
 WW = Waste Water
 DW = Drinking Water
 A = Air S = Soil
 SL = Sludge
 SOL = Solid
 O = Other

Preservation Codes:
 I = Iced
 H = HCL
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium Bisulfate
 X = Sodium Hydroxide
 T = Sodium Thiosulfate
 M = Methanol
 DI = DI Water
 O = Other

Relinquished by (Signature): [Signature]
Date/Time: 2/19/23 0815

Received by (Signature): [Signature]
Date/Time: 2/21/23 1330

Relinquished by (Signature): [Signature]
Date/Time: 2/13/23

Received by (Signature): [Signature]
Date/Time: 2/13/23 1708

Relinquished by (Signature): [Signature]
Date/Time: 2/13/23 1708

Received by (Signature): [Signature]
Date/Time: []

Relinquished by (Signature): [Signature]
Date/Time: []

Received by (Signature): [Signature]
Date/Time: []

Special Requirements:
 MA MCP Required
 MCP Certification Form Required
 GT RCP Required
 RCP Certification Form Required
 MA State DW Required

Project Entity:
 Government Municipality WRTA
 Federal 21 J School
 City Brownfield MBTA

Other:
 Chromatogram
 AINA-LAP, LLC

Comments:
 "Pace Analytical is not responsible for missing samples from prepackaged coolers"
 Glassware in freezer? Y/N
 Prepackaged Cooler? Y/N

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.

East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client T&B
 Project DFAS Sample - Shutesbury
 MCP/RCP Required MA MCP
 Deliverable Package Req. NO
 Location Shutesbury, MA
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time SC 2/13/23 1700
 Back-Sheet By / Date / Time SC 2/13/23 1645
 Temperature Method gun # 5
 Temp < 6° C Actual Temperature 3.5
 Rush Samples: Yes / No / Notify
 Short Hold: Yes / No / Notify

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	Na2S2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						2			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
Vials	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other

February 24, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 11 Cooleyville Rd., Shutesbury, MA.
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B1558

Enclosed are results of analyses for samples as received by the laboratory on February 13, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/24/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B1558

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

PROJECT LOCATION: 11 Cooleyville Rd., Shutesbury, MA.

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
11 Cooleyville Road	23B1558-01	Ground Water		EPA 537.1	

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: 11 Cooleyville Rd., Shutesbury, M Sample Description:

Work Order: 23B1558

Date Received: 2/13/2023

Field Sample #: 11 Cooleyville Road

Sampled: 2/9/2023 10:05

Sample ID: 23B1558-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.67	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
Perfluorohexanoic acid (PFHxA)	0.91	1.8	0.78	ng/L	1	J	EPA 537.1	2/20/23	2/22/23 16:40	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.57	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
Perfluoroheptanoic acid (PFHpA)	1.0	1.8	0.59	ng/L	1	J	EPA 537.1	2/20/23	2/22/23 16:40	AMS
Perfluorooctanoic acid (PFOA)	2.3	1.8	0.83	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
Perfluorooctanesulfonic acid (PFOS)	3.2	1.8	0.76	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	0.78	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	0.65	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.61	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.59	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.57	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.55	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.52	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.45	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	0.77	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.67	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.80	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.72	ng/L	1		EPA 537.1	2/20/23	2/22/23 16:40	AMS
Surrogates		% Recovery	Recovery Limits			Flag/Qual				
13C-PFHxA		87.8	70-130						2/22/23 16:40	
M3HFPO-DA		85.4	70-130						2/22/23 16:40	
13C-PFDA		89.2	70-130						2/22/23 16:40	
D5-NEtFOSAA		90.7	70-130						2/22/23 16:40	

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

Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B1558-01 [11 Cooleyville Road]	B331804	285	1.00	02/20/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B331804 - EPA 537.1
Blank (B331804-BLK1)

Prepared: 02/20/23 Analyzed: 02/22/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.71	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.82	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.60	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.62	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.87	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.80	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.82	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.68	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.64	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.62	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.60	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.57	ng/L							
Perfluorotridecanoic acid (PFTTrDA)	ND	1.8	0.55	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.47	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	0.81	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.70	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.84	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.75	ng/L							
Surrogate: 13C-PFHxA	32.5			ng/L	36.8		88.4	70-130			
Surrogate: M3HFPO-DA	34.0			ng/L	36.8		92.3	70-130			
Surrogate: 13C-PFDA	32.8			ng/L	36.8		89.2	70-130			
Surrogate: D5-NEtFOSAA	134			ng/L	147		90.7	70-130			

LCS (B331804-BS1)

Prepared: 02/20/23 Analyzed: 02/22/23

Perfluorobutanesulfonic acid (PFBS)	1.34	1.8	0.69	ng/L	1.60		83.6	50-150			J
Perfluorohexanoic acid (PFHxA)	1.32	1.8	0.80	ng/L	1.81		73.0	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.19	1.8	0.59	ng/L	1.65		71.9	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.67	1.8	0.61	ng/L	1.81		92.5	50-150			J
Perfluorooctanoic acid (PFOA)	1.47	1.8	0.85	ng/L	1.81		81.5	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.66	1.8	0.78	ng/L	1.68		99.1	50-150			J
Perfluorononanoic acid (PFNA)	1.41	1.8	0.80	ng/L	1.81		77.7	50-150			J
Perfluorodecanoic acid (PFDA)	1.98	1.8	0.66	ng/L	1.81		109	50-150			J
N-EtFOSAA (NEtFOSAA)	1.57	1.8	0.63	ng/L	1.81		86.9	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.65	1.8	0.61	ng/L	1.81		91.0	50-150			J
N-MeFOSAA (NMeFOSAA)	1.68	1.8	0.59	ng/L	1.81		92.6	50-150			J
Perfluorododecanoic acid (PFDoA)	1.40	1.8	0.56	ng/L	1.81		77.3	50-150			J
Perfluorotridecanoic acid (PFTTrDA)	1.71	1.8	0.54	ng/L	1.81		94.3	50-150			J
Perfluorotetradecanoic acid (PFTA)	1.43	1.8	0.47	ng/L	1.81		79.3	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.49	1.8	0.80	ng/L	1.81		82.6	50-150			J
11Cl-PF3OUdS (F53B Major)	1.58	1.8	0.69	ng/L	1.71		92.6	50-150			J
9Cl-PF3ONS (F53B Minor)	1.58	1.8	0.82	ng/L	1.69		93.6	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.58	1.8	0.74	ng/L	1.71		92.6	50-150			J
Surrogate: 13C-PFHxA	34.1			ng/L	36.2		94.2	70-130			
Surrogate: M3HFPO-DA	35.8			ng/L	36.2		98.9	70-130			
Surrogate: 13C-PFDA	34.6			ng/L	36.2		95.5	70-130			
Surrogate: D5-NEtFOSAA	138			ng/L	145		95.5	70-130			

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B331804 - EPA 537.1											
LCS Dup (B331804-BSD1)						Prepared: 02/20/23 Analyzed: 02/22/23					
Perfluorobutanesulfonic acid (PFBS)	1.66	1.8	0.69	ng/L	1.58		105	50-150	21.5	50	J
Perfluorohexanoic acid (PFHxA)	1.74	1.8	0.79	ng/L	1.78		97.8	50-150	27.7	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.59	1.8	0.58	ng/L	1.63		97.5	50-150	28.9	50	J
Perfluoroheptanoic acid (PFHpA)	2.14	1.8	0.60	ng/L	1.78		120	50-150	24.4	50	
Perfluorooctanoic acid (PFOA)	1.86	1.8	0.84	ng/L	1.78		105	50-150	23.4	50	
Perfluorooctanesulfonic acid (PFOS)	1.98	1.8	0.77	ng/L	1.66		120	50-150	17.4	50	
Perfluorononanoic acid (PFNA)	1.99	1.8	0.79	ng/L	1.78		111	50-150	34.3	50	
Perfluorodecanoic acid (PFDA)	2.22	1.8	0.66	ng/L	1.78		125	50-150	11.8	50	
N-EtFOSAA (NEtFOSAA)	2.01	1.8	0.62	ng/L	1.78		113	50-150	24.3	50	
Perfluoroundecanoic acid (PFUnA)	1.91	1.8	0.60	ng/L	1.78		107	50-150	14.9	50	
N-MeFOSAA (NMeFOSAA)	1.94	1.8	0.58	ng/L	1.78		109	50-150	14.8	50	
Perfluorododecanoic acid (PFDoA)	1.88	1.8	0.56	ng/L	1.78		105	50-150	29.1	50	
Perfluorotridecanoic acid (PFTTrDA)	1.98	1.8	0.53	ng/L	1.78		111	50-150	14.7	50	
Perfluorotetradecanoic acid (PFTA)	1.48	1.8	0.46	ng/L	1.78		83.2	50-150	3.43	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.07	1.8	0.79	ng/L	1.78		116	50-150	32.4	50	
11Cl-PF3OUdS (F53B Major)	1.97	1.8	0.68	ng/L	1.68		117	50-150	21.7	50	
9Cl-PF3ONS (F53B Minor)	1.99	1.8	0.81	ng/L	1.66		120	50-150	22.9	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.07	1.8	0.73	ng/L	1.69		123	50-150	26.9	50	
Surrogate: 13C-PFHxA	33.7			ng/L	35.7		94.3	70-130			
Surrogate: M3HFPO-DA	35.4			ng/L	35.7		99.1	70-130			
Surrogate: 13C-PFDA	32.5			ng/L	35.7		91.1	70-130			
Surrogate: D5-NEtFOSAA	128			ng/L	143		90.0	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Ligne and Bonz
 Project PFAS Sample Collection - Shutesbury
 MCP/RCP Required MA MUP
 Deliverable Package Req. MA
 Location Shutesbury, Massachusetts
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time Eveitt 2/13/23 1706
 Back-Sheet By / Date / Time LA 2/14/23 1019
 Temperature Method gun #5
 Temp < 6° C Actual Temperature 3.5
 Rush Samples: Yes / No Notify _____
 Short Hold: Yes / No Notify _____

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	Na2S2O3	Other Preservative
1L Amber Plastic								
500 mL Amber Plastic								
250 mL Amber <u>Plastic</u>						2		
Other Amber Clear Plastic								
16oz Amber Clear								
8oz Amber Clear								
4oz Amber Clear								
2oz Amber Clear								
Col/Bacteria								
Flashpoint								
Plastic Bag								
SOC Kit								
Perchlorate								
Encore								
Frozen								
Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials								

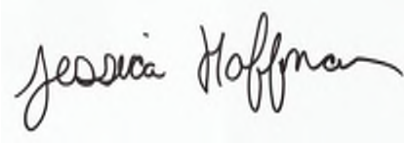
February 21, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: Shutesbury, Massachusetts 34 Cooleyville
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B1447

Enclosed are results of analyses for samples as received by the laboratory on February 13, 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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Certifications	10
Chain of Custody/Sample Receipt	11



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

Tighe & Bond
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/21/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B1447

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

PROJECT LOCATION: Shutesbury, Massachusetts

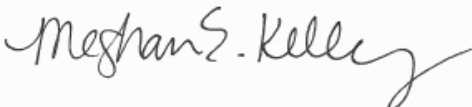
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
34 Cooleyville Road	23B1447-01	Ground Water		EPA 537.1	

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

Project Location: Shutesbury, Massachusetts

Sample Description:

Work Order: 23B1447

Date Received: 2/13/2023

Field Sample #: 34 Cooleyville Road

Sampled: 2/9/2023 09:20

Sample ID: 23B1447-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.69	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.80	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.58	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.61	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Perfluorooctanoic acid (PFOA)	ND	1.8	0.84	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.78	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	0.80	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	0.66	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.63	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.61	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.58	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.56	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.53	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.46	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	0.79	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.69	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.82	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.74	ng/L	1		EPA 537.1	2/15/23	2/20/23 11:15	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	98.9	70-130	2/20/23 11:15
M3HFPO-DA	88.3	70-130	2/20/23 11:15
13C-PFDA	99.3	70-130	2/20/23 11:15
D5-NEtFOSAA	99.5	70-130	2/20/23 11:15

Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B1447-01 [34 Cooleyville Road]	B331478	278	1.00	02/15/23

QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B331478 - EPA 537.1
Blank (B331478-BLK1)

Prepared: 02/15/23 Analyzed: 02/20/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.70	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.81	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.59	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.62	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.86	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.79	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.81	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.67	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.63	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.62	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.59	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.57	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.54	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.47	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	0.80	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.70	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.83	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.75	ng/L							
Surrogate: 13C-PFHxA	33.2			ng/L	36.4		91.1	70-130			
Surrogate: M3HFPO-DA	28.5			ng/L	36.4		78.4	70-130			
Surrogate: 13C-PFDA	34.3			ng/L	36.4		94.2	70-130			
Surrogate: D5-NEtFOSAA	135			ng/L	146		93.0	70-130			

LCS (B331478-BS1)

Prepared: 02/15/23 Analyzed: 02/20/23

Perfluorobutanesulfonic acid (PFBS)	14.6	1.8	0.70	ng/L	16.1		90.1	70-130			
Perfluorohexanoic acid (PFHxA)	16.9	1.8	0.81	ng/L	18.2		92.9	70-130			
Perfluorohexanesulfonic acid (PFHxS)	14.5	1.8	0.59	ng/L	16.6		87.0	70-130			
Perfluoroheptanoic acid (PFHpA)	16.2	1.8	0.62	ng/L	18.2		88.9	70-130			
Perfluorooctanoic acid (PFOA)	16.0	1.8	0.86	ng/L	18.2		88.1	70-130			
Perfluorooctanesulfonic acid (PFOS)	15.5	1.8	0.79	ng/L	16.9		92.0	70-130			
Perfluorononanoic acid (PFNA)	17.1	1.8	0.81	ng/L	18.2		93.9	70-130			
Perfluorodecanoic acid (PFDA)	17.3	1.8	0.67	ng/L	18.2		95.2	70-130			
N-EtFOSAA (NEtFOSAA)	15.9	1.8	0.63	ng/L	18.2		87.3	70-130			
Perfluoroundecanoic acid (PFUnA)	16.0	1.8	0.62	ng/L	18.2		87.6	70-130			
N-MeFOSAA (NMeFOSAA)	16.2	1.8	0.59	ng/L	18.2		89.0	70-130			
Perfluorododecanoic acid (PFDoA)	15.5	1.8	0.57	ng/L	18.2		85.2	70-130			
Perfluorotridecanoic acid (PFTrDA)	15.2	1.8	0.54	ng/L	18.2		83.7	70-130			
Perfluorotetradecanoic acid (PFTA)	15.4	1.8	0.47	ng/L	18.2		84.7	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	17.3	1.8	0.80	ng/L	18.2		95.1	70-130			
11Cl-PF3OUdS (F53B Major)	16.7	1.8	0.70	ng/L	17.2		97.0	70-130			
9Cl-PF3ONS (F53B Minor)	15.0	1.8	0.83	ng/L	17.0		88.4	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	14.4	1.8	0.75	ng/L	17.2		83.8	70-130			
Surrogate: 13C-PFHxA	37.3			ng/L	36.4		103	70-130			
Surrogate: M3HFPO-DA	31.7			ng/L	36.4		87.2	70-130			
Surrogate: 13C-PFDA	36.8			ng/L	36.4		101	70-130			
Surrogate: D5-NEtFOSAA	136			ng/L	146		93.7	70-130			

QUALITY CONTROL
Semivolatle Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B331478 - EPA 537.1
LCS Dup (B331478-BSD1)

Prepared: 02/15/23 Analyzed: 02/20/23

Perfluorobutanesulfonic acid (PFBS)	13.9	1.8	0.70	ng/L	16.2		86.1	70-130	4.37	30	
Perfluorohexanoic acid (PFHxA)	16.4	1.8	0.81	ng/L	18.2		89.9	70-130	3.08	30	
Perfluorohexanesulfonic acid (PFHxS)	14.3	1.8	0.59	ng/L	16.7		85.7	70-130	1.27	30	
Perfluoroheptanoic acid (PFHpA)	15.6	1.8	0.62	ng/L	18.2		85.4	70-130	3.83	30	
Perfluorooctanoic acid (PFOA)	16.0	1.8	0.86	ng/L	18.2		87.5	70-130	0.544	30	
Perfluorooctanesulfonic acid (PFOS)	15.3	1.8	0.79	ng/L	16.9		90.6	70-130	1.31	30	
Perfluorononanoic acid (PFNA)	16.7	1.8	0.81	ng/L	18.2		91.4	70-130	2.53	30	
Perfluorodecanoic acid (PFDA)	17.0	1.8	0.67	ng/L	18.2		93.0	70-130	2.10	30	
N-EtFOSAA (NEtFOSAA)	16.9	1.8	0.63	ng/L	18.2		92.7	70-130	6.24	30	
Perfluoroundecanoic acid (PFUnA)	17.0	1.8	0.62	ng/L	18.2		93.1	70-130	6.32	30	
N-MeFOSAA (NMeFOSAA)	17.0	1.8	0.59	ng/L	18.2		93.1	70-130	4.67	30	
Perfluorododecanoic acid (PFDoA)	16.9	1.8	0.57	ng/L	18.2		92.7	70-130	8.70	30	
Perfluorotridecanoic acid (PFTrDA)	16.9	1.8	0.54	ng/L	18.2		92.4	70-130	10.1	30	
Perfluorotetradecanoic acid (PFTA)	16.3	1.8	0.47	ng/L	18.2		89.6	70-130	5.76	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	17.0	1.8	0.80	ng/L	18.2		93.1	70-130	1.87	30	
11Cl-PF3OUdS (F53B Major)	17.3	1.8	0.70	ng/L	17.2		100	70-130	3.58	30	
9Cl-PF3ONS (F53B Minor)	15.2	1.8	0.83	ng/L	17.0		89.2	70-130	1.08	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	14.1	1.8	0.75	ng/L	17.2		81.7	70-130	2.35	30	
Surrogate: 13C-PFHxA	33.8			ng/L	36.5		92.5	70-130			
Surrogate: M3HFPO-DA	29.0			ng/L	36.5		79.4	70-130			
Surrogate: 13C-PFDA	34.9			ng/L	36.5		95.6	70-130			
Surrogate: D5-NEtFOSAA	137			ng/L	146		93.9	70-130			

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
DL	Method Detection Limit
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.

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

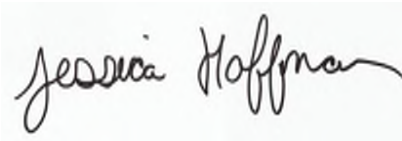
March 7, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 53 Cooleyville Rd. Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2850

Enclosed are results of analyses for samples as received by the laboratory on February 27, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 3/7/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2850

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

PROJECT LOCATION: 53 Cooleyville Rd. Shutesbury, Massachusetts

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
53 Cooleyville Road	23B2850-01	Ground Water		EPA 537.1	

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: 53 Cooleyville Rd. Shutesbury, M

Sample Description:

Work Order: 23B2850

Date Received: 2/27/2023

Field Sample #: 53 Cooleyville Road

Sampled: 2/23/2023 13:00

Sample ID: 23B2850-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.7	0.69	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.7	0.82	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.7	0.78	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.7	0.87	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Perfluorooctanoic acid (PFOA)	ND	1.7	0.90	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.7	0.66	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Perfluorononanoic acid (PFNA)	ND	1.7	0.80	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Perfluorodecanoic acid (PFDA)	ND	1.7	0.84	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.7	0.58	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.7	0.66	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.7	0.65	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.7	0.63	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	0.64	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.7	0.73	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.7	1.1	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.7	0.58	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.7	0.71	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.7	0.77	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:44	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	76.2	70-130	3/6/23 9:44
M3HFPO-DA	72.4	70-130	3/6/23 9:44
13C-PFDA	91.8	70-130	3/6/23 9:44
D5-NEtFOSAA	93.4	70-130	3/6/23 9:44

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

Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2850-01 [53 Cooleyville Road]	B332536	286	1.00	03/03/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332536 - EPA 537.1
Blank (B332536-BLK1)

Prepared: 03/03/23 Analyzed: 03/06/23

Perfluorobutanesulfonic acid (PFBS)	ND	2.1	0.82	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	2.1	0.97	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	2.1	0.93	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	2.1	1.0	ng/L							
Perfluorooctanoic acid (PFOA)	ND	2.1	1.1	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	2.1	0.79	ng/L							
Perfluorononanoic acid (PFNA)	ND	2.1	0.96	ng/L							
Perfluorodecanoic acid (PFDA)	ND	2.1	1.0	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	2.1	0.69	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	2.1	0.79	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	2.1	0.77	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	2.1	0.75	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	2.1	0.76	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	2.1	0.87	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	2.1	1.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	2.1	0.69	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	2.1	0.85	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	2.1	0.92	ng/L							
Surrogate: 13C-PFHxA	38.9			ng/L	41.7		93.4	70-130			
Surrogate: M3HFPO-DA	37.7			ng/L	41.7		90.4	70-130			
Surrogate: 13C-PFDA	41.5			ng/L	41.7		99.6	70-130			
Surrogate: D5-NEtFOSAA	176			ng/L	167		106	70-130			

LCS (B332536-BS1)

Prepared: 03/03/23 Analyzed: 03/06/23

Perfluorobutanesulfonic acid (PFBS)	1.70	1.9	0.75	ng/L	1.70		100	50-150			J
Perfluorohexanoic acid (PFHxA)	1.50	1.9	0.90	ng/L	1.91		78.6	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.32	1.9	0.86	ng/L	1.75		75.2	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.93	1.9	0.95	ng/L	1.91		101	50-150			
Perfluorooctanoic acid (PFOA)	1.59	1.9	0.99	ng/L	1.91		82.8	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.79	1.9	0.72	ng/L	1.78		100	50-150			J
Perfluorononanoic acid (PFNA)	1.57	1.9	0.88	ng/L	1.91		82.0	50-150			J
Perfluorodecanoic acid (PFDA)	2.04	1.9	0.92	ng/L	1.91		107	50-150			
N-EtFOSAA (NEtFOSAA)	1.88	1.9	0.64	ng/L	1.91		98.1	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.82	1.9	0.73	ng/L	1.91		95.2	50-150			J
N-MeFOSAA (NMeFOSAA)	1.86	1.9	0.71	ng/L	1.91		97.2	50-150			J
Perfluorododecanoic acid (PFDoA)	1.67	1.9	0.69	ng/L	1.91		87.2	50-150			J
Perfluorotridecanoic acid (PFTrDA)	1.90	1.9	0.70	ng/L	1.91		99.1	50-150			
Perfluorotetradecanoic acid (PFTA)	1.37	1.9	0.80	ng/L	1.91		71.8	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.63	1.9	1.2	ng/L	1.91		84.9	50-150			J
11Cl-PF3OUdS (F53B Major)	1.58	1.9	0.63	ng/L	1.81		87.8	50-150			J
9Cl-PF3ONS (F53B Minor)	1.61	1.9	0.78	ng/L	1.79		90.4	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.78	1.9	0.84	ng/L	1.81		98.3	50-150			J
Surrogate: 13C-PFHxA	35.8			ng/L	38.3		93.4	70-130			
Surrogate: M3HFPO-DA	34.9			ng/L	38.3		91.2	70-130			
Surrogate: 13C-PFDA	36.4			ng/L	38.3		95.1	70-130			
Surrogate: D5-NEtFOSAA	157			ng/L	153		103	70-130			

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QUALITY CONTROL
Semivolatle Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332536 - EPA 537.1											
LCS Dup (B332536-BSD1)											
						Prepared: 03/03/23 Analyzed: 03/06/23					
Perfluorobutanesulfonic acid (PFBS)	1.52	1.9	0.73	ng/L	1.64		92.4	50-150	11.4	50	J
Perfluorohexanoic acid (PFHxA)	1.35	1.9	0.87	ng/L	1.85		72.8	50-150	11.0	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.29	1.9	0.83	ng/L	1.69		76.1	50-150	2.11	50	J
Perfluoroheptanoic acid (PFHpA)	1.67	1.9	0.92	ng/L	1.85		90.3	50-150	14.3	50	J
Perfluorooctanoic acid (PFOA)	1.52	1.9	0.96	ng/L	1.85		82.1	50-150	4.08	50	J
Perfluorooctanesulfonic acid (PFOS)	1.57	1.9	0.70	ng/L	1.72		91.6	50-150	12.5	50	J
Perfluorononanoic acid (PFNA)	1.40	1.9	0.85	ng/L	1.85		75.8	50-150	11.2	50	J
Perfluorodecanoic acid (PFDA)	2.04	1.9	0.89	ng/L	1.85		110	50-150	0.129	50	
N-EtFOSAA (NEtFOSAA)	1.53	1.9	0.62	ng/L	1.85		82.7	50-150	20.2	50	J
Perfluoroundecanoic acid (PFUnA)	1.60	1.9	0.70	ng/L	1.85		86.6	50-150	12.8	50	J
N-MeFOSAA (NMeFOSAA)	1.66	1.9	0.69	ng/L	1.85		89.8	50-150	11.1	50	J
Perfluorododecanoic acid (PFDoA)	1.32	1.9	0.66	ng/L	1.85		71.0	50-150	23.7	50	J
Perfluorotridecanoic acid (PFTrDA)	1.65	1.9	0.68	ng/L	1.85		89.2	50-150	13.8	50	J
Perfluorotetradecanoic acid (PFTA)	1.26	1.9	0.77	ng/L	1.85		67.8	50-150	9.07	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.57	1.9	1.1	ng/L	1.85		84.8	50-150	3.49	50	J
11Cl-PF3OUdS (F53B Major)	1.45	1.9	0.61	ng/L	1.75		83.0	50-150	8.88	50	J
9Cl-PF3ONS (F53B Minor)	1.64	1.9	0.75	ng/L	1.73		94.9	50-150	1.55	50	J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.58	1.9	0.81	ng/L	1.75		90.5	50-150	11.5	50	J
Surrogate: 13C-PFHxA	34.8			ng/L	37.0		93.9	70-130			
Surrogate: M3HFPO-DA	34.3			ng/L	37.0		92.6	70-130			
Surrogate: 13C-PFDA	35.2			ng/L	37.0		94.9	70-130			
Surrogate: D5-NEtFOSAA	149			ng/L	148		101	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

Log In Back-Sheet

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



Client Tighe & Bond

Project PFAS Sample Collection

MCP/RCP Required MA MCP

Deliverable Package Req. _____

Location Shutesbury, MA

PWSID# (When Applicable) _____

Arrival Method:

Courier Fed Ex Walk In Other

Received By / Date / Time 2-27-23 16:42

Back-Sheet By / Date / Time 2-28-23 13:15

Temperature Method GM # 3

Temp < 6° C Actual Temperature 4.6

Rush Samples: Yes / No Notify _____

Short Hold: Yes / No Notify _____

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	NaS2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>									
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

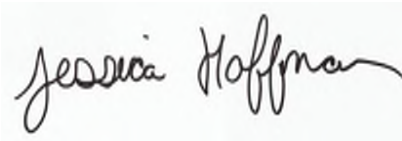
March 7, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 4 Leverett Road Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2863

Enclosed are results of analyses for samples as received by the laboratory on February 27, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 3/7/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2863

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

PROJECT LOCATION: 4 Leverett Road Shutesbury, Massachusetts

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
4 Leverett Road	23B2863-01	Drinking Water		EPA 537.1	

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: 4 Leverett Road Shutesbury, Mass

Sample Description:

Work Order: 23B2863

Date Received: 2/27/2023

Field Sample #: 4 Leverett Road

Sampled: 2/23/2023 15:00

Sample ID: 23B2863-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL			Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
			DL	MA	ORSG							
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.72			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.85			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.82			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.91			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Perfluorooctanoic acid (PFOA)	2.7	1.8	0.94			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Perfluorooctanesulfonic acid (PFOS)	2.4	1.8	0.69			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	0.84			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	0.87			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.61			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.68			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.65			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.67			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.76			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
11Cl-PF3OUdS (F53B Major)	1.7	1.8	0.60			ng/L	1	J	EPA 537.1	3/3/23	3/6/23 11:47	AMS
9Cl-PF3ONS (F53B Minor)	97	1.8	0.74			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.80			ng/L	1		EPA 537.1	3/3/23	3/6/23 11:47	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	92.4	70-130	3/6/23 11:47
M3HFPO-DA	79.5	70-130	3/6/23 11:47
13C-PFDA	92.6	70-130	3/6/23 11:47
D5-NEtFOSAA	96.7	70-130	3/6/23 11:47

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2863-01 [4 Leverett Road]	B332536	274	1.00	03/03/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332536 - EPA 537.1											
Blank (B332536-BLK1)						Prepared: 03/03/23 Analyzed: 03/06/23					
Perfluorobutanesulfonic acid (PFBS)	ND	2.1	0.82	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	2.1	0.97	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	2.1	0.93	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	2.1	1.0	ng/L							
Perfluorooctanoic acid (PFOA)	ND	2.1	1.1	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	2.1	0.79	ng/L							
Perfluorononanoic acid (PFNA)	ND	2.1	0.96	ng/L							
Perfluorodecanoic acid (PFDA)	ND	2.1	1.0	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	2.1	0.69	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	2.1	0.79	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	2.1	0.77	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	2.1	0.75	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	2.1	0.76	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	2.1	0.87	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	2.1	1.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	2.1	0.69	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	2.1	0.85	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	2.1	0.92	ng/L							
Surrogate: 13C-PFHxA	38.9			ng/L	41.7		93.4	70-130			
Surrogate: M3HFPO-DA	37.7			ng/L	41.7		90.4	70-130			
Surrogate: 13C-PFDA	41.5			ng/L	41.7		99.6	70-130			
Surrogate: D5-NEtFOSAA	176			ng/L	167		106	70-130			
LCS (B332536-BS1)						Prepared: 03/03/23 Analyzed: 03/06/23					
Perfluorobutanesulfonic acid (PFBS)	1.70	1.9	0.75	ng/L	1.70		100	50-150			J
Perfluorohexanoic acid (PFHxA)	1.50	1.9	0.90	ng/L	1.91		78.6	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.32	1.9	0.86	ng/L	1.75		75.2	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.93	1.9	0.95	ng/L	1.91		101	50-150			
Perfluorooctanoic acid (PFOA)	1.59	1.9	0.99	ng/L	1.91		82.8	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.79	1.9	0.72	ng/L	1.78		100	50-150			J
Perfluorononanoic acid (PFNA)	1.57	1.9	0.88	ng/L	1.91		82.0	50-150			J
Perfluorodecanoic acid (PFDA)	2.04	1.9	0.92	ng/L	1.91		107	50-150			
N-EtFOSAA (NEtFOSAA)	1.88	1.9	0.64	ng/L	1.91		98.1	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.82	1.9	0.73	ng/L	1.91		95.2	50-150			J
N-MeFOSAA (NMeFOSAA)	1.86	1.9	0.71	ng/L	1.91		97.2	50-150			J
Perfluorododecanoic acid (PFDoA)	1.67	1.9	0.69	ng/L	1.91		87.2	50-150			J
Perfluorotridecanoic acid (PFTrDA)	1.90	1.9	0.70	ng/L	1.91		99.1	50-150			
Perfluorotetradecanoic acid (PFTA)	1.37	1.9	0.80	ng/L	1.91		71.8	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.63	1.9	1.2	ng/L	1.91		84.9	50-150			J
11Cl-PF3OUdS (F53B Major)	1.58	1.9	0.63	ng/L	1.81		87.8	50-150			J
9Cl-PF3ONS (F53B Minor)	1.61	1.9	0.78	ng/L	1.79		90.4	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.78	1.9	0.84	ng/L	1.81		98.3	50-150			J
Surrogate: 13C-PFHxA	35.8			ng/L	38.3		93.4	70-130			
Surrogate: M3HFPO-DA	34.9			ng/L	38.3		91.2	70-130			
Surrogate: 13C-PFDA	36.4			ng/L	38.3		95.1	70-130			
Surrogate: D5-NEtFOSAA	157			ng/L	153		103	70-130			

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QUALITY CONTROL
Semivolatle Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332536 - EPA 537.1											
LCS Dup (B332536-BSD1)											
						Prepared: 03/03/23 Analyzed: 03/06/23					
Perfluorobutanesulfonic acid (PFBS)	1.52	1.9	0.73	ng/L	1.64		92.4	50-150	11.4	50	J
Perfluorohexanoic acid (PFHxA)	1.35	1.9	0.87	ng/L	1.85		72.8	50-150	11.0	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.29	1.9	0.83	ng/L	1.69		76.1	50-150	2.11	50	J
Perfluoroheptanoic acid (PFHpA)	1.67	1.9	0.92	ng/L	1.85		90.3	50-150	14.3	50	J
Perfluorooctanoic acid (PFOA)	1.52	1.9	0.96	ng/L	1.85		82.1	50-150	4.08	50	J
Perfluorooctanesulfonic acid (PFOS)	1.57	1.9	0.70	ng/L	1.72		91.6	50-150	12.5	50	J
Perfluorononanoic acid (PFNA)	1.40	1.9	0.85	ng/L	1.85		75.8	50-150	11.2	50	J
Perfluorodecanoic acid (PFDA)	2.04	1.9	0.89	ng/L	1.85		110	50-150	0.129	50	
N-EtFOSAA (NEtFOSAA)	1.53	1.9	0.62	ng/L	1.85		82.7	50-150	20.2	50	J
Perfluoroundecanoic acid (PFUnA)	1.60	1.9	0.70	ng/L	1.85		86.6	50-150	12.8	50	J
N-MeFOSAA (NMeFOSAA)	1.66	1.9	0.69	ng/L	1.85		89.8	50-150	11.1	50	J
Perfluorododecanoic acid (PFDoA)	1.32	1.9	0.66	ng/L	1.85		71.0	50-150	23.7	50	J
Perfluorotridecanoic acid (PFTrDA)	1.65	1.9	0.68	ng/L	1.85		89.2	50-150	13.8	50	J
Perfluorotetradecanoic acid (PFTA)	1.26	1.9	0.77	ng/L	1.85		67.8	50-150	9.07	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.57	1.9	1.1	ng/L	1.85		84.8	50-150	3.49	50	J
11Cl-PF3OUdS (F53B Major)	1.45	1.9	0.61	ng/L	1.75		83.0	50-150	8.88	50	J
9Cl-PF3ONS (F53B Minor)	1.64	1.9	0.75	ng/L	1.73		94.9	50-150	1.55	50	J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.58	1.9	0.81	ng/L	1.75		90.5	50-150	11.5	50	J
Surrogate: 13C-PFHxA	34.8			ng/L	37.0		93.9	70-130			
Surrogate: M3HFPO-DA	34.3			ng/L	37.0		92.6	70-130			
Surrogate: 13C-PFDA	35.2			ng/L	37.0		94.9	70-130			
Surrogate: D5-NEtFOSAA	149			ng/L	148		101	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

25 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

Log In Sample Receipt Checklist -- (Rejection Criteria Listing
 -- Using Acceptance Policy) Any False statement will be
 brought to the attention of the Client -- True or False



Client Tighe & Bond
 Project PFAS Sample Collection
 MCP/RCP Required MA MCP
 Deliverable Package Req. _____
 Location Shutesbury, MA
 PWSID# (When Applicable) _____
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time 2-27-23 16:42
 Back-Sheet By / Date / Time 2-28-23 13:15
 Temperature Method Cool # 3
 Temp < 6°C Actual Temperature 4.6
 Rush Samples: Yes No Notify _____
 Short Hold: Yes No Notify _____

	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:	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/>

Notes regarding Samples/COC outside of SOP:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	NaS2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						2			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

February 24, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 10 Leverett Road, Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2157

Enclosed are results of analyses for samples as received by the laboratory on February 17, 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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Tighe & Bond
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/24/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2157

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

PROJECT LOCATION: 10 Leverett Road, Shutesbury, Massachusetts

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
10 Leverett Road	23B2157-01	Ground Water		EPA 537.1	

CASE NARRATIVE SUMMARY

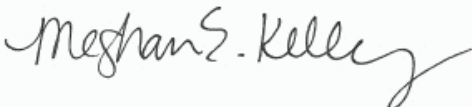
All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

Qualifications:

Analyte & Samples(s) Qualified:

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: 10 Leverett Road, Shutesbury, Ma

Sample Description:

Work Order: 23B2157

Date Received: 2/17/2023

Field Sample #: 10 Leverett Road

Sampled: 2/16/2023 12:00

Sample ID: 23B2157-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.70	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.83	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.80	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.89	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
Perfluorooctanoic acid (PFOA)	ND	1.8	0.92	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
Perfluorooctanesulfonic acid (PFOS)	1.4	1.8	0.68	ng/L	1	J	EPA 537.1	2/21/23	2/23/23 12:57	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	0.82	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	0.86	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.59	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.68	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.66	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.64	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.65	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.75	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
11Cl-PF3OUdS (F53B Major)	13	1.8	0.59	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS
9Cl-PF3ONS (F53B Minor)	330	18	7.3	ng/L	10	D	EPA 537.1	2/21/23	2/23/23 14:15	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.78	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:57	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	83.8	70-130	2/23/23 12:57
13C-PFHxA	84.6	70-130	2/23/23 14:15
M3HFPO-DA	80.2	70-130	2/23/23 12:57
M3HFPO-DA	88.1	70-130	2/23/23 14:15
13C-PFDA	88.6	70-130	2/23/23 12:57
13C-PFDA	87.3	70-130	2/23/23 14:15
D5-NEtFOSAA	94.0	70-130	2/23/23 12:57
D5-NEtFOSAA	91.9	70-130	2/23/23 14:15

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2157-01 [10 Leverett Road]	B332208	280	1.00	02/21/23
23B2157-01RE1 [10 Leverett Road]	B332208	280	1.00	02/21/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332208 - EPA 537.1											
Blank (B332208-BLK1)											
						Prepared: 02/21/23 Analyzed: 02/23/23					
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.72	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.86	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.82	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.91	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.95	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.69	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.84	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.88	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.61	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.68	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.66	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.67	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.76	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.61	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.75	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.80	ng/L							
Surrogate: 13C-PFHxA	32.3			ng/L	36.6		88.2	70-130			
Surrogate: M3HFPO-DA	33.4			ng/L	36.6		91.2	70-130			
Surrogate: 13C-PFDA	33.1			ng/L	36.6		90.4	70-130			
Surrogate: D5-NEtFOSAA	137			ng/L	146		93.4	70-130			
LCS (B332208-BS1)											
						Prepared: 02/21/23 Analyzed: 02/23/23					
Perfluorobutanesulfonic acid (PFBS)	1.35	1.8	0.72	ng/L	1.62		83.5	50-150			J
Perfluorohexanoic acid (PFHxA)	1.29	1.8	0.85	ng/L	1.83		70.8	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.15	1.8	0.82	ng/L	1.67		69.1	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.51	1.8	0.91	ng/L	1.83		82.9	50-150			J
Perfluorooctanoic acid (PFOA)	1.29	1.8	0.94	ng/L	1.83		70.8	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.48	1.8	0.69	ng/L	1.69		87.4	50-150			J
Perfluorononanoic acid (PFNA)	1.36	1.8	0.84	ng/L	1.83		74.6	50-150			J
Perfluorodecanoic acid (PFDA)	1.74	1.8	0.88	ng/L	1.83		95.2	50-150			J
N-EtFOSAA (NEtFOSAA)	1.48	1.8	0.61	ng/L	1.83		81.0	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.49	1.8	0.69	ng/L	1.83		81.6	50-150			J
N-MeFOSAA (NMeFOSAA)	1.48	1.8	0.68	ng/L	1.83		81.1	50-150			J
Perfluorododecanoic acid (PFDoA)	1.30	1.8	0.65	ng/L	1.83		71.4	50-150			J
Perfluorotridecanoic acid (PFTrDA)	1.66	1.8	0.67	ng/L	1.83		91.2	50-150			J
Perfluorotetradecanoic acid (PFTA)	1.41	1.8	0.76	ng/L	1.83		77.0	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.66	1.8	1.1	ng/L	1.83		90.8	50-150			J
11Cl-PF3OUdS (F53B Major)	1.37	1.8	0.61	ng/L	1.72		79.5	50-150			J
9Cl-PF3ONS (F53B Minor)	1.36	1.8	0.74	ng/L	1.70		80.1	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.40	1.8	0.80	ng/L	1.73		81.3	50-150			J
Surrogate: 13C-PFHxA	31.6			ng/L	36.5		86.6	70-130			
Surrogate: M3HFPO-DA	31.8			ng/L	36.5		87.0	70-130			
Surrogate: 13C-PFDA	30.9			ng/L	36.5		84.6	70-130			
Surrogate: D5-NEtFOSAA	125			ng/L	146		85.6	70-130			

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332208 - EPA 537.1											
LCS Dup (B332208-BSD1)											
						Prepared: 02/21/23 Analyzed: 02/23/23					
Perfluorobutanesulfonic acid (PFBS)	1.49	1.8	0.72	ng/L	1.62		91.9	50-150	9.55	50	J
Perfluorohexanoic acid (PFHxA)	1.48	1.8	0.85	ng/L	1.83		81.1	50-150	13.7	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.40	1.8	0.82	ng/L	1.67		83.8	50-150	19.3	50	J
Perfluoroheptanoic acid (PFHpA)	1.88	1.8	0.91	ng/L	1.83		103	50-150	21.4	50	
Perfluorooctanoic acid (PFOA)	1.54	1.8	0.94	ng/L	1.83		84.4	50-150	17.6	50	J
Perfluorooctanesulfonic acid (PFOS)	1.73	1.8	0.69	ng/L	1.70		102	50-150	15.7	50	J
Perfluorononanoic acid (PFNA)	1.54	1.8	0.84	ng/L	1.83		84.2	50-150	12.1	50	J
Perfluorodecanoic acid (PFDA)	2.02	1.8	0.88	ng/L	1.83		110	50-150	14.7	50	
N-EtFOSAA (NEtFOSAA)	1.65	1.8	0.61	ng/L	1.83		90.5	50-150	11.2	50	J
Perfluoroundecanoic acid (PFUnA)	1.79	1.8	0.69	ng/L	1.83		98.0	50-150	18.3	50	J
N-MeFOSAA (NMeFOSAA)	1.69	1.8	0.68	ng/L	1.83		92.6	50-150	13.4	50	J
Perfluorododecanoic acid (PFDoA)	1.54	1.8	0.66	ng/L	1.83		84.2	50-150	16.6	50	J
Perfluorotridecanoic acid (PFTTrDA)	1.86	1.8	0.67	ng/L	1.83		102	50-150	11.1	50	
Perfluorotetradecanoic acid (PFTA)	1.32	1.8	0.76	ng/L	1.83		72.3	50-150	6.22	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.58	1.8	1.1	ng/L	1.83		86.5	50-150	4.80	50	J
11Cl-PF3OUdS (F53B Major)	1.72	1.8	0.61	ng/L	1.72		99.6	50-150	22.5	50	J
9Cl-PF3ONS (F53B Minor)	1.69	1.8	0.74	ng/L	1.71		99.3	50-150	21.5	50	J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.76	1.8	0.80	ng/L	1.73		102	50-150	22.5	50	J
Surrogate: 13C-PFHxA	34.0			ng/L	36.5		93.0	70-130			
Surrogate: M3HFPO-DA	34.3			ng/L	36.5		93.8	70-130			
Surrogate: 13C-PFDA	33.3			ng/L	36.5		91.0	70-130			
Surrogate: D5-NEtFOSAA	137			ng/L	146		93.6	70-130			

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
DL	Method Detection Limit
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.
D	Sample analyzed at a dilution.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Tighe + Bond
 Project PFAS Sample Coll. - Shutesbury
 MCP/RCP Required MCP Req'd
 Deliverable Package Req. N/A
 Location Shutesbury, MA
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time DWV 02/17/23 1655
 Back-Sheet By / Date / Time DWV 02/17/23 1915
 Temperature Method GUN # 3
 Temp < 6° C Actual Temperature 4.2
 Rush Samples: Yes No Notify _____
 Short Hold: Yes No Notify _____

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	NaS2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						2			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

February 28, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 16 Leverett Road Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2160

Enclosed are results of analyses for samples as received by the laboratory on February 17, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/28/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2160

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

PROJECT LOCATION: 16 Leverett Road Shutesbury, Massachusetts

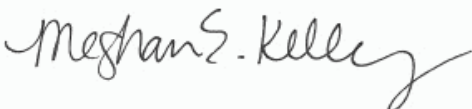
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
16 Leverett Road-INF	23B2160-01	Ground Water		EPA 537.1	
16 Leverett Road-EFF	23B2160-02	Ground Water		EPA 537.1	

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: 16 Leverett Road Shutesbury, Ma

Sample Description:

Work Order: 23B2160

Date Received: 2/17/2023

Field Sample #: 16 Leverett Road-INF

Sampled: 2/16/2023 11:05

Sample ID: 23B2160-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.70	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.83	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.80	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.88	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
Perfluorooctanoic acid (PFOA)	0.92	1.8	0.92	ng/L	1	J	EPA 537.1	2/22/23	2/27/23 9:02	AMS
Perfluorooctanesulfonic acid (PFOS)	28	1.8	0.67	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	0.82	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	0.85	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.59	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.67	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.66	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.64	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.65	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.74	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.59	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.72	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.78	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:02	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	108	70-130	2/27/23 9:02
M3HFPO-DA	102	70-130	2/27/23 9:02
13C-PFDA	110	70-130	2/27/23 9:02
D5-NEtFOSAA	118	70-130	2/27/23 9:02

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

Project Location: 16 Leverett Road Shutesbury, Ma

Sample Description:

Work Order: 23B2160

Date Received: 2/17/2023

Field Sample #: 16 Leverett Road-EFF

Sampled: 2/16/2023 11:15

Sample ID: 23B2160-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	0.74	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.9	0.88	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	0.84	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.9	0.93	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
Perfluorooctanoic acid (PFOA)	ND	1.9	0.97	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
Perfluorooctanesulfonic acid (PFOS)	0.93	1.9	0.71	ng/L	1	J	EPA 537.1	2/22/23	2/27/23 9:09	AMS
Perfluorononanoic acid (PFNA)	ND	1.9	0.86	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
Perfluorodecanoic acid (PFDA)	ND	1.9	0.90	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.9	0.62	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.9	0.71	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.9	0.70	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.9	0.67	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	0.68	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.9	0.78	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	1.2	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.9	0.62	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.9	0.76	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	0.82	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:09	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	Date/Time Analyzed	Analyst
13C-PFHxA	88.7	70-130		2/27/23 9:09	
M3HFPO-DA	85.3	70-130		2/27/23 9:09	
13C-PFDA	107	70-130		2/27/23 9:09	
D5-NEtFOSAA	109	70-130		2/27/23 9:09	

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

Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2160-01 [16 Leverett Road-INF]	B332209	281	1.00	02/22/23
23B2160-02 [16 Leverett Road-EFF]	B332209	267	1.00	02/22/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332209 - EPA 537.1
Blank (B332209-BLK1)

Prepared: 02/22/23 Analyzed: 02/27/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.72	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.85	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.82	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.91	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.94	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.69	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.84	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.87	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.60	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.68	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.65	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.66	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.76	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.60	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.74	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.80	ng/L							
Surrogate: 13C-PFHxA	33.5			ng/L	36.4		92.0	70-130			
Surrogate: M3HFPO-DA	33.0			ng/L	36.4		90.5	70-130			
Surrogate: 13C-PFDA	34.9			ng/L	36.4		95.9	70-130			
Surrogate: D5-NEtFOSAA	141			ng/L	146		96.8	70-130			

LCS (B332209-BS1)

Prepared: 02/22/23 Analyzed: 02/27/23

Perfluorobutanesulfonic acid (PFBS)	9.40	1.8	0.72	ng/L	8.07		116	70-130			
Perfluorohexanoic acid (PFHxA)	8.56	1.8	0.85	ng/L	9.10		94.1	70-130			
Perfluorohexanesulfonic acid (PFHxS)	7.71	1.8	0.81	ng/L	8.32		92.7	70-130			
Perfluoroheptanoic acid (PFHpA)	10.7	1.8	0.90	ng/L	9.10		118	70-130			
Perfluorooctanoic acid (PFOA)	8.96	1.8	0.94	ng/L	9.10		98.4	70-130			
Perfluorooctanesulfonic acid (PFOS)	10.6	1.8	0.69	ng/L	8.45		125	70-130			
Perfluorononanoic acid (PFNA)	9.71	1.8	0.84	ng/L	9.10		107	70-130			
Perfluorodecanoic acid (PFDA)	11.3	1.8	0.87	ng/L	9.10		124	70-130			
N-EtFOSAA (NEtFOSAA)	11.1	1.8	0.60	ng/L	9.10		122	70-130			
Perfluoroundecanoic acid (PFUnA)	10.8	1.8	0.69	ng/L	9.10		119	70-130			
N-MeFOSAA (NMeFOSAA)	11.3	1.8	0.68	ng/L	9.10		125	70-130			
Perfluorododecanoic acid (PFDoA)	11.1	1.8	0.65	ng/L	9.10		122	70-130			
Perfluorotridecanoic acid (PFTrDA)	11.0	1.8	0.66	ng/L	9.10		120	70-130			
Perfluorotetradecanoic acid (PFTA)	8.43	1.8	0.76	ng/L	9.10		92.7	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.69	1.8	1.1	ng/L	9.10		95.4	70-130			
11Cl-PF3OUdS (F53B Major)	10.4	1.8	0.60	ng/L	8.58		121	70-130			
9Cl-PF3ONS (F53B Minor)	10.5	1.8	0.74	ng/L	8.49		123	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.97	1.8	0.80	ng/L	8.60		116	70-130			
Surrogate: 13C-PFHxA	37.8			ng/L	36.4		104	70-130			
Surrogate: M3HFPO-DA	36.8			ng/L	36.4		101	70-130			
Surrogate: 13C-PFDA	38.6			ng/L	36.4		106	70-130			
Surrogate: D5-NEtFOSAA	156			ng/L	146		107	70-130			

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

QUALITY CONTROL
Semivolatle Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332209 - EPA 537.1
LCS Dup (B332209-BSD1)

Prepared: 02/22/23 Analyzed: 02/27/23

Perfluorobutanesulfonic acid (PFBS)	8.78	1.8	0.72	ng/L	8.08		109	70-130	6.85	30	
Perfluorohexanoic acid (PFHxA)	8.03	1.8	0.85	ng/L	9.11		88.1	70-130	6.45	30	
Perfluorohexanesulfonic acid (PFHxS)	6.99	1.8	0.82	ng/L	8.33		83.9	70-130	9.81	30	
Perfluoroheptanoic acid (PFHpA)	10.1	1.8	0.91	ng/L	9.11		111	70-130	5.49	30	
Perfluorooctanoic acid (PFOA)	8.79	1.8	0.94	ng/L	9.11		96.4	70-130	1.96	30	
Perfluorooctanesulfonic acid (PFOS)	9.23	1.8	0.69	ng/L	8.45		109	70-130	13.8	30	
Perfluorononanoic acid (PFNA)	8.98	1.8	0.84	ng/L	9.11		98.6	70-130	7.79	30	
Perfluorodecanoic acid (PFDA)	10.7	1.8	0.87	ng/L	9.11		118	70-130	5.23	30	
N-EtFOSAA (NEtFOSAA)	9.84	1.8	0.60	ng/L	9.11		108	70-130	11.9	30	
Perfluoroundecanoic acid (PFUnA)	10.2	1.8	0.69	ng/L	9.11		112	70-130	5.55	30	
N-MeFOSAA (NMeFOSAA)	9.96	1.8	0.68	ng/L	9.11		109	70-130	12.9	30	
Perfluorododecanoic acid (PFDoA)	10.3	1.8	0.65	ng/L	9.11		113	70-130	7.09	30	
Perfluorotridecanoic acid (PFTrDA)	10.2	1.8	0.66	ng/L	9.11		112	70-130	7.17	30	
Perfluorotetradecanoic acid (PFTA)	8.19	1.8	0.76	ng/L	9.11		89.9	70-130	2.97	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.92	1.8	1.1	ng/L	9.11		86.9	70-130	9.23	30	
11Cl-PF3OUdS (F53B Major)	9.42	1.8	0.60	ng/L	8.59		110	70-130	9.69	30	
9Cl-PF3ONS (F53B Minor)	9.55	1.8	0.74	ng/L	8.50		112	70-130	9.11	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.26	1.8	0.80	ng/L	8.61		108	70-130	7.39	30	
Surrogate: 13C-PFHxA	37.5			ng/L	36.4		103	70-130			
Surrogate: M3HFPO-DA	37.0			ng/L	36.4		101	70-130			
Surrogate: 13C-PFDA	38.2			ng/L	36.4		105	70-130			
Surrogate: D5-NEtFOSAA	150			ng/L	146		103	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

23 B 2160 7A

Doc # 381 Rev 2_06262019

39 Spruce Street
East Longmeadow, MA 01026

https://www.pacelabs.com/

Phone: 413-525-2332
Fax: 413-525-6405

Chain of Custody Record

Page _____ of _____

Requested Turnaround Time
 7-Day 10-Day 15-Day 20-Day 30-Day

Analysis Requested
 Field Filtered Lab to Filter Orthophosphate Samples Field Filtered Lab to Filter

Format: PDF EXCEL

Other: SOXHLET NON SOXHLET

CLP Like Data Pkg Required:

Special Requirements: MA MCP Required MA State DW Required

Matrix Codes:
 GW - Ground Water
 WW - Waste Water
 DW - Drinking Water
 A - Air S - Soil
 SL - Sludge
 SOL - Solid
 O - Other

Preservation Codes:
 I - Iced
 H - HCL
 N - Nitric Acid
 S - Sulfuric Acid
 B - Sodium Bisulfate
 X - Sodium Hydroxide
 T - Sodium Thiosulfate
 M - Methanol
 DI - DI Water
 O - Other

Client Sample ID / Description	Originating Date/Time	Matrix Code	Conc Code	Vials	Glass	Plastic	Bacteria	Encore	Analysis Requested	2 Preservation Code
16 Leverett Road Inf	2/16/23	GW	U			X				
26 Leverett Road Eff	2/16/23	GW	U			X				

Special Requirements:
 MA MCP Required MA State DW Required
 MCP Certification Form Required CT RCP Required
 RCP Certification Form Required

Project Entry:
 Government Municipality WRTA
 Federal 21 J School
 City Brownfield MBTA

Comments:
 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.

Signature Log:
 Relinquished by: (signature) Date/Time: 2/17/23 0800
 Received by: (signature) Date/Time: 2/17/23 12
 Relinquished by: (signature) Date/Time: 2/17/23 1655
 Received by: (signature) Date/Time: 2/17/23 1655

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Tighe + Bond
 Project PFAS Sample Coll. - Shutesbury
 MCP/RCP Required MCP Req'd
 Deliverable Package Req. N/A
 Location Shutesbury, MA
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time DWW 02/17/23 1655
 Back-Sheet By / Date / Time DWW 02/17/23 1915
 Temperature Method GUN # 3
 Temp < 6° C Actual Temperature 4.2
 Rush Samples: Yes No Notify
 Short Hold: Yes No Notify

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	Na2S2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						4			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

March 1, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 17 Leverett Road Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2200

Enclosed are results of analyses for samples as received by the laboratory on February 20, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman
Project Manager

Table of Contents

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

Tighe & Bond
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 3/1/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2200

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

PROJECT LOCATION: 17 Leverett Road Shutesbury, Massachusetts

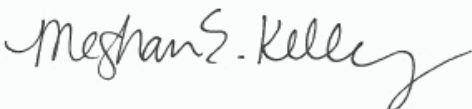
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
17 Leverett Road	23B2200-01	Ground Water		EPA 537.1	

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: 17 Leverett Road Shutesbury, Ma

Sample Description:

Work Order: 23B2200

Date Received: 2/20/2023

Field Sample #: 17 Leverett Road

Sampled: 2/17/2023 13:25

Sample ID: 23B2200-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	1.1	1.8	0.72	ng/L	1	J	EPA 537.1	2/27/23	2/28/23 9:11	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.85	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
Perfluorohexanesulfonic acid (PFHxS)	1.2	1.8	0.81	ng/L	1	J	EPA 537.1	2/27/23	2/28/23 9:11	AMS
Perfluoroheptanoic acid (PFHpA)	1.6	1.8	0.90	ng/L	1	J	EPA 537.1	2/27/23	2/28/23 9:11	AMS
Perfluorooctanoic acid (PFOA)	4.7	1.8	0.94	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
Perfluorooctanesulfonic acid (PFOS)	3.5	1.8	0.69	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	0.84	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	0.87	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.60	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.68	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.65	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.66	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.76	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.60	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.74	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.80	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:11	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	70.3	70-130	2/28/23 9:11
M3HFPO-DA	70.4	70-130	2/28/23 9:11
13C-PFDA	96.8	70-130	2/28/23 9:11
D5-NEtFOSAA	99.4	70-130	2/28/23 9:11

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2200-01 [17 Leverett Road]	B332312	275	1.00	02/27/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332312 - EPA 537.1
Blank (B332312-BLK1)

Prepared: 02/27/23 Analyzed: 02/28/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.71	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.84	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.81	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.90	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.93	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.68	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.83	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.86	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.60	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.68	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.67	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.65	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.66	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.75	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.60	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.73	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.79	ng/L							
Surrogate: 13C-PFHxA	39.2			ng/L	36.1		109	70-130			
Surrogate: M3HFPO-DA	40.0			ng/L	36.1		111	70-130			
Surrogate: 13C-PFDA	37.9			ng/L	36.1		105	70-130			
Surrogate: D5-NEtFOSAA	152			ng/L	144		105	70-130			

LCS (B332312-BS1)

Prepared: 02/27/23 Analyzed: 02/28/23

Perfluorobutanesulfonic acid (PFBS)	15.8	1.8	0.71	ng/L	16.0		98.4	70-130			
Perfluorohexanoic acid (PFHxA)	15.3	1.8	0.84	ng/L	18.1		84.6	70-130			
Perfluorohexanesulfonic acid (PFHxS)	13.6	1.8	0.81	ng/L	16.5		82.2	70-130			
Perfluoroheptanoic acid (PFHpA)	18.9	1.8	0.90	ng/L	18.1		104	70-130			
Perfluorooctanoic acid (PFOA)	16.3	1.8	0.93	ng/L	18.1		90.1	70-130			
Perfluorooctanesulfonic acid (PFOS)	17.8	1.8	0.68	ng/L	16.8		106	70-130			
Perfluorononanoic acid (PFNA)	16.9	1.8	0.83	ng/L	18.1		93.4	70-130			
Perfluorodecanoic acid (PFDA)	19.5	1.8	0.87	ng/L	18.1		108	70-130			
N-EtFOSAA (NEtFOSAA)	18.6	1.8	0.60	ng/L	18.1		103	70-130			
Perfluoroundecanoic acid (PFUnA)	19.0	1.8	0.69	ng/L	18.1		105	70-130			
N-MeFOSAA (NMeFOSAA)	18.9	1.8	0.67	ng/L	18.1		105	70-130			
Perfluorododecanoic acid (PFDoA)	19.7	1.8	0.65	ng/L	18.1		109	70-130			
Perfluorotridecanoic acid (PFTrDA)	19.3	1.8	0.66	ng/L	18.1		107	70-130			
Perfluorotetradecanoic acid (PFTA)	15.2	1.8	0.75	ng/L	18.1		84.3	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	14.0	1.8	1.1	ng/L	18.1		77.3	70-130			
11Cl-PF3OUdS (F53B Major)	17.6	1.8	0.60	ng/L	17.0		103	70-130			
9Cl-PF3ONS (F53B Minor)	17.2	1.8	0.74	ng/L	16.9		102	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	17.4	1.8	0.79	ng/L	17.1		102	70-130			
Surrogate: 13C-PFHxA	37.8			ng/L	36.1		104	70-130			
Surrogate: M3HFPO-DA	37.9			ng/L	36.1		105	70-130			
Surrogate: 13C-PFDA	36.9			ng/L	36.1		102	70-130			
Surrogate: D5-NEtFOSAA	153			ng/L	145		105	70-130			

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332312 - EPA 537.1
LCS Dup (B332312-BSD1)

Prepared: 02/27/23 Analyzed: 02/28/23

Perfluorobutanesulfonic acid (PFBS)	15.3	1.8	0.71	ng/L	16.0		95.5	70-130	2.89	30	
Perfluorohexanoic acid (PFHxA)	14.9	1.8	0.85	ng/L	18.1		82.5	70-130	2.39	30	
Perfluorohexanesulfonic acid (PFHxS)	13.6	1.8	0.81	ng/L	16.5		82.3	70-130	0.225	30	
Perfluoroheptanoic acid (PFHpA)	18.5	1.8	0.90	ng/L	18.1		102	70-130	1.98	30	
Perfluorooctanoic acid (PFOA)	15.6	1.8	0.94	ng/L	18.1		86.3	70-130	4.23	30	
Perfluorooctanesulfonic acid (PFOS)	17.7	1.8	0.68	ng/L	16.8		106	70-130	0.290	30	
Perfluorononanoic acid (PFNA)	17.0	1.8	0.83	ng/L	18.1		93.7	70-130	0.462	30	
Perfluorodecanoic acid (PFDA)	19.1	1.8	0.87	ng/L	18.1		106	70-130	1.78	30	
N-EtFOSAA (NEtFOSAA)	18.8	1.8	0.60	ng/L	18.1		104	70-130	1.13	30	
Perfluoroundecanoic acid (PFUnA)	18.7	1.8	0.69	ng/L	18.1		103	70-130	1.34	30	
N-MeFOSAA (NMeFOSAA)	19.0	1.8	0.67	ng/L	18.1		105	70-130	0.493	30	
Perfluorododecanoic acid (PFDoA)	19.0	1.8	0.65	ng/L	18.1		105	70-130	3.63	30	
Perfluorotridecanoic acid (PFTrDA)	19.1	1.8	0.66	ng/L	18.1		106	70-130	1.07	30	
Perfluorotetradecanoic acid (PFTA)	15.4	1.8	0.76	ng/L	18.1		85.2	70-130	1.19	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	12.9	1.8	1.1	ng/L	18.1		71.1	70-130	8.34	30	
11Cl-PF3OUdS (F53B Major)	17.5	1.8	0.60	ng/L	17.1		103	70-130	0.505	30	
9Cl-PF3ONS (F53B Minor)	17.9	1.8	0.74	ng/L	16.9		106	70-130	3.57	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	17.0	1.8	0.80	ng/L	17.1		99.7	70-130	2.08	30	
Surrogate: 13C-PFHxA	33.6			ng/L	36.2		92.9	70-130			
Surrogate: M3HFPO-DA	33.7			ng/L	36.2		93.1	70-130			
Surrogate: 13C-PFDA	34.1			ng/L	36.2		94.2	70-130			
Surrogate: D5-NEtFOSAA	140			ng/L	145		96.4	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

2352200

JH

Phone: 413-525-2332
Fax: 413-525-4405

39 Spruce Street
East Longmeadow, MA 01026
Dec # 381 Rev 2_06262019

https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Requested Turnaround Time: 7-Day 10 Day 15 Day

PFAS 10-Day (Std) Due Date: _____

1-Day 3-Day 4-Day 5-Day

Format: PDF EXCEL

Other: _____

CLP like Data Pkg Required:

Email To: Sales@paceanalytical.com

Fax To #: _____

Contact: <https://www.pacelabs.com/contact-us/contact-environmental-sciences/>

Address: 53 Southampton Road, Westfield, Massachusetts

Phone: (413) 562-1600

Project Location: PFAS Sample Collection - Shutesbury

Project Number: _____

Project Manager: Jeff Arps

Invoice Recipient: Town of Shutesbury

Sampled By: Samuel Evans

Client Sample ID / Description: 1 / 17 Levee H Pond

Request Date/Time: 2/19/23

Request Date/Time: 2/19/23

Request Date/Time: 2/20/23

Request Date/Time: 2/20/23

Request Date/Time: 2/20/23

Request Date/Time: _____

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Request Date/Time: _____

Request Date/Time: _____

Request Date/Time: _____

ANALYSIS REQUESTED

Matrix Code	Analysis Requested	Field Filtered	Lab to Filter
GW - Ground Water		<input type="checkbox"/>	<input type="checkbox"/>
WW - Waste Water		<input type="checkbox"/>	<input type="checkbox"/>
DW - Drinking Water		<input type="checkbox"/>	<input type="checkbox"/>
A - Air S & Soil		<input type="checkbox"/>	<input type="checkbox"/>
SL - Sludge		<input type="checkbox"/>	<input type="checkbox"/>
SOL - Solid		<input type="checkbox"/>	<input type="checkbox"/>
O - Other		<input type="checkbox"/>	<input type="checkbox"/>
I - Iced		<input type="checkbox"/>	<input type="checkbox"/>
H - HCL		<input type="checkbox"/>	<input type="checkbox"/>
M - Nitric Acid		<input type="checkbox"/>	<input type="checkbox"/>
S - Sulfuric Acid		<input type="checkbox"/>	<input type="checkbox"/>
B - Sodium Bisulfate		<input type="checkbox"/>	<input type="checkbox"/>
X - Sodium Hydroxide		<input type="checkbox"/>	<input type="checkbox"/>
T - Sulfur Trioxide		<input type="checkbox"/>	<input type="checkbox"/>
M - Methanol		<input type="checkbox"/>	<input type="checkbox"/>
DI - DI Water		<input type="checkbox"/>	<input type="checkbox"/>
O - Other		<input type="checkbox"/>	<input type="checkbox"/>

Bill to Town of Shutesbury - PO: 57-101490

Special Requirements: MA MCP Required MA State DW Required

MCP Certification Form Required RCP Certification Form Required

Government Municipality City

Federal 21 J Brownfield

Project Entity: _____

Comments: _____

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.

VIALS _____ GLASS _____ PLASTIC _____ BACTERIA _____ ENCORE _____

Glassware in freezer? Y/N _____

Prepackaged Cooler? Y/N _____

Pace Analytical is not responsible for missing samples from prepacked coolers

Other: Chromatogram WRTA AMHA-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 - Clear; U - Unknown

Matrix Codes: GW - Ground Water, WW - Waste Water, DW - Drinking Water, A - Air S & Soil, SL - Sludge, SOL - Solid, O - Other, I - Iced, H - HCL, M - Nitric Acid, S - Sulfuric Acid, B - Sodium Bisulfate, X - Sodium Hydroxide, T - Sulfur Trioxide, M - Methanol, DI - DI Water, O - Other

Preservation Codes: _____

Page 11 of 12

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client K. Ghe and bond
 Project PFAS sample collection - Shutesbury
 MCP/RCP Required MA MCP
 Deliverable Package Req. N/A
 Location Shutesbury, MASS
 PWSID# (When Applicable) N/A

Arrival Method:

Courier Fed Ex Walk In Other

Received By / Date / Time LA 2/20/23 1640

Back-Sheet By / Date / Time LA 2/24/23 9A7

Temperature Method gun # 5

Temp < 6° C Actual Temperature 2.6

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

	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"/>

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	Na2S2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber Plastic									
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

February 24, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 20 Leverett Road Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2142

Enclosed are results of analyses for samples as received by the laboratory on February 17, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman
Project Manager

Table of Contents

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

Tighe & Bond
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/24/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2142

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

PROJECT LOCATION: 20 Leverett Road Shutesbury, Massachusetts

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
20 Leverett Road	23B2142-01	Ground Water		EPA 537.1	

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: 20 Leverett Road Shutesbury, Ma

Sample Description:

Work Order: 23B2142

Date Received: 2/17/2023

Field Sample #: 20 Leverett Road

Sampled: 2/16/2023 10:00

Sample ID: 23B2142-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	1.4	1.7	0.68	ng/L	1	J	EPA 537.1	2/21/23	2/23/23 12:14	AMS
Perfluorohexanoic acid (PFHxA)	6.0	1.7	0.81	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.7	0.77	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
Perfluoroheptanoic acid (PFHpA)	11	1.7	0.86	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
Perfluorooctanoic acid (PFOA)	21	1.7	0.89	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
Perfluorooctanesulfonic acid (PFOS)	3.1	1.7	0.65	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
Perfluorononanoic acid (PFNA)	1.1	1.7	0.79	ng/L	1	J	EPA 537.1	2/21/23	2/23/23 12:14	AMS
Perfluorodecanoic acid (PFDA)	ND	1.7	0.83	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.7	0.57	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.7	0.65	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.7	0.64	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.7	0.62	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
Perfluorotridecanoic acid (PFTTrDA)	ND	1.7	0.63	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.7	0.72	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.7	1.1	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.7	0.57	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.7	0.70	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.7	0.76	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:14	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	89.5	70-130	2/23/23 12:14
M3HFPO-DA	86.4	70-130	2/23/23 12:14
13C-PFDA	89.9	70-130	2/23/23 12:14
D5-NEtFOSAA	94.9	70-130	2/23/23 12:14

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

Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2142-01 [20 Leverett Road]	B332208	290	1.00	02/21/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	----	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B332208 - EPA 537.1
Blank (B332208-BLK1)

Prepared: 02/21/23 Analyzed: 02/23/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.72	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.86	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.82	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.91	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.95	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.69	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.84	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.88	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.61	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.68	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.66	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.67	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.76	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.61	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.75	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.80	ng/L							
Surrogate: 13C-PFHxA	32.3			ng/L	36.6		88.2	70-130			
Surrogate: M3HFPO-DA	33.4			ng/L	36.6		91.2	70-130			
Surrogate: 13C-PFDA	33.1			ng/L	36.6		90.4	70-130			
Surrogate: D5-NEtFOSAA	137			ng/L	146		93.4	70-130			

LCS (B332208-BS1)

Prepared: 02/21/23 Analyzed: 02/23/23

Perfluorobutanesulfonic acid (PFBS)	1.35	1.8	0.72	ng/L	1.62		83.5	50-150			J
Perfluorohexanoic acid (PFHxA)	1.29	1.8	0.85	ng/L	1.83		70.8	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.15	1.8	0.82	ng/L	1.67		69.1	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.51	1.8	0.91	ng/L	1.83		82.9	50-150			J
Perfluorooctanoic acid (PFOA)	1.29	1.8	0.94	ng/L	1.83		70.8	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.48	1.8	0.69	ng/L	1.69		87.4	50-150			J
Perfluorononanoic acid (PFNA)	1.36	1.8	0.84	ng/L	1.83		74.6	50-150			J
Perfluorodecanoic acid (PFDA)	1.74	1.8	0.88	ng/L	1.83		95.2	50-150			J
N-EtFOSAA (NEtFOSAA)	1.48	1.8	0.61	ng/L	1.83		81.0	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.49	1.8	0.69	ng/L	1.83		81.6	50-150			J
N-MeFOSAA (NMeFOSAA)	1.48	1.8	0.68	ng/L	1.83		81.1	50-150			J
Perfluorododecanoic acid (PFDoA)	1.30	1.8	0.65	ng/L	1.83		71.4	50-150			J
Perfluorotridecanoic acid (PFTrDA)	1.66	1.8	0.67	ng/L	1.83		91.2	50-150			J
Perfluorotetradecanoic acid (PFTA)	1.41	1.8	0.76	ng/L	1.83		77.0	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.66	1.8	1.1	ng/L	1.83		90.8	50-150			J
11Cl-PF3OUdS (F53B Major)	1.37	1.8	0.61	ng/L	1.72		79.5	50-150			J
9Cl-PF3ONS (F53B Minor)	1.36	1.8	0.74	ng/L	1.70		80.1	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.40	1.8	0.80	ng/L	1.73		81.3	50-150			J
Surrogate: 13C-PFHxA	31.6			ng/L	36.5		86.6	70-130			
Surrogate: M3HFPO-DA	31.8			ng/L	36.5		87.0	70-130			
Surrogate: 13C-PFDA	30.9			ng/L	36.5		84.6	70-130			
Surrogate: D5-NEtFOSAA	125			ng/L	146		85.6	70-130			

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	----	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B332208 - EPA 537.1
LCS Dup (B332208-BSD1)

Prepared: 02/21/23 Analyzed: 02/23/23

Perfluorobutanesulfonic acid (PFBS)	1.49	1.8	0.72	ng/L	1.62		91.9	50-150	9.55	50	J
Perfluorohexanoic acid (PFHxA)	1.48	1.8	0.85	ng/L	1.83		81.1	50-150	13.7	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.40	1.8	0.82	ng/L	1.67		83.8	50-150	19.3	50	J
Perfluoroheptanoic acid (PFHpA)	1.88	1.8	0.91	ng/L	1.83		103	50-150	21.4	50	
Perfluorooctanoic acid (PFOA)	1.54	1.8	0.94	ng/L	1.83		84.4	50-150	17.6	50	J
Perfluorooctanesulfonic acid (PFOS)	1.73	1.8	0.69	ng/L	1.70		102	50-150	15.7	50	J
Perfluorononanoic acid (PFNA)	1.54	1.8	0.84	ng/L	1.83		84.2	50-150	12.1	50	J
Perfluorodecanoic acid (PFDA)	2.02	1.8	0.88	ng/L	1.83		110	50-150	14.7	50	
N-EtFOSAA (NEtFOSAA)	1.65	1.8	0.61	ng/L	1.83		90.5	50-150	11.2	50	J
Perfluoroundecanoic acid (PFUnA)	1.79	1.8	0.69	ng/L	1.83		98.0	50-150	18.3	50	J
N-MeFOSAA (NMeFOSAA)	1.69	1.8	0.68	ng/L	1.83		92.6	50-150	13.4	50	J
Perfluorododecanoic acid (PFDoA)	1.54	1.8	0.66	ng/L	1.83		84.2	50-150	16.6	50	J
Perfluorotridecanoic acid (PFTrDA)	1.86	1.8	0.67	ng/L	1.83		102	50-150	11.1	50	
Perfluorotetradecanoic acid (PFTA)	1.32	1.8	0.76	ng/L	1.83		72.3	50-150	6.22	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.58	1.8	1.1	ng/L	1.83		86.5	50-150	4.80	50	J
11Cl-PF3OUdS (F53B Major)	1.72	1.8	0.61	ng/L	1.72		99.6	50-150	22.5	50	J
9Cl-PF3ONS (F53B Minor)	1.69	1.8	0.74	ng/L	1.71		99.3	50-150	21.5	50	J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.76	1.8	0.80	ng/L	1.73		102	50-150	22.5	50	J
Surrogate: 13C-PFHxA	34.0			ng/L	36.5		93.0	70-130			
Surrogate: M3HFPO-DA	34.3			ng/L	36.5		93.8	70-130			
Surrogate: 13C-PFDA	33.3			ng/L	36.5		91.0	70-130			
Surrogate: D5-NEtFOSAA	137			ng/L	146		93.6	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Tighe + Bond
 Project PFAS Sample Coll. - Shutesbury
 MCP/RCP Required MCP Req'd
 Deliverable Package Req. N/A
 Location Shutesbury, MA
 PWSID# (When Applicable) N/A

Arrival Method:

Courier Fed Ex Walk In Other

Received By / Date / Time DWW 02/17/23 1655

Back-Sheet By / Date / Time DWW 02/17/23 1900

Temperature Method GUN # 3

Temp < 6° C Actual Temperature 4.2

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

	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:	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/>

Notes regarding Samples/COC outside of SOP:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	NaS2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						2			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

March 7, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 25 Leverett Road Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2851

Enclosed are results of analyses for samples as received by the laboratory on February 27, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 3/7/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2851

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

PROJECT LOCATION: 25 Leverett Road Shutesbury, Massachusetts

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
25 Leverett Road	23B2851-01	Ground Water		EPA 537.1	

CASE NARRATIVE SUMMARY

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

Qualifications:

Analyte & Samples(s) Qualified:

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: 25 Leverett Road Shutesbury, Ma

Sample Description:

Work Order: 23B2851

Date Received: 2/27/2023

Field Sample #: 25 Leverett Road

Sampled: 2/23/2023 15:30

Sample ID: 23B2851-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	17	2.0	0.80	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
Perfluorohexanoic acid (PFHxA)	62	2.0	0.95	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
Perfluorohexanesulfonic acid (PFHxS)	1.6	2.0	0.91	ng/L	1	J	EPA 537.1	3/3/23	3/6/23 9:51	AMS
Perfluoroheptanoic acid (PFHpA)	160	20	10	ng/L	10	D	EPA 537.1	3/3/23	3/6/23 13:26	AMS
Perfluorooctanoic acid (PFOA)	250	20	11	ng/L	10	D	EPA 537.1	3/3/23	3/6/23 13:26	AMS
Perfluorooctanesulfonic acid (PFOS)	7.3	2.0	0.77	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
Perfluorononanoic acid (PFNA)	22	2.0	0.94	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
Perfluorodecanoic acid (PFDA)	ND	2.0	0.98	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
N-EtFOSAA (NEtFOSAA)	ND	2.0	0.68	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
Perfluoroundecanoic acid (PFUnA)	ND	2.0	0.77	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
N-MeFOSAA (NMeFOSAA)	ND	2.0	0.76	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
Perfluorododecanoic acid (PFDoA)	ND	2.0	0.73	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	0.74	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
Perfluorotetradecanoic acid (PFTA)	ND	2.0	0.85	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	2.0	1.3	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
11Cl-PF3OUdS (F53B Major)	ND	2.0	0.68	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
9Cl-PF3ONS (F53B Minor)	ND	2.0	0.83	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	2.0	0.90	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:51	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	86.0	70-130	3/6/23 9:51
13C-PFHxA	85.1	70-130	3/6/23 13:26
M3HFPO-DA	82.6	70-130	3/6/23 9:51
M3HFPO-DA	84.6	70-130	3/6/23 13:26
13C-PFDA	103	70-130	3/6/23 9:51
13C-PFDA	79.2	70-130	3/6/23 13:26
D5-NEtFOSAA	89.9	70-130	3/6/23 9:51
D5-NEtFOSAA	74.3	70-130	3/6/23 13:26

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

Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2851-01 [25 Leverett Road]	B332536	245	1.00	03/03/23
23B2851-01RE1 [25 Leverett Road]	B332536	245	1.00	03/03/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332536 - EPA 537.1											
Blank (B332536-BLK1)						Prepared: 03/03/23 Analyzed: 03/06/23					
Perfluorobutanesulfonic acid (PFBS)	ND	2.1	0.82	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	2.1	0.97	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	2.1	0.93	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	2.1	1.0	ng/L							
Perfluorooctanoic acid (PFOA)	ND	2.1	1.1	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	2.1	0.79	ng/L							
Perfluorononanoic acid (PFNA)	ND	2.1	0.96	ng/L							
Perfluorodecanoic acid (PFDA)	ND	2.1	1.0	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	2.1	0.69	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	2.1	0.79	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	2.1	0.77	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	2.1	0.75	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	2.1	0.76	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	2.1	0.87	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	2.1	1.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	2.1	0.69	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	2.1	0.85	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	2.1	0.92	ng/L							
Surrogate: 13C-PFHxA	38.9			ng/L	41.7		93.4	70-130			
Surrogate: M3HFPO-DA	37.7			ng/L	41.7		90.4	70-130			
Surrogate: 13C-PFDA	41.5			ng/L	41.7		99.6	70-130			
Surrogate: D5-NEtFOSAA	176			ng/L	167		106	70-130			
LCS (B332536-BS1)						Prepared: 03/03/23 Analyzed: 03/06/23					
Perfluorobutanesulfonic acid (PFBS)	1.70	1.9	0.75	ng/L	1.70		100	50-150			J
Perfluorohexanoic acid (PFHxA)	1.50	1.9	0.90	ng/L	1.91		78.6	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.32	1.9	0.86	ng/L	1.75		75.2	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.93	1.9	0.95	ng/L	1.91		101	50-150			
Perfluorooctanoic acid (PFOA)	1.59	1.9	0.99	ng/L	1.91		82.8	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.79	1.9	0.72	ng/L	1.78		100	50-150			J
Perfluorononanoic acid (PFNA)	1.57	1.9	0.88	ng/L	1.91		82.0	50-150			J
Perfluorodecanoic acid (PFDA)	2.04	1.9	0.92	ng/L	1.91		107	50-150			
N-EtFOSAA (NEtFOSAA)	1.88	1.9	0.64	ng/L	1.91		98.1	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.82	1.9	0.73	ng/L	1.91		95.2	50-150			J
N-MeFOSAA (NMeFOSAA)	1.86	1.9	0.71	ng/L	1.91		97.2	50-150			J
Perfluorododecanoic acid (PFDoA)	1.67	1.9	0.69	ng/L	1.91		87.2	50-150			J
Perfluorotridecanoic acid (PFTrDA)	1.90	1.9	0.70	ng/L	1.91		99.1	50-150			
Perfluorotetradecanoic acid (PFTA)	1.37	1.9	0.80	ng/L	1.91		71.8	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.63	1.9	1.2	ng/L	1.91		84.9	50-150			J
11Cl-PF3OUdS (F53B Major)	1.58	1.9	0.63	ng/L	1.81		87.8	50-150			J
9Cl-PF3ONS (F53B Minor)	1.61	1.9	0.78	ng/L	1.79		90.4	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.78	1.9	0.84	ng/L	1.81		98.3	50-150			J
Surrogate: 13C-PFHxA	35.8			ng/L	38.3		93.4	70-130			
Surrogate: M3HFPO-DA	34.9			ng/L	38.3		91.2	70-130			
Surrogate: 13C-PFDA	36.4			ng/L	38.3		95.1	70-130			
Surrogate: D5-NEtFOSAA	157			ng/L	153		103	70-130			

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332536 - EPA 537.1											
LCS Dup (B332536-BSD1)											
						Prepared: 03/03/23 Analyzed: 03/06/23					
Perfluorobutanesulfonic acid (PFBS)	1.52	1.9	0.73	ng/L	1.64		92.4	50-150	11.4	50	J
Perfluorohexanoic acid (PFHxA)	1.35	1.9	0.87	ng/L	1.85		72.8	50-150	11.0	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.29	1.9	0.83	ng/L	1.69		76.1	50-150	2.11	50	J
Perfluoroheptanoic acid (PFHpA)	1.67	1.9	0.92	ng/L	1.85		90.3	50-150	14.3	50	J
Perfluorooctanoic acid (PFOA)	1.52	1.9	0.96	ng/L	1.85		82.1	50-150	4.08	50	J
Perfluorooctanesulfonic acid (PFOS)	1.57	1.9	0.70	ng/L	1.72		91.6	50-150	12.5	50	J
Perfluorononanoic acid (PFNA)	1.40	1.9	0.85	ng/L	1.85		75.8	50-150	11.2	50	J
Perfluorodecanoic acid (PFDA)	2.04	1.9	0.89	ng/L	1.85		110	50-150	0.129	50	
N-EtFOSAA (NEtFOSAA)	1.53	1.9	0.62	ng/L	1.85		82.7	50-150	20.2	50	J
Perfluoroundecanoic acid (PFUnA)	1.60	1.9	0.70	ng/L	1.85		86.6	50-150	12.8	50	J
N-MeFOSAA (NMeFOSAA)	1.66	1.9	0.69	ng/L	1.85		89.8	50-150	11.1	50	J
Perfluorododecanoic acid (PFDoA)	1.32	1.9	0.66	ng/L	1.85		71.0	50-150	23.7	50	J
Perfluorotridecanoic acid (PFTrDA)	1.65	1.9	0.68	ng/L	1.85		89.2	50-150	13.8	50	J
Perfluorotetradecanoic acid (PFTA)	1.26	1.9	0.77	ng/L	1.85		67.8	50-150	9.07	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.57	1.9	1.1	ng/L	1.85		84.8	50-150	3.49	50	J
11Cl-PF3OUdS (F53B Major)	1.45	1.9	0.61	ng/L	1.75		83.0	50-150	8.88	50	J
9Cl-PF3ONS (F53B Minor)	1.64	1.9	0.75	ng/L	1.73		94.9	50-150	1.55	50	J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.58	1.9	0.81	ng/L	1.75		90.5	50-150	11.5	50	J
Surrogate: 13C-PFHxA	34.8			ng/L	37.0		93.9	70-130			
Surrogate: M3HFPO-DA	34.3			ng/L	37.0		92.6	70-130			
Surrogate: 13C-PFDA	35.2			ng/L	37.0		94.9	70-130			
Surrogate: D5-NEtFOSAA	149			ng/L	148		101	70-130			

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
DL	Method Detection Limit
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.
D	Sample analyzed at a dilution.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

55 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Tighe & Bond
 Project PFAS Sample Collection
 MCP/RCP Required MA MCP
 Deliverable Package Req. _____
 Location Shutesbury, MA
 PWSID# (When Applicable) _____
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time 2-27-23 16:42
 Back-Sheet By / Date / Time 2-28-23 13:15
 Temperature Method CWT # 3
 Temp < 6° C Actual Temperature 4.6
 Rush Samples: Yes No Notify _____
 Short Hold: Yes No Notify _____

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	Na2S2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>									
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

March 7, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2853

Enclosed are results of analyses for samples as received by the laboratory on February 27, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 3/7/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2853

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

PROJECT LOCATION: Shutesbury, Massachusetts

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Field Blank	23B2853-01	Ground Water		EPA 537.1	

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: Shutesbury, Massachusetts

Sample Description:

Work Order: 23B2853

Date Received: 2/27/2023

Field Sample #: Field Blank

Sampled: 2/23/2023 15:35

Sample ID: 23B2853-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	0.74	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.9	0.88	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	0.84	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.9	0.93	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Perfluorooctanoic acid (PFOA)	ND	1.9	0.97	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	0.71	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Perfluorononanoic acid (PFNA)	ND	1.9	0.87	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Perfluorodecanoic acid (PFDA)	ND	1.9	0.90	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.9	0.62	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.9	0.71	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.9	0.70	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.9	0.67	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	0.69	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.9	0.78	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	1.2	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.9	0.62	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.9	0.77	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	0.83	ng/L	1		EPA 537.1	3/3/23	3/6/23 9:58	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	102	70-130	3/6/23 9:58
M3HFPO-DA	99.4	70-130	3/6/23 9:58
13C-PFDA	100	70-130	3/6/23 9:58
D5-NEtFOSAA	108	70-130	3/6/23 9:58

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2853-01 [Field Blank]	B332536	266	1.00	03/03/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	----	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B332536 - EPA 537.1
Blank (B332536-BLK1)

Prepared: 03/03/23 Analyzed: 03/06/23

Perfluorobutanesulfonic acid (PFBS)	ND	2.1	0.82	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	2.1	0.97	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	2.1	0.93	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	2.1	1.0	ng/L							
Perfluorooctanoic acid (PFOA)	ND	2.1	1.1	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	2.1	0.79	ng/L							
Perfluorononanoic acid (PFNA)	ND	2.1	0.96	ng/L							
Perfluorodecanoic acid (PFDA)	ND	2.1	1.0	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	2.1	0.69	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	2.1	0.79	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	2.1	0.77	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	2.1	0.75	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	2.1	0.76	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	2.1	0.87	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	2.1	1.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	2.1	0.69	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	2.1	0.85	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	2.1	0.92	ng/L							
Surrogate: 13C-PFHxA	38.9			ng/L	41.7		93.4	70-130			
Surrogate: M3HFPO-DA	37.7			ng/L	41.7		90.4	70-130			
Surrogate: 13C-PFDA	41.5			ng/L	41.7		99.6	70-130			
Surrogate: D5-NEtFOSAA	176			ng/L	167		106	70-130			

LCS (B332536-BS1)

Prepared: 03/03/23 Analyzed: 03/06/23

Perfluorobutanesulfonic acid (PFBS)	1.70	1.9	0.75	ng/L	1.70		100	50-150			J
Perfluorohexanoic acid (PFHxA)	1.50	1.9	0.90	ng/L	1.91		78.6	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.32	1.9	0.86	ng/L	1.75		75.2	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.93	1.9	0.95	ng/L	1.91		101	50-150			
Perfluorooctanoic acid (PFOA)	1.59	1.9	0.99	ng/L	1.91		82.8	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.79	1.9	0.72	ng/L	1.78		100	50-150			J
Perfluorononanoic acid (PFNA)	1.57	1.9	0.88	ng/L	1.91		82.0	50-150			J
Perfluorodecanoic acid (PFDA)	2.04	1.9	0.92	ng/L	1.91		107	50-150			
N-EtFOSAA (NEtFOSAA)	1.88	1.9	0.64	ng/L	1.91		98.1	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.82	1.9	0.73	ng/L	1.91		95.2	50-150			J
N-MeFOSAA (NMeFOSAA)	1.86	1.9	0.71	ng/L	1.91		97.2	50-150			J
Perfluorododecanoic acid (PFDoA)	1.67	1.9	0.69	ng/L	1.91		87.2	50-150			J
Perfluorotridecanoic acid (PFTrDA)	1.90	1.9	0.70	ng/L	1.91		99.1	50-150			
Perfluorotetradecanoic acid (PFTA)	1.37	1.9	0.80	ng/L	1.91		71.8	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.63	1.9	1.2	ng/L	1.91		84.9	50-150			J
11Cl-PF3OUdS (F53B Major)	1.58	1.9	0.63	ng/L	1.81		87.8	50-150			J
9Cl-PF3ONS (F53B Minor)	1.61	1.9	0.78	ng/L	1.79		90.4	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.78	1.9	0.84	ng/L	1.81		98.3	50-150			J
Surrogate: 13C-PFHxA	35.8			ng/L	38.3		93.4	70-130			
Surrogate: M3HFPO-DA	34.9			ng/L	38.3		91.2	70-130			
Surrogate: 13C-PFDA	36.4			ng/L	38.3		95.1	70-130			
Surrogate: D5-NEtFOSAA	157			ng/L	153		103	70-130			

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332536 - EPA 537.1											
LCS Dup (B332536-BSD1)											
						Prepared: 03/03/23 Analyzed: 03/06/23					
Perfluorobutanesulfonic acid (PFBS)	1.52	1.9	0.73	ng/L	1.64		92.4	50-150	11.4	50	J
Perfluorohexanoic acid (PFHxA)	1.35	1.9	0.87	ng/L	1.85		72.8	50-150	11.0	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.29	1.9	0.83	ng/L	1.69		76.1	50-150	2.11	50	J
Perfluoroheptanoic acid (PFHpA)	1.67	1.9	0.92	ng/L	1.85		90.3	50-150	14.3	50	J
Perfluorooctanoic acid (PFOA)	1.52	1.9	0.96	ng/L	1.85		82.1	50-150	4.08	50	J
Perfluorooctanesulfonic acid (PFOS)	1.57	1.9	0.70	ng/L	1.72		91.6	50-150	12.5	50	J
Perfluorononanoic acid (PFNA)	1.40	1.9	0.85	ng/L	1.85		75.8	50-150	11.2	50	J
Perfluorodecanoic acid (PFDA)	2.04	1.9	0.89	ng/L	1.85		110	50-150	0.129	50	
N-EtFOSAA (NEtFOSAA)	1.53	1.9	0.62	ng/L	1.85		82.7	50-150	20.2	50	J
Perfluoroundecanoic acid (PFUnA)	1.60	1.9	0.70	ng/L	1.85		86.6	50-150	12.8	50	J
N-MeFOSAA (NMeFOSAA)	1.66	1.9	0.69	ng/L	1.85		89.8	50-150	11.1	50	J
Perfluorododecanoic acid (PFDoA)	1.32	1.9	0.66	ng/L	1.85		71.0	50-150	23.7	50	J
Perfluorotridecanoic acid (PFTrDA)	1.65	1.9	0.68	ng/L	1.85		89.2	50-150	13.8	50	J
Perfluorotetradecanoic acid (PFTA)	1.26	1.9	0.77	ng/L	1.85		67.8	50-150	9.07	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.57	1.9	1.1	ng/L	1.85		84.8	50-150	3.49	50	J
11Cl-PF3OUdS (F53B Major)	1.45	1.9	0.61	ng/L	1.75		83.0	50-150	8.88	50	J
9Cl-PF3ONS (F53B Minor)	1.64	1.9	0.75	ng/L	1.73		94.9	50-150	1.55	50	J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.58	1.9	0.81	ng/L	1.75		90.5	50-150	11.5	50	J
Surrogate: 13C-PFHxA	34.8			ng/L	37.0		93.9	70-130			
Surrogate: M3HFPO-DA	34.3			ng/L	37.0		92.6	70-130			
Surrogate: 13C-PFDA	35.2			ng/L	37.0		94.9	70-130			
Surrogate: D5-NEtFOSAA	149			ng/L	148		101	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Tighe & Bond
 Project PFAS Sample Collection
 MCP/RCP Required MA MCP
 Deliverable Package Req. _____
 Location Shutesbury, MA
 PWSID# (When Applicable) _____
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time 2-27-23 16:42
 Back-Sheet By / Date / Time 2-28-23 13:15
 Temperature Method GM # 3
 Temp < 6°C Actual Temperature 4.6
 Rush Samples: Yes / No Notify _____
 Short Hold: Yes / No Notify _____

	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:	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/>

Notes regarding Samples/COC outside of SOP:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	Na2S2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>									
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

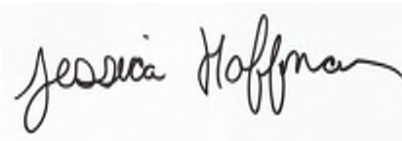
March 1, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 29 Leverett Road Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2204

Enclosed are results of analyses for samples as received by the laboratory on February 20, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 3/1/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2204

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 Leverett Road Shutesbury, Massachusetts

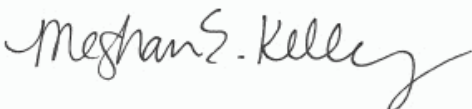
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
29 Leverett Road	23B2204-01	Ground Water		EPA 537.1	

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: 29 Leverett Road Shutesbury, Ma

Sample Description:

Work Order: 23B2204

Date Received: 2/20/2023

Field Sample #: 29 Leverett Road

Sampled: 2/17/2023 10:25

Sample ID: 23B2204-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	0.81	1.8	0.73	ng/L	1	J	EPA 537.1	2/27/23	2/28/23 9:54	AMS
Perfluorohexanoic acid (PFHxA)	1.1	1.8	0.86	ng/L	1	J	EPA 537.1	2/27/23	2/28/23 9:54	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.83	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.92	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
Perfluorooctanoic acid (PFOA)	2.7	1.8	0.95	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
Perfluorooctanesulfonic acid (PFOS)	2.5	1.8	0.70	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	0.85	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	0.88	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.61	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.70	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.69	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.66	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.67	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.77	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.61	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.75	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.81	ng/L	1		EPA 537.1	2/27/23	2/28/23 9:54	AMS
Surrogates		% Recovery	Recovery Limits			Flag/Qual				
13C-PFHxA		79.5	70-130						2/28/23 9:54	
M3HFPO-DA		77.3	70-130						2/28/23 9:54	
13C-PFDA		94.0	70-130						2/28/23 9:54	
D5-NEtFOSAA		101	70-130						2/28/23 9:54	

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2204-01 [29 Leverett Road]	B332312	271	1.00	02/27/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332312 - EPA 537.1
Blank (B332312-BLK1)

Prepared: 02/27/23 Analyzed: 02/28/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.71	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.84	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.81	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.90	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.93	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.68	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.83	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.86	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.60	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.68	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.67	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.65	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.66	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.75	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.60	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.73	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.79	ng/L							
Surrogate: 13C-PFHxA	39.2			ng/L	36.1		109	70-130			
Surrogate: M3HFPO-DA	40.0			ng/L	36.1		111	70-130			
Surrogate: 13C-PFDA	37.9			ng/L	36.1		105	70-130			
Surrogate: D5-NEtFOSAA	152			ng/L	144		105	70-130			

LCS (B332312-BS1)

Prepared: 02/27/23 Analyzed: 02/28/23

Perfluorobutanesulfonic acid (PFBS)	15.8	1.8	0.71	ng/L	16.0		98.4	70-130			
Perfluorohexanoic acid (PFHxA)	15.3	1.8	0.84	ng/L	18.1		84.6	70-130			
Perfluorohexanesulfonic acid (PFHxS)	13.6	1.8	0.81	ng/L	16.5		82.2	70-130			
Perfluoroheptanoic acid (PFHpA)	18.9	1.8	0.90	ng/L	18.1		104	70-130			
Perfluorooctanoic acid (PFOA)	16.3	1.8	0.93	ng/L	18.1		90.1	70-130			
Perfluorooctanesulfonic acid (PFOS)	17.8	1.8	0.68	ng/L	16.8		106	70-130			
Perfluorononanoic acid (PFNA)	16.9	1.8	0.83	ng/L	18.1		93.4	70-130			
Perfluorodecanoic acid (PFDA)	19.5	1.8	0.87	ng/L	18.1		108	70-130			
N-EtFOSAA (NEtFOSAA)	18.6	1.8	0.60	ng/L	18.1		103	70-130			
Perfluoroundecanoic acid (PFUnA)	19.0	1.8	0.69	ng/L	18.1		105	70-130			
N-MeFOSAA (NMeFOSAA)	18.9	1.8	0.67	ng/L	18.1		105	70-130			
Perfluorododecanoic acid (PFDoA)	19.7	1.8	0.65	ng/L	18.1		109	70-130			
Perfluorotridecanoic acid (PFTrDA)	19.3	1.8	0.66	ng/L	18.1		107	70-130			
Perfluorotetradecanoic acid (PFTA)	15.2	1.8	0.75	ng/L	18.1		84.3	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	14.0	1.8	1.1	ng/L	18.1		77.3	70-130			
11Cl-PF3OUdS (F53B Major)	17.6	1.8	0.60	ng/L	17.0		103	70-130			
9Cl-PF3ONS (F53B Minor)	17.2	1.8	0.74	ng/L	16.9		102	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	17.4	1.8	0.79	ng/L	17.1		102	70-130			
Surrogate: 13C-PFHxA	37.8			ng/L	36.1		104	70-130			
Surrogate: M3HFPO-DA	37.9			ng/L	36.1		105	70-130			
Surrogate: 13C-PFDA	36.9			ng/L	36.1		102	70-130			
Surrogate: D5-NEtFOSAA	153			ng/L	145		105	70-130			

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332312 - EPA 537.1
LCS Dup (B332312-BSD1)

Prepared: 02/27/23 Analyzed: 02/28/23

Perfluorobutanesulfonic acid (PFBS)	15.3	1.8	0.71	ng/L	16.0		95.5	70-130	2.89	30	
Perfluorohexanoic acid (PFHxA)	14.9	1.8	0.85	ng/L	18.1		82.5	70-130	2.39	30	
Perfluorohexanesulfonic acid (PFHxS)	13.6	1.8	0.81	ng/L	16.5		82.3	70-130	0.225	30	
Perfluoroheptanoic acid (PFHpA)	18.5	1.8	0.90	ng/L	18.1		102	70-130	1.98	30	
Perfluorooctanoic acid (PFOA)	15.6	1.8	0.94	ng/L	18.1		86.3	70-130	4.23	30	
Perfluorooctanesulfonic acid (PFOS)	17.7	1.8	0.68	ng/L	16.8		106	70-130	0.290	30	
Perfluorononanoic acid (PFNA)	17.0	1.8	0.83	ng/L	18.1		93.7	70-130	0.462	30	
Perfluorodecanoic acid (PFDA)	19.1	1.8	0.87	ng/L	18.1		106	70-130	1.78	30	
N-EtFOSAA (NEtFOSAA)	18.8	1.8	0.60	ng/L	18.1		104	70-130	1.13	30	
Perfluoroundecanoic acid (PFUnA)	18.7	1.8	0.69	ng/L	18.1		103	70-130	1.34	30	
N-MeFOSAA (NMeFOSAA)	19.0	1.8	0.67	ng/L	18.1		105	70-130	0.493	30	
Perfluorododecanoic acid (PFDoA)	19.0	1.8	0.65	ng/L	18.1		105	70-130	3.63	30	
Perfluorotridecanoic acid (PFTTrDA)	19.1	1.8	0.66	ng/L	18.1		106	70-130	1.07	30	
Perfluorotetradecanoic acid (PFTA)	15.4	1.8	0.76	ng/L	18.1		85.2	70-130	1.19	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	12.9	1.8	1.1	ng/L	18.1		71.1	70-130	8.34	30	
11Cl-PF3OUdS (F53B Major)	17.5	1.8	0.60	ng/L	17.1		103	70-130	0.505	30	
9Cl-PF3ONS (F53B Minor)	17.9	1.8	0.74	ng/L	16.9		106	70-130	3.57	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	17.0	1.8	0.80	ng/L	17.1		99.7	70-130	2.08	30	
Surrogate: 13C-PFHxA	33.6			ng/L	36.2		92.9	70-130			
Surrogate: M3HFPO-DA	33.7			ng/L	36.2		93.1	70-130			
Surrogate: 13C-PFDA	34.1			ng/L	36.2		94.2	70-130			
Surrogate: D5-NEtFOSAA	140			ng/L	145		96.4	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client K. Ghe and bond
 Project PFAS sample collection - Shutesbury
 MCP/RCP Required MA MCP
 Deliverable Package Req. N/A
 Location Shutesbury, MA
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time LA 2/20/23 1640
 Back-Sheet By / Date / Time LA 2/20/23 147
 Temperature Method gun # 5
 Temp < 6° C Actual Temperature 0.6
 Rush Samples: Yes / No / Notify
 Short Hold: Yes / No / Notify

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	Na2O3	Other Preservative	
1L Amber Plastic									
500 ml Amber Plastic									
250 ml Amber <u>Plastic</u>									
Other Amber Clear Plastic						2			
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

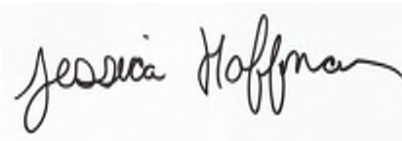
February 28, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: Shutesbury, Massachusetts 35 Leverett Rd
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2172

Enclosed are results of analyses for samples as received by the laboratory on February 17, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/28/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2172

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

PROJECT LOCATION: Shutesbury, Massachusetts

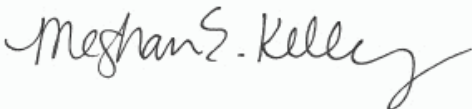
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
35 Leverett Road-INF	23B2172-01	Ground Water		EPA 537.1	
35 Leverett Road-EFF	23B2172-02	Ground Water		EPA 537.1	

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: Shutesbury, Massachusetts

Sample Description:

Work Order: 23B2172

Date Received: 2/17/2023

Field Sample #: 35 Leverett Road-INF

Sampled: 2/16/2023 14:35

Sample ID: 23B2172-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	2.4	1.7	0.67	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
Perfluorohexanoic acid (PFHxA)	5.4	1.7	0.80	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
Perfluorohexanesulfonic acid (PFHxS)	0.98	1.7	0.76	ng/L	1	J	EPA 537.1	2/22/23	2/27/23 10:15	AMS
Perfluoroheptanoic acid (PFHpA)	3.6	1.7	0.85	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
Perfluorooctanoic acid (PFOA)	9.1	1.7	0.88	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
Perfluorooctanesulfonic acid (PFOS)	6.2	1.7	0.64	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
Perfluorononanoic acid (PFNA)	ND	1.7	0.78	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
Perfluorodecanoic acid (PFDA)	ND	1.7	0.82	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.7	0.57	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.7	0.65	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.7	0.63	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.7	0.61	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	0.62	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.7	0.71	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.7	1.0	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.7	0.56	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.7	0.69	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.7	0.75	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:15	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	106	70-130	2/27/23 10:15
M3HFPO-DA	101	70-130	2/27/23 10:15
13C-PFDA	111	70-130	2/27/23 10:15
D5-NEtFOSAA	114	70-130	2/27/23 10:15

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Project Location: Shutesbury, Massachusetts

Sample Description:

Work Order: 23B2172

Date Received: 2/17/2023

Field Sample #: 35 Leverett Road-EFF

Sampled: 2/16/2023 14:40

Sample ID: 23B2172-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.7	0.67	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
Perfluorohexanoic acid (PFHxA)	1.2	1.7	0.80	ng/L	1	J	EPA 537.1	2/22/23	2/27/23 10:38	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.7	0.77	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.7	0.85	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
Perfluorooctanoic acid (PFOA)	ND	1.7	0.89	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.7	0.65	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
Perfluorononanoic acid (PFNA)	ND	1.7	0.79	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
Perfluorodecanoic acid (PFDA)	ND	1.7	0.82	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.7	0.57	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.7	0.65	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.7	0.64	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.7	0.61	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	0.62	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.7	0.72	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.7	1.1	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.7	0.57	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.7	0.70	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.7	0.75	ng/L	1		EPA 537.1	2/22/23	2/27/23 10:38	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	109	70-130	2/27/23 10:38
M3HFPO-DA	109	70-130	2/27/23 10:38
13C-PFDA	112	70-130	2/27/23 10:38
D5-NEtFOSAA	115	70-130	2/27/23 10:38

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2172-01 [35 Leverett Road-INF]	B332209	294	1.00	02/22/23
23B2172-02 [35 Leverett Road-EFF]	B332209	292	1.00	02/22/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332209 - EPA 537.1
Blank (B332209-BLK1)

Prepared: 02/22/23 Analyzed: 02/27/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.72	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.85	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.82	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.91	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.94	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.69	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.84	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.87	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.60	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.68	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.65	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.66	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.76	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.60	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.74	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.80	ng/L							
Surrogate: 13C-PFHxA	33.5			ng/L	36.4		92.0	70-130			
Surrogate: M3HFPO-DA	33.0			ng/L	36.4		90.5	70-130			
Surrogate: 13C-PFDA	34.9			ng/L	36.4		95.9	70-130			
Surrogate: D5-NEtFOSAA	141			ng/L	146		96.8	70-130			

LCS (B332209-BS1)

Prepared: 02/22/23 Analyzed: 02/27/23

Perfluorobutanesulfonic acid (PFBS)	9.40	1.8	0.72	ng/L	8.07		116	70-130			
Perfluorohexanoic acid (PFHxA)	8.56	1.8	0.85	ng/L	9.10		94.1	70-130			
Perfluorohexanesulfonic acid (PFHxS)	7.71	1.8	0.81	ng/L	8.32		92.7	70-130			
Perfluoroheptanoic acid (PFHpA)	10.7	1.8	0.90	ng/L	9.10		118	70-130			
Perfluorooctanoic acid (PFOA)	8.96	1.8	0.94	ng/L	9.10		98.4	70-130			
Perfluorooctanesulfonic acid (PFOS)	10.6	1.8	0.69	ng/L	8.45		125	70-130			
Perfluorononanoic acid (PFNA)	9.71	1.8	0.84	ng/L	9.10		107	70-130			
Perfluorodecanoic acid (PFDA)	11.3	1.8	0.87	ng/L	9.10		124	70-130			
N-EtFOSAA (NEtFOSAA)	11.1	1.8	0.60	ng/L	9.10		122	70-130			
Perfluoroundecanoic acid (PFUnA)	10.8	1.8	0.69	ng/L	9.10		119	70-130			
N-MeFOSAA (NMeFOSAA)	11.3	1.8	0.68	ng/L	9.10		125	70-130			
Perfluorododecanoic acid (PFDoA)	11.1	1.8	0.65	ng/L	9.10		122	70-130			
Perfluorotridecanoic acid (PFTrDA)	11.0	1.8	0.66	ng/L	9.10		120	70-130			
Perfluorotetradecanoic acid (PFTA)	8.43	1.8	0.76	ng/L	9.10		92.7	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.69	1.8	1.1	ng/L	9.10		95.4	70-130			
11Cl-PF3OUdS (F53B Major)	10.4	1.8	0.60	ng/L	8.58		121	70-130			
9Cl-PF3ONS (F53B Minor)	10.5	1.8	0.74	ng/L	8.49		123	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.97	1.8	0.80	ng/L	8.60		116	70-130			
Surrogate: 13C-PFHxA	37.8			ng/L	36.4		104	70-130			
Surrogate: M3HFPO-DA	36.8			ng/L	36.4		101	70-130			
Surrogate: 13C-PFDA	38.6			ng/L	36.4		106	70-130			
Surrogate: D5-NEtFOSAA	156			ng/L	146		107	70-130			

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

QUALITY CONTROL
Semivolatle Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332209 - EPA 537.1
LCS Dup (B332209-BSD1)

Prepared: 02/22/23 Analyzed: 02/27/23

Perfluorobutanesulfonic acid (PFBS)	8.78	1.8	0.72	ng/L	8.08		109	70-130	6.85	30	
Perfluorohexanoic acid (PFHxA)	8.03	1.8	0.85	ng/L	9.11		88.1	70-130	6.45	30	
Perfluorohexanesulfonic acid (PFHxS)	6.99	1.8	0.82	ng/L	8.33		83.9	70-130	9.81	30	
Perfluoroheptanoic acid (PFHpA)	10.1	1.8	0.91	ng/L	9.11		111	70-130	5.49	30	
Perfluorooctanoic acid (PFOA)	8.79	1.8	0.94	ng/L	9.11		96.4	70-130	1.96	30	
Perfluorooctanesulfonic acid (PFOS)	9.23	1.8	0.69	ng/L	8.45		109	70-130	13.8	30	
Perfluorononanoic acid (PFNA)	8.98	1.8	0.84	ng/L	9.11		98.6	70-130	7.79	30	
Perfluorodecanoic acid (PFDA)	10.7	1.8	0.87	ng/L	9.11		118	70-130	5.23	30	
N-EtFOSAA (NEtFOSAA)	9.84	1.8	0.60	ng/L	9.11		108	70-130	11.9	30	
Perfluoroundecanoic acid (PFUnA)	10.2	1.8	0.69	ng/L	9.11		112	70-130	5.55	30	
N-MeFOSAA (NMeFOSAA)	9.96	1.8	0.68	ng/L	9.11		109	70-130	12.9	30	
Perfluorododecanoic acid (PFDoA)	10.3	1.8	0.65	ng/L	9.11		113	70-130	7.09	30	
Perfluorotridecanoic acid (PFTrDA)	10.2	1.8	0.66	ng/L	9.11		112	70-130	7.17	30	
Perfluorotetradecanoic acid (PFTA)	8.19	1.8	0.76	ng/L	9.11		89.9	70-130	2.97	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.92	1.8	1.1	ng/L	9.11		86.9	70-130	9.23	30	
11Cl-PF3OUdS (F53B Major)	9.42	1.8	0.60	ng/L	8.59		110	70-130	9.69	30	
9Cl-PF3ONS (F53B Minor)	9.55	1.8	0.74	ng/L	8.50		112	70-130	9.11	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.26	1.8	0.80	ng/L	8.61		108	70-130	7.39	30	
Surrogate: 13C-PFHxA	37.5			ng/L	36.4		103	70-130			
Surrogate: M3HFPO-DA	37.0			ng/L	36.4		101	70-130			
Surrogate: 13C-PFDA	38.2			ng/L	36.4		105	70-130			
Surrogate: D5-NEtFOSAA	150			ng/L	146		103	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Tighe + Bond
 Project PFAS Sample Collection - Shutesbury
 MCP/RCP Required MCP Reg'd
 Deliverable Package Req. N/A
 Location Shutesbury, MA
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time DWW 02/17/23 1640
 Back-Sheet By / Date / Time DWW 02/17/23 1850
 Temperature Method GUN # 3
 Temp < 6° C Actual Temperature 4.2
 Rush Samples: Yes / No Notify _____
 Short Hold: Yes / No Notify _____

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	NaS2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						4			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

February 24, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 37 Leverett Rd, Shutesbury, MA
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B1533

Enclosed are results of analyses for samples as received by the laboratory on February 13, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/24/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B1533

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

PROJECT LOCATION: 37 Leverett Rd, Shutesbury, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
37 Leverett Road	23B1533-01	Ground Water		EPA 537.1	

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: 37 Leverett Rd, Shutesbury, MA

Sample Description:

Work Order: 23B1533

Date Received: 2/13/2023

Field Sample #: 37 Leverett Road

Sampled: 2/9/2023 09:50

Sample ID: 23B1533-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.7	0.66	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
Perfluorohexanoic acid (PFHxA)	3.4	1.7	0.76	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
Perfluorohexanesulfonic acid (PFHxS)	0.77	1.7	0.55	ng/L	1	J	EPA 537.1	2/20/23	2/22/23 15:29	AMS
Perfluoroheptanoic acid (PFHpA)	1.7	1.7	0.58	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
Perfluorooctanoic acid (PFOA)	5.9	1.7	0.80	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
Perfluorooctanesulfonic acid (PFOS)	5.8	1.7	0.74	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
Perfluorononanoic acid (PFNA)	ND	1.7	0.76	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
Perfluorodecanoic acid (PFDA)	ND	1.7	0.63	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.7	0.59	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.7	0.58	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.7	0.56	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.7	0.53	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	0.51	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.7	0.44	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.7	0.75	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.7	0.65	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.7	0.78	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.7	0.70	ng/L	1		EPA 537.1	2/20/23	2/22/23 15:29	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	83.0	70-130	2/22/23 15:29
M3HFPO-DA	73.4	70-130	2/22/23 15:29
13C-PFDA	82.5	70-130	2/22/23 15:29
D5-NEtFOSAA	89.7	70-130	2/22/23 15:29

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B1533-01 [37 Leverett Road]	B331804	293	1.00	02/20/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B331804 - EPA 537.1
Blank (B331804-BLK1)

Prepared: 02/20/23 Analyzed: 02/22/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.71	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.82	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.60	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.62	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.87	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.80	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.82	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.68	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.64	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.62	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.60	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.57	ng/L							
Perfluorotridecanoic acid (PFTTrDA)	ND	1.8	0.55	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.47	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	0.81	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.70	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.84	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.75	ng/L							
Surrogate: 13C-PFHxA	32.5			ng/L	36.8		88.4	70-130			
Surrogate: M3HFPO-DA	34.0			ng/L	36.8		92.3	70-130			
Surrogate: 13C-PFDA	32.8			ng/L	36.8		89.2	70-130			
Surrogate: D5-NEtFOSAA	134			ng/L	147		90.7	70-130			

LCS (B331804-BS1)

Prepared: 02/20/23 Analyzed: 02/22/23

Perfluorobutanesulfonic acid (PFBS)	1.34	1.8	0.69	ng/L	1.60		83.6	50-150			J
Perfluorohexanoic acid (PFHxA)	1.32	1.8	0.80	ng/L	1.81		73.0	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.19	1.8	0.59	ng/L	1.65		71.9	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.67	1.8	0.61	ng/L	1.81		92.5	50-150			J
Perfluorooctanoic acid (PFOA)	1.47	1.8	0.85	ng/L	1.81		81.5	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.66	1.8	0.78	ng/L	1.68		99.1	50-150			J
Perfluorononanoic acid (PFNA)	1.41	1.8	0.80	ng/L	1.81		77.7	50-150			J
Perfluorodecanoic acid (PFDA)	1.98	1.8	0.66	ng/L	1.81		109	50-150			J
N-EtFOSAA (NEtFOSAA)	1.57	1.8	0.63	ng/L	1.81		86.9	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.65	1.8	0.61	ng/L	1.81		91.0	50-150			J
N-MeFOSAA (NMeFOSAA)	1.68	1.8	0.59	ng/L	1.81		92.6	50-150			J
Perfluorododecanoic acid (PFDoA)	1.40	1.8	0.56	ng/L	1.81		77.3	50-150			J
Perfluorotridecanoic acid (PFTTrDA)	1.71	1.8	0.54	ng/L	1.81		94.3	50-150			J
Perfluorotetradecanoic acid (PFTA)	1.43	1.8	0.47	ng/L	1.81		79.3	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.49	1.8	0.80	ng/L	1.81		82.6	50-150			J
11Cl-PF3OUdS (F53B Major)	1.58	1.8	0.69	ng/L	1.71		92.6	50-150			J
9Cl-PF3ONS (F53B Minor)	1.58	1.8	0.82	ng/L	1.69		93.6	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.58	1.8	0.74	ng/L	1.71		92.6	50-150			J
Surrogate: 13C-PFHxA	34.1			ng/L	36.2		94.2	70-130			
Surrogate: M3HFPO-DA	35.8			ng/L	36.2		98.9	70-130			
Surrogate: 13C-PFDA	34.6			ng/L	36.2		95.5	70-130			
Surrogate: D5-NEtFOSAA	138			ng/L	145		95.5	70-130			

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B331804 - EPA 537.1											
LCS Dup (B331804-BSD1)						Prepared: 02/20/23 Analyzed: 02/22/23					
Perfluorobutanesulfonic acid (PFBS)	1.66	1.8	0.69	ng/L	1.58		105	50-150	21.5	50	J
Perfluorohexanoic acid (PFHxA)	1.74	1.8	0.79	ng/L	1.78		97.8	50-150	27.7	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.59	1.8	0.58	ng/L	1.63		97.5	50-150	28.9	50	J
Perfluoroheptanoic acid (PFHpA)	2.14	1.8	0.60	ng/L	1.78		120	50-150	24.4	50	
Perfluorooctanoic acid (PFOA)	1.86	1.8	0.84	ng/L	1.78		105	50-150	23.4	50	
Perfluorooctanesulfonic acid (PFOS)	1.98	1.8	0.77	ng/L	1.66		120	50-150	17.4	50	
Perfluorononanoic acid (PFNA)	1.99	1.8	0.79	ng/L	1.78		111	50-150	34.3	50	
Perfluorodecanoic acid (PFDA)	2.22	1.8	0.66	ng/L	1.78		125	50-150	11.8	50	
N-EtFOSAA (NEtFOSAA)	2.01	1.8	0.62	ng/L	1.78		113	50-150	24.3	50	
Perfluoroundecanoic acid (PFUnA)	1.91	1.8	0.60	ng/L	1.78		107	50-150	14.9	50	
N-MeFOSAA (NMeFOSAA)	1.94	1.8	0.58	ng/L	1.78		109	50-150	14.8	50	
Perfluorododecanoic acid (PFDoA)	1.88	1.8	0.56	ng/L	1.78		105	50-150	29.1	50	
Perfluorotridecanoic acid (PFTTrDA)	1.98	1.8	0.53	ng/L	1.78		111	50-150	14.7	50	
Perfluorotetradecanoic acid (PFTA)	1.48	1.8	0.46	ng/L	1.78		83.2	50-150	3.43	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.07	1.8	0.79	ng/L	1.78		116	50-150	32.4	50	
11Cl-PF3OUdS (F53B Major)	1.97	1.8	0.68	ng/L	1.68		117	50-150	21.7	50	
9Cl-PF3ONS (F53B Minor)	1.99	1.8	0.81	ng/L	1.66		120	50-150	22.9	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.07	1.8	0.73	ng/L	1.69		123	50-150	26.9	50	
Surrogate: 13C-PFHxA	33.7			ng/L	35.7		94.3	70-130			
Surrogate: M3HFPO-DA	35.4			ng/L	35.7		99.1	70-130			
Surrogate: 13C-PFDA	32.5			ng/L	35.7		91.1	70-130			
Surrogate: D5-NEtFOSAA	128			ng/L	143		90.0	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

23B1533

Phone: 413-525-2332
Fax: 413-525-6405

https://www.pacelabs.com/

39 Spruce Street
East Longmeadow, MA 01026

Doc # 381 Rev 2_06262019

CHAIN OF CUSTODY RECORD

Page _____ of _____

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/ Triage & Bond 53 Southampton Road, Westfield, Massachusetts (413) 562-1600 PFAS Sample Collection - Shutesbury Shutesbury, Massachusetts 5-2190 Jeff Apps Pace Analytical Quote Name/Number Invoice Recipient: Town of Shutesbury Sampled By: Samuel Evans		Requested Turnaround Time: <input type="checkbox"/> 7-Day <input type="checkbox"/> 10 Day <input type="checkbox"/> Field Filtered <input type="checkbox"/> Lab to Filter PFAS 10-Day (Std) <input type="checkbox"/> Due Date: <input type="checkbox"/> Field Filtered <input type="checkbox"/> Lab to Filter Resin Approval Required: <input type="checkbox"/> 1-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> Field Filtered <input type="checkbox"/> Lab to Filter 2-Day <input type="checkbox"/> 4-Day <input type="checkbox"/> Lab to Filter Format: PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> Other: <input type="checkbox"/> CIP Like Data Pkg Required: <input type="checkbox"/> Email To: turnaround@pacelabs.com Fax To #:		Dispersed Analytes Sampler ORTHOPHOSPHATE SAMPLES PCB ONLY SOXHLET <input type="checkbox"/> NON SOXHLET <input type="checkbox"/> VIALS GLASS PLASTIC BACTERIA ENCORE VIALS GLASS PLASTIC BACTERIA ENCORE		ANALYSIS REQUESTED 2 Preservation Code	
Pace Analytical Work Order # 31 Leavitt Pond 2/13/23 0950 Gms GW U	Beginning Date/Time 2/13/23 0950	Matrix Conc. Code GW U	Matrix Code GW U	MA MCP Required <input 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"/> PWSID #	MA MCP Required <input 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"/> PWSID #	Bill to Town of Shutesbury - PO:57-101490	
Relinquished by: (signature) Received by: (signature) Relinquished by: (signature) Received by: (signature)	Date/Time: 2/13/23 0855 2/13/23 1330 2/13/23 1708 2/13/23 1708	Date/Time: 2/13/23 0855 2/13/23 1330 2/13/23 1708 2/13/23 1708	Date/Time: 2/13/23 0855 2/13/23 1330 2/13/23 1708 2/13/23 1708	Date/Time: 2/13/23 0855 2/13/23 1330 2/13/23 1708 2/13/23 1708	Date/Time: 2/13/23 0855 2/13/23 1330 2/13/23 1708 2/13/23 1708	Date/Time: 2/13/23 0855 2/13/23 1330 2/13/23 1708 2/13/23 1708	
Special Requirements:							
Please use the following codes to indicate possible sample concentration within the Conc Code column above: H - High; M - Medium; L - Low; C - Clear; U - Unknown							
Matrix Codes GW = Ground Water WW = Waste Water DW = Drinking Water A = Air S = Soil SL = Sludge SOL = Solid O = Other							
Preservation Codes J = Food H = HCL N = Nitric Acid S = Sulfuric Acid B = Sodium Bisulfate X = Sodium Hydroxide T = Sodium Thiosulfate M = Methanol DI = DI Water O = Other							
Project Entity: Government <input type="checkbox"/> Municipality <input type="checkbox"/> WRTA <input type="checkbox"/> Other <input type="checkbox"/> Federal <input type="checkbox"/> 21 J <input type="checkbox"/> School <input type="checkbox"/> City <input type="checkbox"/> Brownfield <input type="checkbox"/> MBTA <input type="checkbox"/>							
Counter Use Only VIALS _____ GLASS _____ PLASTIC _____ BACTERIA _____ ENCORE _____ Glassware in freezer? Y / N _____ Prepackaged Cooler? Y / N _____							
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.							
Comments:							

Handwritten initials/signature

Log In Back-Sheet

Log In Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False statement will be brought to the attention of the Client - True or False



Client T&B

Project DFAS Sample - Shutesbury

MCP/RCP Required MA MCP

Deliverable Package Req. No

Location Shutesbury, MA

PWSID# (When Applicable) N/A

Arrival Method:

Courier Fed Ex Walk In Other

Received By / Date / Time GC 2/13/23 1700

Back-Sheet By / Date / Time GC 2/13/23 1645

Temperature Method gun # 5

Temp < 6° C Actual Temperature 3.5

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

	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:

received field blank not on COC

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	Na2S2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						3			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

February 21, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: Shutesbury, Massachusetts 60 Leverett Rd
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B1451

Enclosed are results of analyses for samples as received by the laboratory on February 13, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/21/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B1451

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

PROJECT LOCATION: Shutesbury, Massachusetts

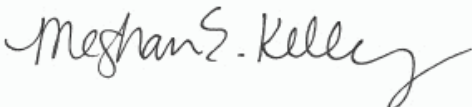
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
60 Leverett Road	23B1451-01	Ground Water		EPA 537.1	

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

Project Location: Shutesbury, Massachusetts

Sample Description:

Work Order: 23B1451

Date Received: 2/13/2023

Field Sample #: 60 Leverett Road

Sampled: 2/9/2023 08:30

Sample ID: 23B1451-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.7	0.66	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.7	0.76	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.7	0.56	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.7	0.58	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Perfluorooctanoic acid (PFOA)	ND	1.7	0.81	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.7	0.74	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Perfluorononanoic acid (PFNA)	ND	1.7	0.76	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Perfluorodecanoic acid (PFDA)	ND	1.7	0.63	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.7	0.60	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.7	0.58	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.7	0.56	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.7	0.54	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	0.51	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.7	0.44	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.7	0.76	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.7	0.66	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.7	0.78	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.7	0.70	ng/L	1		EPA 537.1	2/15/23	2/20/23 14:36	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	108	70-130	2/20/23 14:36
M3HFPO-DA	94.5	70-130	2/20/23 14:36
13C-PFDA	100	70-130	2/20/23 14:36
D5-NEtFOSAA	95.1	70-130	2/20/23 14:36

Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B1451-01 [60 Leverett Road]	B331478	291	1.00	02/15/23

QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B331478 - EPA 537.1
Blank (B331478-BLK1)

Prepared: 02/15/23 Analyzed: 02/20/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.70	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.81	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.59	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.62	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.86	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.79	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.81	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.67	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.63	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.62	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.59	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.57	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.54	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.47	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	0.80	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.70	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.83	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.75	ng/L							
Surrogate: 13C-PFHxA	33.2			ng/L	36.4		91.1	70-130			
Surrogate: M3HFPO-DA	28.5			ng/L	36.4		78.4	70-130			
Surrogate: 13C-PFDA	34.3			ng/L	36.4		94.2	70-130			
Surrogate: D5-NEtFOSAA	135			ng/L	146		93.0	70-130			

LCS (B331478-BS1)

Prepared: 02/15/23 Analyzed: 02/20/23

Perfluorobutanesulfonic acid (PFBS)	14.6	1.8	0.70	ng/L	16.1		90.1	70-130			
Perfluorohexanoic acid (PFHxA)	16.9	1.8	0.81	ng/L	18.2		92.9	70-130			
Perfluorohexanesulfonic acid (PFHxS)	14.5	1.8	0.59	ng/L	16.6		87.0	70-130			
Perfluoroheptanoic acid (PFHpA)	16.2	1.8	0.62	ng/L	18.2		88.9	70-130			
Perfluorooctanoic acid (PFOA)	16.0	1.8	0.86	ng/L	18.2		88.1	70-130			
Perfluorooctanesulfonic acid (PFOS)	15.5	1.8	0.79	ng/L	16.9		92.0	70-130			
Perfluorononanoic acid (PFNA)	17.1	1.8	0.81	ng/L	18.2		93.9	70-130			
Perfluorodecanoic acid (PFDA)	17.3	1.8	0.67	ng/L	18.2		95.2	70-130			
N-EtFOSAA (NEtFOSAA)	15.9	1.8	0.63	ng/L	18.2		87.3	70-130			
Perfluoroundecanoic acid (PFUnA)	16.0	1.8	0.62	ng/L	18.2		87.6	70-130			
N-MeFOSAA (NMeFOSAA)	16.2	1.8	0.59	ng/L	18.2		89.0	70-130			
Perfluorododecanoic acid (PFDoA)	15.5	1.8	0.57	ng/L	18.2		85.2	70-130			
Perfluorotridecanoic acid (PFTrDA)	15.2	1.8	0.54	ng/L	18.2		83.7	70-130			
Perfluorotetradecanoic acid (PFTA)	15.4	1.8	0.47	ng/L	18.2		84.7	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	17.3	1.8	0.80	ng/L	18.2		95.1	70-130			
11Cl-PF3OUdS (F53B Major)	16.7	1.8	0.70	ng/L	17.2		97.0	70-130			
9Cl-PF3ONS (F53B Minor)	15.0	1.8	0.83	ng/L	17.0		88.4	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	14.4	1.8	0.75	ng/L	17.2		83.8	70-130			
Surrogate: 13C-PFHxA	37.3			ng/L	36.4		103	70-130			
Surrogate: M3HFPO-DA	31.7			ng/L	36.4		87.2	70-130			
Surrogate: 13C-PFDA	36.8			ng/L	36.4		101	70-130			
Surrogate: D5-NEtFOSAA	136			ng/L	146		93.7	70-130			

QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B331478 - EPA 537.1
LCS Dup (B331478-BSD1)

Prepared: 02/15/23 Analyzed: 02/20/23

Perfluorobutanesulfonic acid (PFBS)	13.9	1.8	0.70	ng/L	16.2		86.1	70-130	4.37	30	
Perfluorohexanoic acid (PFHxA)	16.4	1.8	0.81	ng/L	18.2		89.9	70-130	3.08	30	
Perfluorohexanesulfonic acid (PFHxS)	14.3	1.8	0.59	ng/L	16.7		85.7	70-130	1.27	30	
Perfluoroheptanoic acid (PFHpA)	15.6	1.8	0.62	ng/L	18.2		85.4	70-130	3.83	30	
Perfluorooctanoic acid (PFOA)	16.0	1.8	0.86	ng/L	18.2		87.5	70-130	0.544	30	
Perfluorooctanesulfonic acid (PFOS)	15.3	1.8	0.79	ng/L	16.9		90.6	70-130	1.31	30	
Perfluorononanoic acid (PFNA)	16.7	1.8	0.81	ng/L	18.2		91.4	70-130	2.53	30	
Perfluorodecanoic acid (PFDA)	17.0	1.8	0.67	ng/L	18.2		93.0	70-130	2.10	30	
N-EtFOSAA (NEtFOSAA)	16.9	1.8	0.63	ng/L	18.2		92.7	70-130	6.24	30	
Perfluoroundecanoic acid (PFUnA)	17.0	1.8	0.62	ng/L	18.2		93.1	70-130	6.32	30	
N-MeFOSAA (NMeFOSAA)	17.0	1.8	0.59	ng/L	18.2		93.1	70-130	4.67	30	
Perfluorododecanoic acid (PFDoA)	16.9	1.8	0.57	ng/L	18.2		92.7	70-130	8.70	30	
Perfluorotridecanoic acid (PFTrDA)	16.9	1.8	0.54	ng/L	18.2		92.4	70-130	10.1	30	
Perfluorotetradecanoic acid (PFTA)	16.3	1.8	0.47	ng/L	18.2		89.6	70-130	5.76	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	17.0	1.8	0.80	ng/L	18.2		93.1	70-130	1.87	30	
11Cl-PF3OUdS (F53B Major)	17.3	1.8	0.70	ng/L	17.2		100	70-130	3.58	30	
9Cl-PF3ONS (F53B Minor)	15.2	1.8	0.83	ng/L	17.0		89.2	70-130	1.08	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	14.1	1.8	0.75	ng/L	17.2		81.7	70-130	2.35	30	
Surrogate: 13C-PFHxA	33.8			ng/L	36.5		92.5	70-130			
Surrogate: M3HFPO-DA	29.0			ng/L	36.5		79.4	70-130			
Surrogate: 13C-PFDA	34.9			ng/L	36.5		95.6	70-130			
Surrogate: D5-NEtFOSAA	137			ng/L	146		93.9	70-130			

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
DL	Method Detection Limit
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.

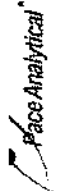
No results have been blank subtracted unless specified in the case narrative section.

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023



Phone: 413-525-2332
Fax: 413-525-6405

<https://www.pacelabs.com/>

39 Spruce Street
East Longmeadow, MA 01026

Doc # 381 Rev 2_06262019

Page 1 of 2

Contact: <https://www.pacelabs.com/contact-us/contact-environmental-sciences/>
Equipment/Time: [Blank]
Address: 53 Southampton Road, Westfield, Massachusetts
Phone: (413) 562-1600
Project Name: PFAS Sample Collection - Shutesbury
Project Location: Shutesbury, Massachusetts
Project Number: S-2190
Project Manager: Jeff Apps
Pace Analytical Quote Name/Number: [Blank]
Invoice Recipient: Town of Shutesbury
Sampled By: Samuel Evans

Requested Turnaround Time: 7-Day 10-Day
PFAS 10-Day (std) Due Date: [Blank]
1-Day 3-Day
2-Day 4-Day
Format: PDF EXCEL
Other: [Blank]
CLP Like Data Pkg Required:
Email To: A.Apps@pacelabs.com, S.Evans@pacelabs.com
Fax To #: [Blank]

Matrix Code	Analysis Requested	Disposals/Matrix Samples
GW		
WW		
DW		
A		
SL		
SOL		
O		
I		
H		
N		
S		
B		
X		
T		
M		
DI		
O		

Relinquished by: (signature) [Signature]
Received by: (signature) [Signature]
Relinquished by: (signature) [Signature]
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Matrix Code	Analysis Requested	Disposals/Matrix Samples
GW		
WW		
DW		
A		
SL		
SOL		
O		
I		
H		
N		
S		
B		
X		
T		
M		
DI		
O		

Relinquished by: (signature) [Signature]
Received by: (signature) [Signature]
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Received by: (signature) [Signature]
Relinquished by: (signature) [Signature]
Received by: (signature) [Signature]
Relinquished by: (signature) [Signature]
Received by: (signature) [Signature]

Matrix Codes
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air S = Soil
SL = Sludge
SOL = Solid
O = Other
I = Ice
H = HCL
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
M = Methanol
DI = DI Water
O = Other

Special Requirements
MA MCP Required
MCP Certification Form Required
CT RCP Required
RCP Certification Form Required
MA State DW Required
PWSD # [Blank]

Project Entity
Government Municipality WRTA
Federal 21 J School
City Brownfield MBTA

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.

Lab Comments:
Pace Analytical is not responsible for missing samples from prepacked coolers

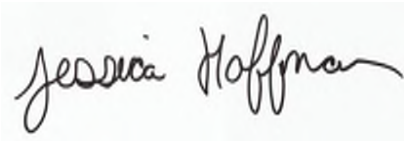
February 27, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 87 Leverett Road Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2159

Enclosed are results of analyses for samples as received by the laboratory on February 17, 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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Sample Summary	3
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Certifications	10
Chain of Custody/Sample Receipt	11

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

Tighe & Bond
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/27/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2159

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

PROJECT LOCATION: 87 Leverett Road Shutesbury, Massachusetts

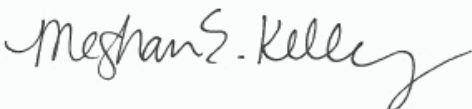
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
87 Leverett Road	23B2159-01	Ground Water		EPA 537.1	

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: 87 Leverett Road Shutesbury, Ma

Sample Description:

Work Order: 23B2159

Date Received: 2/17/2023

Field Sample #: 87 Leverett Road

Sampled: 2/16/2023 10:45

Sample ID: 23B2159-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.7	0.68	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
Perfluorohexanoic acid (PFHxA)	ND	1.7	0.81	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
Perfluorohexanesulfonic acid (PFHxS)	ND	1.7	0.77	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
Perfluoroheptanoic acid (PFHpA)	ND	1.7	0.86	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
Perfluorooctanoic acid (PFOA)	1.2	1.7	0.89	ng/L	1	J	EPA 537.1	2/22/23	2/24/23 11:50	JR2
Perfluorooctanesulfonic acid (PFOS)	0.86	1.7	0.65	ng/L	1	J	EPA 537.1	2/22/23	2/24/23 11:50	JR2
Perfluorononanoic acid (PFNA)	ND	1.7	0.80	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
Perfluorodecanoic acid (PFDA)	ND	1.7	0.83	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
N-EtFOSAA (NEtFOSAA)	ND	1.7	0.57	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
Perfluoroundecanoic acid (PFUnA)	ND	1.7	0.66	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
N-MeFOSAA (NMeFOSAA)	ND	1.7	0.64	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
Perfluorododecanoic acid (PFDoA)	ND	1.7	0.62	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	0.63	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
Perfluorotetradecanoic acid (PFTA)	ND	1.7	0.72	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.7	1.1	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
11Cl-PF3OUdS (F53B Major)	ND	1.7	0.57	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
9Cl-PF3ONS (F53B Minor)	ND	1.7	0.70	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.7	0.76	ng/L	1		EPA 537.1	2/22/23	2/24/23 11:50	JR2
Surrogates		% Recovery	Recovery Limits			Flag/Qual				
13C-PFHxA		93.0	70-130						2/24/23 11:50	
M3HFPO-DA		84.2	70-130						2/24/23 11:50	
13C-PFDA		93.4	70-130						2/24/23 11:50	
D5-NEtFOSAA		95.7	70-130						2/24/23 11:50	

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2159-01 [87 Leverett Road]	B332311	289	1.00	02/22/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332311 - EPA 537.1
Blank (B332311-BLK1)

Prepared: 02/22/23 Analyzed: 02/24/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.72	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.85	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.82	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.91	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.94	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.69	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.84	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.87	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.61	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.68	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.65	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.67	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.76	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.60	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.74	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.80	ng/L							
Surrogate: 13C-PFHxA	40.4			ng/L	36.5		111	70-130			
Surrogate: M3HFPO-DA	39.3			ng/L	36.5		108	70-130			
Surrogate: 13C-PFDA	40.8			ng/L	36.5		112	70-130			
Surrogate: D5-NEtFOSAA	160			ng/L	146		109	70-130			

LCS (B332311-BS1)

Prepared: 02/22/23 Analyzed: 02/24/23

Perfluorobutanesulfonic acid (PFBS)	16.8	1.8	0.72	ng/L	16.2		103	70-130			
Perfluorohexanoic acid (PFHxA)	18.5	1.8	0.85	ng/L	18.3		102	70-130			
Perfluorohexanesulfonic acid (PFHxS)	17.5	1.8	0.82	ng/L	16.7		105	70-130			
Perfluoroheptanoic acid (PFHpA)	19.8	1.8	0.91	ng/L	18.3		109	70-130			
Perfluorooctanoic acid (PFOA)	18.6	1.8	0.94	ng/L	18.3		102	70-130			
Perfluorooctanesulfonic acid (PFOS)	16.5	1.8	0.69	ng/L	16.9		97.4	70-130			
Perfluorononanoic acid (PFNA)	18.0	1.8	0.84	ng/L	18.3		98.4	70-130			
Perfluorodecanoic acid (PFDA)	17.8	1.8	0.88	ng/L	18.3		97.7	70-130			
N-EtFOSAA (NEtFOSAA)	17.2	1.8	0.61	ng/L	18.3		94.2	70-130			
Perfluoroundecanoic acid (PFUnA)	18.5	1.8	0.69	ng/L	18.3		101	70-130			
N-MeFOSAA (NMeFOSAA)	18.2	1.8	0.68	ng/L	18.3		99.7	70-130			
Perfluorododecanoic acid (PFDoA)	18.4	1.8	0.65	ng/L	18.3		101	70-130			
Perfluorotridecanoic acid (PFTrDA)	18.3	1.8	0.67	ng/L	18.3		100	70-130			
Perfluorotetradecanoic acid (PFTA)	18.4	1.8	0.76	ng/L	18.3		101	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	16.0	1.8	1.1	ng/L	18.3		87.6	70-130			
11Cl-PF3OUdS (F53B Major)	18.3	1.8	0.61	ng/L	17.2		106	70-130			
9Cl-PF3ONS (F53B Minor)	17.4	1.8	0.74	ng/L	17.0		102	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	18.2	1.8	0.80	ng/L	17.3		105	70-130			
Surrogate: 13C-PFHxA	40.3			ng/L	36.5		110	70-130			
Surrogate: M3HFPO-DA	40.9			ng/L	36.5		112	70-130			
Surrogate: 13C-PFDA	36.4			ng/L	36.5		99.6	70-130			
Surrogate: D5-NEtFOSAA	146			ng/L	146		99.8	70-130			

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332311 - EPA 537.1
LCS Dup (B332311-BSD1)

Prepared: 02/22/23 Analyzed: 02/24/23

Perfluorobutanesulfonic acid (PFBS)	16.2	1.8	0.72	ng/L	16.2		100	70-130	3.47	30	
Perfluorohexanoic acid (PFHxA)	17.5	1.8	0.85	ng/L	18.2		95.8	70-130	5.97	30	
Perfluorohexanesulfonic acid (PFHxS)	16.0	1.8	0.82	ng/L	16.7		96.2	70-130	9.12	30	
Perfluoroheptanoic acid (PFHpA)	17.4	1.8	0.91	ng/L	18.2		95.4	70-130	13.2	30	
Perfluorooctanoic acid (PFOA)	17.0	1.8	0.94	ng/L	18.2		93.4	70-130	8.78	30	
Perfluorooctanesulfonic acid (PFOS)	16.2	1.8	0.69	ng/L	16.9		95.6	70-130	2.10	30	
Perfluorononanoic acid (PFNA)	16.7	1.8	0.84	ng/L	18.2		91.7	70-130	7.35	30	
Perfluorodecanoic acid (PFDA)	17.9	1.8	0.87	ng/L	18.2		98.4	70-130	0.475	30	
N-EtFOSAA (NEtFOSAA)	19.7	1.8	0.60	ng/L	18.2		108	70-130	13.4	30	
Perfluoroundecanoic acid (PFUnA)	18.1	1.8	0.69	ng/L	18.2		99.4	70-130	1.99	30	
N-MeFOSAA (NMeFOSAA)	19.2	1.8	0.68	ng/L	18.2		105	70-130	5.31	30	
Perfluorododecanoic acid (PFDoA)	18.1	1.8	0.65	ng/L	18.2		99.6	70-130	1.14	30	
Perfluorotridecanoic acid (PFTrDA)	18.5	1.8	0.66	ng/L	18.2		102	70-130	1.54	30	
Perfluorotetradecanoic acid (PFTA)	18.7	1.8	0.76	ng/L	18.2		103	70-130	1.93	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	15.1	1.8	1.1	ng/L	18.2		82.9	70-130	5.64	30	
11Cl-PF3OUdS (F53B Major)	19.1	1.8	0.60	ng/L	17.2		111	70-130	4.44	30	
9Cl-PF3ONS (F53B Minor)	17.4	1.8	0.74	ng/L	17.0		102	70-130	0.326	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	16.2	1.8	0.80	ng/L	17.2		94.0	70-130	11.5	30	
Surrogate: 13C-PFHxA	32.6			ng/L	36.4		89.4	70-130			
Surrogate: M3HFPO-DA	31.3			ng/L	36.4		86.0	70-130			
Surrogate: 13C-PFDA	33.1			ng/L	36.4		90.8	70-130			
Surrogate: D5-NEtFOSAA	143			ng/L	146		98.4	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Tighe + Bond
 Project PFAS Sample Coll. - Shutesbury
 MCP/RCP Required MCP Reg'd
 Deliverable Package Req. N/A
 Location Shutesbury, MA
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time DWV 02/17/23 1655
 Back-Sheet By / Date / Time DWV 02/17/23 1910
 Temperature Method GUN # 3
 Temp < 6° C Actual Temperature 4.2
 Rush Samples: Yes No Notify
 Short Hold: Yes No Notify

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	NaS2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						2			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Viols									

February 24, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 91 Leverett Rd. Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2128

Enclosed are results of analyses for samples as received by the laboratory on February 17, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/24/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2128

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

PROJECT LOCATION: 91 Leverett Rd. Shutesbury, Massachusetts

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
91 Leverett Road	23B2128-01	Ground Water		EPA 537.1	

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: 91 Leverett Rd. Shutesbury, Mass

Sample Description:

Work Order: 23B2128

Date Received: 2/17/2023

Field Sample #: 91 Leverett Road

Sampled: 2/16/2023 14:20

Sample ID: 23B2128-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	0.76	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.9	0.91	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	0.87	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.9	0.96	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Perfluorooctanoic acid (PFOA)	ND	1.9	1.0	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	0.73	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Perfluorononanoic acid (PFNA)	ND	1.9	0.89	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Perfluorodecanoic acid (PFDA)	ND	1.9	0.93	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.9	0.64	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.9	0.74	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.9	0.72	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.9	0.70	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	0.71	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.9	0.81	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	1.2	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.9	0.64	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.9	0.79	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	0.85	ng/L	1		EPA 537.1	2/21/23	2/23/23 11:10	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	97.0	70-130	2/23/23 11:10
M3HFPO-DA	96.0	70-130	2/23/23 11:10
13C-PFDA	97.0	70-130	2/23/23 11:10
D5-NEtFOSAA	102	70-130	2/23/23 11:10

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

Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2128-01 [91 Leverett Road]	B332208	258	1.00	02/21/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332208 - EPA 537.1											
Blank (B332208-BLK1)											
						Prepared: 02/21/23 Analyzed: 02/23/23					
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.72	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.86	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.82	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.91	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.95	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.69	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.84	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.88	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.61	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.68	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.66	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.67	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.76	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.61	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.75	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.80	ng/L							
Surrogate: 13C-PFHxA	32.3			ng/L	36.6		88.2	70-130			
Surrogate: M3HFPO-DA	33.4			ng/L	36.6		91.2	70-130			
Surrogate: 13C-PFDA	33.1			ng/L	36.6		90.4	70-130			
Surrogate: D5-NEtFOSAA	137			ng/L	146		93.4	70-130			
LCS (B332208-BS1)											
						Prepared: 02/21/23 Analyzed: 02/23/23					
Perfluorobutanesulfonic acid (PFBS)	1.35	1.8	0.72	ng/L	1.62		83.5	50-150			J
Perfluorohexanoic acid (PFHxA)	1.29	1.8	0.85	ng/L	1.83		70.8	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.15	1.8	0.82	ng/L	1.67		69.1	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.51	1.8	0.91	ng/L	1.83		82.9	50-150			J
Perfluorooctanoic acid (PFOA)	1.29	1.8	0.94	ng/L	1.83		70.8	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.48	1.8	0.69	ng/L	1.69		87.4	50-150			J
Perfluorononanoic acid (PFNA)	1.36	1.8	0.84	ng/L	1.83		74.6	50-150			J
Perfluorodecanoic acid (PFDA)	1.74	1.8	0.88	ng/L	1.83		95.2	50-150			J
N-EtFOSAA (NEtFOSAA)	1.48	1.8	0.61	ng/L	1.83		81.0	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.49	1.8	0.69	ng/L	1.83		81.6	50-150			J
N-MeFOSAA (NMeFOSAA)	1.48	1.8	0.68	ng/L	1.83		81.1	50-150			J
Perfluorododecanoic acid (PFDoA)	1.30	1.8	0.65	ng/L	1.83		71.4	50-150			J
Perfluorotridecanoic acid (PFTrDA)	1.66	1.8	0.67	ng/L	1.83		91.2	50-150			J
Perfluorotetradecanoic acid (PFTA)	1.41	1.8	0.76	ng/L	1.83		77.0	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.66	1.8	1.1	ng/L	1.83		90.8	50-150			J
11Cl-PF3OUdS (F53B Major)	1.37	1.8	0.61	ng/L	1.72		79.5	50-150			J
9Cl-PF3ONS (F53B Minor)	1.36	1.8	0.74	ng/L	1.70		80.1	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.40	1.8	0.80	ng/L	1.73		81.3	50-150			J
Surrogate: 13C-PFHxA	31.6			ng/L	36.5		86.6	70-130			
Surrogate: M3HFPO-DA	31.8			ng/L	36.5		87.0	70-130			
Surrogate: 13C-PFDA	30.9			ng/L	36.5		84.6	70-130			
Surrogate: D5-NEtFOSAA	125			ng/L	146		85.6	70-130			

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

QUALITY CONTROL
Semivolatle Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332208 - EPA 537.1
LCS Dup (B332208-BSD1)

Prepared: 02/21/23 Analyzed: 02/23/23

Perfluorobutanesulfonic acid (PFBS)	1.49	1.8	0.72	ng/L	1.62		91.9	50-150	9.55	50	J
Perfluorohexanoic acid (PFHxA)	1.48	1.8	0.85	ng/L	1.83		81.1	50-150	13.7	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.40	1.8	0.82	ng/L	1.67		83.8	50-150	19.3	50	J
Perfluoroheptanoic acid (PFHpA)	1.88	1.8	0.91	ng/L	1.83		103	50-150	21.4	50	
Perfluorooctanoic acid (PFOA)	1.54	1.8	0.94	ng/L	1.83		84.4	50-150	17.6	50	J
Perfluorooctanesulfonic acid (PFOS)	1.73	1.8	0.69	ng/L	1.70		102	50-150	15.7	50	J
Perfluorononanoic acid (PFNA)	1.54	1.8	0.84	ng/L	1.83		84.2	50-150	12.1	50	J
Perfluorodecanoic acid (PFDA)	2.02	1.8	0.88	ng/L	1.83		110	50-150	14.7	50	
N-EtFOSAA (NEtFOSAA)	1.65	1.8	0.61	ng/L	1.83		90.5	50-150	11.2	50	J
Perfluoroundecanoic acid (PFUnA)	1.79	1.8	0.69	ng/L	1.83		98.0	50-150	18.3	50	J
N-MeFOSAA (NMeFOSAA)	1.69	1.8	0.68	ng/L	1.83		92.6	50-150	13.4	50	J
Perfluorododecanoic acid (PFDoA)	1.54	1.8	0.66	ng/L	1.83		84.2	50-150	16.6	50	J
Perfluorotridecanoic acid (PFTrDA)	1.86	1.8	0.67	ng/L	1.83		102	50-150	11.1	50	
Perfluorotetradecanoic acid (PFTA)	1.32	1.8	0.76	ng/L	1.83		72.3	50-150	6.22	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.58	1.8	1.1	ng/L	1.83		86.5	50-150	4.80	50	J
11Cl-PF3OUdS (F53B Major)	1.72	1.8	0.61	ng/L	1.72		99.6	50-150	22.5	50	J
9Cl-PF3ONS (F53B Minor)	1.69	1.8	0.74	ng/L	1.71		99.3	50-150	21.5	50	J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.76	1.8	0.80	ng/L	1.73		102	50-150	22.5	50	J
Surrogate: 13C-PFHxA	34.0			ng/L	36.5		93.0	70-130			
Surrogate: M3HFPO-DA	34.3			ng/L	36.5		93.8	70-130			
Surrogate: 13C-PFDA	33.3			ng/L	36.5		91.0	70-130			
Surrogate: D5-NEtFOSAA	137			ng/L	146		93.6	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Tighe + Bond
 Project PFAS Sample Coll. - Shutesbury
 MCP/RCP Required MCP Req'd
 Deliverable Package Req. N/A
 Location Shutesbury, MA
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time DWW 02/17/23 1655
 Back-Sheet By / Date / Time DWW 02/17/23 1935
 Temperature Method GUN # 3
 Temp < 6° C Actual Temperature 4.2
 Rush Samples: Yes No Notify
 Short Hold: Yes No Notify

	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:	<input checked="" type="checkbox"/> <u>N/A</u>	<input type="checkbox"/>

Notes regarding Samples/COC outside of SOP:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	NaS2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						2			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

March 7, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 14 Leverett Road Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2995

Enclosed are results of analyses for samples as received by the laboratory on February 27, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 3/7/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2995

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

PROJECT LOCATION: 14 Leverett Road Shutesbury, Massachusetts

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
94 Leverett Road	23B2995-01	Ground Water		EPA 537.1	

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: 14 Leverett Road Shutesbury, Ma

Sample Description:

Work Order: 23B2995

Date Received: 2/27/2023

Field Sample #: 94 Leverett Road

Sampled: 2/23/2023 12:40

Sample ID: 23B2995-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.71	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.84	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.81	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.90	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Perfluorooctanoic acid (PFOA)	ND	1.8	0.93	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Perfluorooctanesulfonic acid (PFOS)	2.4	1.8	0.68	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	0.83	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	0.87	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.60	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.67	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.65	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.66	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.75	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.60	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.74	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.79	ng/L	1		EPA 537.1	3/1/23	3/3/23 11:23	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	85.4	70-130	3/3/23 11:23
M3HFPO-DA	81.4	70-130	3/3/23 11:23
13C-PFDA	99.2	70-130	3/3/23 11:23
D5-NEtFOSAA	99.8	70-130	3/3/23 11:23

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

Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2995-01 [94 Leverett Road]	B332936	277	1.00	03/01/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332936 - EPA 537.1
Blank (B332936-BLK1)

Prepared: 03/01/23 Analyzed: 03/03/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.71	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.84	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.81	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.90	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.93	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.68	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.83	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.86	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.60	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.68	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.67	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.65	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.66	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.75	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.60	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.73	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.79	ng/L							
Surrogate: 13C-PFHxA	35.8			ng/L	36.1		99.3	70-130			
Surrogate: M3HFPO-DA	36.2			ng/L	36.1		100	70-130			
Surrogate: 13C-PFDA	30.5			ng/L	36.1		84.5	70-130			
Surrogate: D5-NEtFOSAA	105			ng/L	144		72.5	70-130			

LCS (B332936-BS1)

Prepared: 03/01/23 Analyzed: 03/03/23

Perfluorobutanesulfonic acid (PFBS)	16.2	1.8	0.71	ng/L	15.9		102	70-130			
Perfluorohexanoic acid (PFHxA)	14.2	1.8	0.84	ng/L	18.0		79.2	70-130			
Perfluorohexanesulfonic acid (PFHxS)	12.6	1.8	0.80	ng/L	16.4		76.5	70-130			
Perfluoroheptanoic acid (PFHpA)	17.5	1.8	0.89	ng/L	18.0		97.5	70-130			
Perfluorooctanoic acid (PFOA)	14.6	1.8	0.93	ng/L	18.0		81.4	70-130			
Perfluorooctanesulfonic acid (PFOS)	17.0	1.8	0.68	ng/L	16.7		102	70-130			
Perfluorononanoic acid (PFNA)	15.5	1.8	0.83	ng/L	18.0		86.2	70-130			
Perfluorodecanoic acid (PFDA)	18.3	1.8	0.86	ng/L	18.0		102	70-130			
N-EtFOSAA (NEtFOSAA)	18.3	1.8	0.60	ng/L	18.0		102	70-130			
Perfluoroundecanoic acid (PFUnA)	18.4	1.8	0.68	ng/L	18.0		102	70-130			
N-MeFOSAA (NMeFOSAA)	18.6	1.8	0.67	ng/L	18.0		103	70-130			
Perfluorododecanoic acid (PFDoA)	18.6	1.8	0.64	ng/L	18.0		103	70-130			
Perfluorotridecanoic acid (PFTrDA)	18.4	1.8	0.66	ng/L	18.0		103	70-130			
Perfluorotetradecanoic acid (PFTA)	15.5	1.8	0.75	ng/L	18.0		86.0	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	13.4	1.8	1.1	ng/L	18.0		74.4	70-130			
11Cl-PF3OUdS (F53B Major)	17.3	1.8	0.60	ng/L	16.9		102	70-130			
9Cl-PF3ONS (F53B Minor)	17.2	1.8	0.73	ng/L	16.8		103	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	16.5	1.8	0.79	ng/L	17.0		97.3	70-130			
Surrogate: 13C-PFHxA	34.6			ng/L	35.9		96.1	70-130			
Surrogate: M3HFPO-DA	35.9			ng/L	35.9		99.9	70-130			
Surrogate: 13C-PFDA	35.6			ng/L	35.9		99.0	70-130			
Surrogate: D5-NEtFOSAA	147			ng/L	144		103	70-130			

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

QUALITY CONTROL
Semivolatle Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332936 - EPA 537.1
LCS Dup (B332936-BSD1)

Prepared: 03/01/23 Analyzed: 03/03/23

Perfluorobutanesulfonic acid (PFBS)	14.3	1.8	0.71	ng/L	16.0		89.7	70-130	12.5	30	
Perfluorohexanoic acid (PFHxA)	12.8	1.8	0.84	ng/L	18.0		71.3	70-130	10.4	30	
Perfluorohexanesulfonic acid (PFHxS)	11.6	1.8	0.81	ng/L	16.4		70.8	70-130	7.56	30	
Perfluoroheptanoic acid (PFHpA)	16.2	1.8	0.89	ng/L	18.0		89.9	70-130	8.02	30	
Perfluorooctanoic acid (PFOA)	13.9	1.8	0.93	ng/L	18.0		77.4	70-130	4.96	30	
Perfluorooctanesulfonic acid (PFOS)	15.9	1.8	0.68	ng/L	16.7		95.5	70-130	6.46	30	
Perfluorononanoic acid (PFNA)	14.6	1.8	0.83	ng/L	18.0		81.4	70-130	5.65	30	
Perfluorodecanoic acid (PFDA)	17.7	1.8	0.86	ng/L	18.0		98.7	70-130	2.90	30	
N-EtFOSAA (NEtFOSAA)	16.4	1.8	0.60	ng/L	18.0		91.2	70-130	11.1	30	
Perfluoroundecanoic acid (PFUnA)	17.6	1.8	0.68	ng/L	18.0		98.0	70-130	4.04	30	
N-MeFOSAA (NMeFOSAA)	16.8	1.8	0.67	ng/L	18.0		93.4	70-130	10.0	30	
Perfluorododecanoic acid (PFDoA)	17.9	1.8	0.64	ng/L	18.0		99.5	70-130	3.78	30	
Perfluorotridecanoic acid (PFTrDA)	18.6	1.8	0.66	ng/L	18.0		103	70-130	0.751	30	
Perfluorotetradecanoic acid (PFTA)	14.8	1.8	0.75	ng/L	18.0		82.1	70-130	4.48	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	12.6	1.8	1.1	ng/L	18.0		70.3	70-130	5.55	30	
11Cl-PF3OUdS (F53B Major)	16.4	1.8	0.60	ng/L	17.0		96.4	70-130	5.40	30	
9Cl-PF3ONS (F53B Minor)	15.7	1.8	0.73	ng/L	16.8		93.8	70-130	8.74	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	15.3	1.8	0.79	ng/L	17.0		89.9	70-130	7.86	30	
Surrogate: 13C-PFHxA	30.2			ng/L	36.0		84.0	70-130			
Surrogate: M3HFPO-DA	30.6			ng/L	36.0		85.2	70-130			
Surrogate: 13C-PFDA	32.6			ng/L	36.0		90.6	70-130			
Surrogate: D5-NEtFOSAA	133			ng/L	144		92.3	70-130			

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
DL	Method Detection Limit
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.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Tight & Bond
 Project PFAS Sample Collection
 MCP/RCP Required MA MCP
 Deliverable Package Req. _____
 Location Shutesbury, MA
 PWSID# (When Applicable) _____
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time 2-27-23 16:42
 Back-Sheet By / Date / Time 2-28-23 13:15
 Temperature Method GM # 3
 Temp < 6° C Actual Temperature 4.6
 Rush Samples: Yes / No Notify _____
 Short Hold: Yes / No Notify _____

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	Na2S2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						2			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

March 7, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 105 Leverett Rd, Shutesbury, MA
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2988

Enclosed are results of analyses for samples as received by the laboratory on February 27, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 3/7/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2988

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

PROJECT LOCATION: 105 Leverett Rd, Shutesbury, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
105 Leverett Road	23B2988-01	Ground Water		EPA 537.1	

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: 105 Leverett Rd, Shutesbury, MA

Sample Description:

Work Order: 23B2988

Date Received: 2/27/2023

Field Sample #: 105 Leverett Road

Sampled: 2/23/2023 14:10

Sample ID: 23B2988-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	1.6	1.8	0.71	ng/L	1	J	EPA 537.1	3/3/23	3/6/23 10:48	AMS
Perfluorohexanoic acid (PFHxA)	1.4	1.8	0.85	ng/L	1	J	EPA 537.1	3/3/23	3/6/23 10:48	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.81	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.90	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
Perfluorooctanoic acid (PFOA)	1.8	1.8	0.94	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
Perfluorooctanesulfonic acid (PFOS)	0.76	1.8	0.69	ng/L	1	J	EPA 537.1	3/3/23	3/6/23 10:48	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	0.83	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	0.87	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.60	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.67	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.65	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.66	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.76	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.60	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.74	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.80	ng/L	1		EPA 537.1	3/3/23	3/6/23 10:48	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	94.8	70-130	3/6/23 10:48
M3HFPO-DA	85.1	70-130	3/6/23 10:48
13C-PFDA	93.8	70-130	3/6/23 10:48
D5-NEtFOSAA	94.5	70-130	3/6/23 10:48

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

Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2988-01 [105 Leverett Road]	B332536	276	1.00	03/03/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332536 - EPA 537.1											
Blank (B332536-BLK1)						Prepared: 03/03/23 Analyzed: 03/06/23					
Perfluorobutanesulfonic acid (PFBS)	ND	2.1	0.82	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	2.1	0.97	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	2.1	0.93	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	2.1	1.0	ng/L							
Perfluorooctanoic acid (PFOA)	ND	2.1	1.1	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	2.1	0.79	ng/L							
Perfluorononanoic acid (PFNA)	ND	2.1	0.96	ng/L							
Perfluorodecanoic acid (PFDA)	ND	2.1	1.0	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	2.1	0.69	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	2.1	0.79	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	2.1	0.77	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	2.1	0.75	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	2.1	0.76	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	2.1	0.87	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	2.1	1.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	2.1	0.69	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	2.1	0.85	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	2.1	0.92	ng/L							
Surrogate: 13C-PFHxA	38.9			ng/L	41.7		93.4	70-130			
Surrogate: M3HFPO-DA	37.7			ng/L	41.7		90.4	70-130			
Surrogate: 13C-PFDA	41.5			ng/L	41.7		99.6	70-130			
Surrogate: D5-NEtFOSAA	176			ng/L	167		106	70-130			
LCS (B332536-BS1)						Prepared: 03/03/23 Analyzed: 03/06/23					
Perfluorobutanesulfonic acid (PFBS)	1.70	1.9	0.75	ng/L	1.70		100	50-150			J
Perfluorohexanoic acid (PFHxA)	1.50	1.9	0.90	ng/L	1.91		78.6	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.32	1.9	0.86	ng/L	1.75		75.2	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.93	1.9	0.95	ng/L	1.91		101	50-150			
Perfluorooctanoic acid (PFOA)	1.59	1.9	0.99	ng/L	1.91		82.8	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.79	1.9	0.72	ng/L	1.78		100	50-150			J
Perfluorononanoic acid (PFNA)	1.57	1.9	0.88	ng/L	1.91		82.0	50-150			J
Perfluorodecanoic acid (PFDA)	2.04	1.9	0.92	ng/L	1.91		107	50-150			
N-EtFOSAA (NEtFOSAA)	1.88	1.9	0.64	ng/L	1.91		98.1	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.82	1.9	0.73	ng/L	1.91		95.2	50-150			J
N-MeFOSAA (NMeFOSAA)	1.86	1.9	0.71	ng/L	1.91		97.2	50-150			J
Perfluorododecanoic acid (PFDoA)	1.67	1.9	0.69	ng/L	1.91		87.2	50-150			J
Perfluorotridecanoic acid (PFTrDA)	1.90	1.9	0.70	ng/L	1.91		99.1	50-150			
Perfluorotetradecanoic acid (PFTA)	1.37	1.9	0.80	ng/L	1.91		71.8	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.63	1.9	1.2	ng/L	1.91		84.9	50-150			J
11Cl-PF3OUdS (F53B Major)	1.58	1.9	0.63	ng/L	1.81		87.8	50-150			J
9Cl-PF3ONS (F53B Minor)	1.61	1.9	0.78	ng/L	1.79		90.4	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.78	1.9	0.84	ng/L	1.81		98.3	50-150			J
Surrogate: 13C-PFHxA	35.8			ng/L	38.3		93.4	70-130			
Surrogate: M3HFPO-DA	34.9			ng/L	38.3		91.2	70-130			
Surrogate: 13C-PFDA	36.4			ng/L	38.3		95.1	70-130			
Surrogate: D5-NEtFOSAA	157			ng/L	153		103	70-130			

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

QUALITY CONTROL
Semivolatle Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332536 - EPA 537.1											
LCS Dup (B332536-BSD1)											
						Prepared: 03/03/23 Analyzed: 03/06/23					
Perfluorobutanesulfonic acid (PFBS)	1.52	1.9	0.73	ng/L	1.64		92.4	50-150	11.4	50	J
Perfluorohexanoic acid (PFHxA)	1.35	1.9	0.87	ng/L	1.85		72.8	50-150	11.0	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.29	1.9	0.83	ng/L	1.69		76.1	50-150	2.11	50	J
Perfluoroheptanoic acid (PFHpA)	1.67	1.9	0.92	ng/L	1.85		90.3	50-150	14.3	50	J
Perfluorooctanoic acid (PFOA)	1.52	1.9	0.96	ng/L	1.85		82.1	50-150	4.08	50	J
Perfluorooctanesulfonic acid (PFOS)	1.57	1.9	0.70	ng/L	1.72		91.6	50-150	12.5	50	J
Perfluorononanoic acid (PFNA)	1.40	1.9	0.85	ng/L	1.85		75.8	50-150	11.2	50	J
Perfluorodecanoic acid (PFDA)	2.04	1.9	0.89	ng/L	1.85		110	50-150	0.129	50	
N-EtFOSAA (NEtFOSAA)	1.53	1.9	0.62	ng/L	1.85		82.7	50-150	20.2	50	J
Perfluoroundecanoic acid (PFUnA)	1.60	1.9	0.70	ng/L	1.85		86.6	50-150	12.8	50	J
N-MeFOSAA (NMeFOSAA)	1.66	1.9	0.69	ng/L	1.85		89.8	50-150	11.1	50	J
Perfluorododecanoic acid (PFDoA)	1.32	1.9	0.66	ng/L	1.85		71.0	50-150	23.7	50	J
Perfluorotridecanoic acid (PFTrDA)	1.65	1.9	0.68	ng/L	1.85		89.2	50-150	13.8	50	J
Perfluorotetradecanoic acid (PFTA)	1.26	1.9	0.77	ng/L	1.85		67.8	50-150	9.07	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.57	1.9	1.1	ng/L	1.85		84.8	50-150	3.49	50	J
11Cl-PF3OUdS (F53B Major)	1.45	1.9	0.61	ng/L	1.75		83.0	50-150	8.88	50	J
9Cl-PF3ONS (F53B Minor)	1.64	1.9	0.75	ng/L	1.73		94.9	50-150	1.55	50	J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.58	1.9	0.81	ng/L	1.75		90.5	50-150	11.5	50	J
Surrogate: 13C-PFHxA	34.8			ng/L	37.0		93.9	70-130			
Surrogate: M3HFPO-DA	34.3			ng/L	37.0		92.6	70-130			
Surrogate: 13C-PFDA	35.2			ng/L	37.0		94.9	70-130			
Surrogate: D5-NEtFOSAA	149			ng/L	148		101	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Tigre & Bond
 Project PFAS Sample Collection
 MCP/RCP Required MA MCP
 Deliverable Package Req. _____
 Location Shutesbury, MA
 PWSID# (When Applicable) _____
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time 2-27-23 16:42
 Back-Sheet By / Date / Time 2-28-23 13:15
 Temperature Method GLT # 3
 Temp < 6° C Actual Temperature 4.6
 Rush Samples: Yes / No Notify _____
 Short Hold: Yes / No Notify _____

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	NaS2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber Plastic									
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									

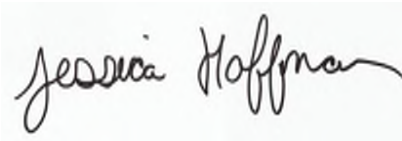
February 28, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: Shutesbury, Massachusetts 113 Leverett Rd
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2165

Enclosed are results of analyses for samples as received by the laboratory on February 17, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/28/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2165

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

PROJECT LOCATION: Shutesbury, Massachusetts

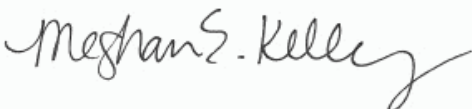
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
113 Leverett Road	23B2165-01	Ground Water		EPA 537.1	

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: Shutesbury, Massachusetts

Sample Description:

Work Order: 23B2165

Date Received: 2/17/2023

Field Sample #: 113 Leverett Road

Sampled: 2/16/2023 10:30

Sample ID: 23B2165-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	1.6	1.8	0.70	ng/L	1	J	EPA 537.1	2/22/23	2/27/23 9:38	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.83	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.80	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.88	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
Perfluorooctanoic acid (PFOA)	1.5	1.8	0.92	ng/L	1	J	EPA 537.1	2/22/23	2/27/23 9:38	AMS
Perfluorooctanesulfonic acid (PFOS)	1.6	1.8	0.67	ng/L	1	J	EPA 537.1	2/22/23	2/27/23 9:38	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	0.82	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	0.85	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.59	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.67	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.66	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.64	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.65	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.74	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.59	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.72	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.78	ng/L	1		EPA 537.1	2/22/23	2/27/23 9:38	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	116	70-130	2/27/23 9:38
M3HFPO-DA	109	70-130	2/27/23 9:38
13C-PFDA	119	70-130	2/27/23 9:38
D5-NEtFOSAA	124	70-130	2/27/23 9:38

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

Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2165-01 [113 Leverett Road]	B332209	281	1.00	02/22/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332209 - EPA 537.1
Blank (B332209-BLK1)

Prepared: 02/22/23 Analyzed: 02/27/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.72	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.85	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.82	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.91	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.94	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.69	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.84	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.87	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.60	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.68	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.65	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.66	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.76	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.60	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.74	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.80	ng/L							
Surrogate: 13C-PFHxA	33.5			ng/L	36.4		92.0	70-130			
Surrogate: M3HFPO-DA	33.0			ng/L	36.4		90.5	70-130			
Surrogate: 13C-PFDA	34.9			ng/L	36.4		95.9	70-130			
Surrogate: D5-NEtFOSAA	141			ng/L	146		96.8	70-130			

LCS (B332209-BS1)

Prepared: 02/22/23 Analyzed: 02/27/23

Perfluorobutanesulfonic acid (PFBS)	9.40	1.8	0.72	ng/L	8.07		116	70-130			
Perfluorohexanoic acid (PFHxA)	8.56	1.8	0.85	ng/L	9.10		94.1	70-130			
Perfluorohexanesulfonic acid (PFHxS)	7.71	1.8	0.81	ng/L	8.32		92.7	70-130			
Perfluoroheptanoic acid (PFHpA)	10.7	1.8	0.90	ng/L	9.10		118	70-130			
Perfluorooctanoic acid (PFOA)	8.96	1.8	0.94	ng/L	9.10		98.4	70-130			
Perfluorooctanesulfonic acid (PFOS)	10.6	1.8	0.69	ng/L	8.45		125	70-130			
Perfluorononanoic acid (PFNA)	9.71	1.8	0.84	ng/L	9.10		107	70-130			
Perfluorodecanoic acid (PFDA)	11.3	1.8	0.87	ng/L	9.10		124	70-130			
N-EtFOSAA (NEtFOSAA)	11.1	1.8	0.60	ng/L	9.10		122	70-130			
Perfluoroundecanoic acid (PFUnA)	10.8	1.8	0.69	ng/L	9.10		119	70-130			
N-MeFOSAA (NMeFOSAA)	11.3	1.8	0.68	ng/L	9.10		125	70-130			
Perfluorododecanoic acid (PFDoA)	11.1	1.8	0.65	ng/L	9.10		122	70-130			
Perfluorotridecanoic acid (PFTrDA)	11.0	1.8	0.66	ng/L	9.10		120	70-130			
Perfluorotetradecanoic acid (PFTA)	8.43	1.8	0.76	ng/L	9.10		92.7	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.69	1.8	1.1	ng/L	9.10		95.4	70-130			
11Cl-PF3OUdS (F53B Major)	10.4	1.8	0.60	ng/L	8.58		121	70-130			
9Cl-PF3ONS (F53B Minor)	10.5	1.8	0.74	ng/L	8.49		123	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.97	1.8	0.80	ng/L	8.60		116	70-130			
Surrogate: 13C-PFHxA	37.8			ng/L	36.4		104	70-130			
Surrogate: M3HFPO-DA	36.8			ng/L	36.4		101	70-130			
Surrogate: 13C-PFDA	38.6			ng/L	36.4		106	70-130			
Surrogate: D5-NEtFOSAA	156			ng/L	146		107	70-130			

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B332209 - EPA 537.1
LCS Dup (B332209-BSD1)

Prepared: 02/22/23 Analyzed: 02/27/23

Perfluorobutanesulfonic acid (PFBS)	8.78	1.8	0.72	ng/L	8.08		109	70-130	6.85	30	
Perfluorohexanoic acid (PFHxA)	8.03	1.8	0.85	ng/L	9.11		88.1	70-130	6.45	30	
Perfluorohexanesulfonic acid (PFHxS)	6.99	1.8	0.82	ng/L	8.33		83.9	70-130	9.81	30	
Perfluoroheptanoic acid (PFHpA)	10.1	1.8	0.91	ng/L	9.11		111	70-130	5.49	30	
Perfluorooctanoic acid (PFOA)	8.79	1.8	0.94	ng/L	9.11		96.4	70-130	1.96	30	
Perfluorooctanesulfonic acid (PFOS)	9.23	1.8	0.69	ng/L	8.45		109	70-130	13.8	30	
Perfluorononanoic acid (PFNA)	8.98	1.8	0.84	ng/L	9.11		98.6	70-130	7.79	30	
Perfluorodecanoic acid (PFDA)	10.7	1.8	0.87	ng/L	9.11		118	70-130	5.23	30	
N-EtFOSAA (NEtFOSAA)	9.84	1.8	0.60	ng/L	9.11		108	70-130	11.9	30	
Perfluoroundecanoic acid (PFUnA)	10.2	1.8	0.69	ng/L	9.11		112	70-130	5.55	30	
N-MeFOSAA (NMeFOSAA)	9.96	1.8	0.68	ng/L	9.11		109	70-130	12.9	30	
Perfluorododecanoic acid (PFDoA)	10.3	1.8	0.65	ng/L	9.11		113	70-130	7.09	30	
Perfluorotridecanoic acid (PFTrDA)	10.2	1.8	0.66	ng/L	9.11		112	70-130	7.17	30	
Perfluorotetradecanoic acid (PFTA)	8.19	1.8	0.76	ng/L	9.11		89.9	70-130	2.97	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.92	1.8	1.1	ng/L	9.11		86.9	70-130	9.23	30	
11Cl-PF3OUdS (F53B Major)	9.42	1.8	0.60	ng/L	8.59		110	70-130	9.69	30	
9Cl-PF3ONS (F53B Minor)	9.55	1.8	0.74	ng/L	8.50		112	70-130	9.11	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.26	1.8	0.80	ng/L	8.61		108	70-130	7.39	30	
Surrogate: 13C-PFHxA	37.5			ng/L	36.4		103	70-130			
Surrogate: M3HFPO-DA	37.0			ng/L	36.4		101	70-130			
Surrogate: 13C-PFDA	38.2			ng/L	36.4		105	70-130			
Surrogate: D5-NEtFOSAA	150			ng/L	146		103	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

2302165
15

Doc # 381 Rev 2_06/26/2019

39 Spruce Street
East Longmeadow, MA 01026

https://www.pacelabs.com/

Phone: 413-525-2332
Fax: 413-525-6405

Page ___ of ___

Face Analytical
Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/
Company Address: 53 Southampton Road, Westfield, Massachusetts
Tighe & Bond
Phone: (413) 562-1600
Project Name: PFAS Sample Collection - Shutesbury
Project Location: Shutesbury, Massachusetts
Project Number: S-2190
Project Manager: Jeff Atps
Face Analytical Quote Name/Number: Town of Shutesbury
Invoice Recipient: Samuel Evans
Sampled By: Samuel Evans

Requested Turnaround Time
7-Day 10-Day
PFAS 10-Day (Std) Due Date:
1-Day 3-Day
2-Day 4-Day

Analysis Requested
Dissolved Inorganic Samples
 Field Filtered
 Lab to Filter
Orthophosphate Samples
 Field Filtered
 Lab to Filter

Matrix Codes
GW - Ground Water
WW - Waste Water
DW - Drinking Water
A - Air S - Soil
SL - Sludge
SOL - Solids
O - Other
Preservation Codes
I = Iced
H = HCL
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
M = Methanol
DI = DI Water
O = Other

Special Requirements
MA MCP Required
MCP Certification Form Required
CT RCP Required
RCP Certification Form Required
MA State DW Required
PHSID #

Project Entity
Government Municipality WRTA Other
Federal 21 J School
City Brownfield MBTA

Comments:
Disclaimer: Face 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. Face Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Relinquished by: (signature) Samuel Evans Date/Time: 2/17/23 0800
Received by: (signature) [Signature] Date/Time: 2/17/23 12
Relinquished by: (signature) [Signature] Date/Time: 2/17/23 1655
Received by: (signature) [Signature] Date/Time: 2/17/23 1655

Analysis Requested Grid:

Matrix	Analysis	Requested	Special Requirements	Other
GW	Asbestos			
GW	Lead			
GW	Cadmium			
GW	Copper			
GW	Iron			
GW	Manganese			
GW	Nickel			
GW	Selenium			
GW	Zinc			
GW	Vanadium			
GW	Chromium			
GW	Molybdenum			
GW	Fluoride			
GW	Ammonia			
GW	Nitrate			
GW	Nitrite			
GW	Phosphate			
GW	Sulfate			
GW	Chloride			
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GW	Ammonia			
GW	Nitrate			
GW	Nitrite			
GW	Phosphate			
GW	Sulfate			

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.pacelabs.com

Log In Back-Sheet

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



Client Tighe + Bond
 Project PFAS Sample Coll. - Shutesbury
 MCP/RCP Required MCP Req'd
 Deliverable Package Req. N/A
 Location Shutesbury, MA
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk in Other
 Received By / Date / Time DWJ 02/17/23 1655
 Back-Sheet By / Date / Time DWJ 02/17/23 1905
 Temperature Method GUN # 3
 Temp < 6° C Actual Temperature 4.2
 Rush Samples: Yes No Notify
 Short Hold: Yes No Notify

	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:	<input checked="" type="checkbox"/> <u>N/A</u>	<input type="checkbox"/>

Notes regarding Samples/COC outside of SOP:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	NaS2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						2			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	D!	Thiosulfate	Sulfuric	Other
Vials									

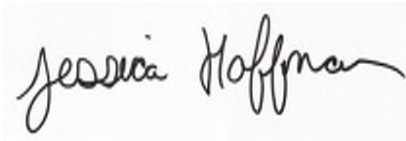
February 24, 2023

Jeff Arps
Tighe & Bond
53 Southampton Road
Westfield, MA 01085

Project Location: 117 Leverett Road Shutesbury, Massachusetts
Client Job Number:
Project Number: S-2190
Laboratory Work Order Number: 23B2148

Enclosed are results of analyses for samples as received by the laboratory on February 17, 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
53 Southampton Road
Westfield, MA 01085
ATTN: Jeff Arps

REPORT DATE: 2/24/2023

PURCHASE ORDER NUMBER: 57-101490

PROJECT NUMBER: S-2190

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23B2148

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

PROJECT LOCATION: 117 Leverett Road Shutesbury, Massachusetts

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
117 Leverett Road	23B2148-01	Ground Water		EPA 537.1	

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: 117 Leverett Road Shutesbury, M

Sample Description:

Work Order: 23B2148

Date Received: 2/17/2023

Field Sample #: 117 Leverett Road

Sampled: 2/16/2023 10:25

Sample ID: 23B2148-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.69	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.82	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.79	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.87	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Perfluorooctanoic acid (PFOA)	ND	1.8	0.91	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.66	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	0.81	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	0.84	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.58	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.67	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.65	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.63	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.64	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.73	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.58	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.72	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.77	ng/L	1		EPA 537.1	2/21/23	2/23/23 12:28	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual
13C-PFHxA	98.7	70-130	2/23/23 12:28
M3HFPO-DA	96.4	70-130	2/23/23 12:28
13C-PFDA	99.8	70-130	2/23/23 12:28
D5-NEtFOSAA	106	70-130	2/23/23 12:28

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23B2148-01 [117 Leverett Road]	B332208	285	1.00	02/21/23

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	----	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B332208 - EPA 537.1
Blank (B332208-BLK1)

Prepared: 02/21/23 Analyzed: 02/23/23

Perfluorobutanesulfonic acid (PFBS)	ND	1.8	0.72	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	0.86	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	0.82	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	0.91	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	0.95	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	0.69	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	0.84	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	0.88	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	0.61	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	0.69	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	0.68	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	0.66	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	0.67	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	0.76	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	1.1	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	0.61	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	0.75	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	0.80	ng/L							
Surrogate: 13C-PFHxA	32.3			ng/L	36.6		88.2	70-130			
Surrogate: M3HFPO-DA	33.4			ng/L	36.6		91.2	70-130			
Surrogate: 13C-PFDA	33.1			ng/L	36.6		90.4	70-130			
Surrogate: D5-NEtFOSAA	137			ng/L	146		93.4	70-130			

LCS (B332208-BS1)

Prepared: 02/21/23 Analyzed: 02/23/23

Perfluorobutanesulfonic acid (PFBS)	1.35	1.8	0.72	ng/L	1.62		83.5	50-150			J
Perfluorohexanoic acid (PFHxA)	1.29	1.8	0.85	ng/L	1.83		70.8	50-150			J
Perfluorohexanesulfonic acid (PFHxS)	1.15	1.8	0.82	ng/L	1.67		69.1	50-150			J
Perfluoroheptanoic acid (PFHpA)	1.51	1.8	0.91	ng/L	1.83		82.9	50-150			J
Perfluorooctanoic acid (PFOA)	1.29	1.8	0.94	ng/L	1.83		70.8	50-150			J
Perfluorooctanesulfonic acid (PFOS)	1.48	1.8	0.69	ng/L	1.69		87.4	50-150			J
Perfluorononanoic acid (PFNA)	1.36	1.8	0.84	ng/L	1.83		74.6	50-150			J
Perfluorodecanoic acid (PFDA)	1.74	1.8	0.88	ng/L	1.83		95.2	50-150			J
N-EtFOSAA (NEtFOSAA)	1.48	1.8	0.61	ng/L	1.83		81.0	50-150			J
Perfluoroundecanoic acid (PFUnA)	1.49	1.8	0.69	ng/L	1.83		81.6	50-150			J
N-MeFOSAA (NMeFOSAA)	1.48	1.8	0.68	ng/L	1.83		81.1	50-150			J
Perfluorododecanoic acid (PFDoA)	1.30	1.8	0.65	ng/L	1.83		71.4	50-150			J
Perfluorotridecanoic acid (PFTrDA)	1.66	1.8	0.67	ng/L	1.83		91.2	50-150			J
Perfluorotetradecanoic acid (PFTA)	1.41	1.8	0.76	ng/L	1.83		77.0	50-150			J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.66	1.8	1.1	ng/L	1.83		90.8	50-150			J
11Cl-PF3OUdS (F53B Major)	1.37	1.8	0.61	ng/L	1.72		79.5	50-150			J
9Cl-PF3ONS (F53B Minor)	1.36	1.8	0.74	ng/L	1.70		80.1	50-150			J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.40	1.8	0.80	ng/L	1.73		81.3	50-150			J
Surrogate: 13C-PFHxA	31.6			ng/L	36.5		86.6	70-130			
Surrogate: M3HFPO-DA	31.8			ng/L	36.5		87.0	70-130			
Surrogate: 13C-PFDA	30.9			ng/L	36.5		84.6	70-130			
Surrogate: D5-NEtFOSAA	125			ng/L	146		85.6	70-130			

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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B332208 - EPA 537.1											
LCS Dup (B332208-BSD1)											
						Prepared: 02/21/23 Analyzed: 02/23/23					
Perfluorobutanesulfonic acid (PFBS)	1.49	1.8	0.72	ng/L	1.62		91.9	50-150	9.55	50	J
Perfluorohexanoic acid (PFHxA)	1.48	1.8	0.85	ng/L	1.83		81.1	50-150	13.7	50	J
Perfluorohexanesulfonic acid (PFHxS)	1.40	1.8	0.82	ng/L	1.67		83.8	50-150	19.3	50	J
Perfluoroheptanoic acid (PFHpA)	1.88	1.8	0.91	ng/L	1.83		103	50-150	21.4	50	
Perfluorooctanoic acid (PFOA)	1.54	1.8	0.94	ng/L	1.83		84.4	50-150	17.6	50	J
Perfluorooctanesulfonic acid (PFOS)	1.73	1.8	0.69	ng/L	1.70		102	50-150	15.7	50	J
Perfluorononanoic acid (PFNA)	1.54	1.8	0.84	ng/L	1.83		84.2	50-150	12.1	50	J
Perfluorodecanoic acid (PFDA)	2.02	1.8	0.88	ng/L	1.83		110	50-150	14.7	50	
N-EtFOSAA (NEtFOSAA)	1.65	1.8	0.61	ng/L	1.83		90.5	50-150	11.2	50	J
Perfluoroundecanoic acid (PFUnA)	1.79	1.8	0.69	ng/L	1.83		98.0	50-150	18.3	50	J
N-MeFOSAA (NMeFOSAA)	1.69	1.8	0.68	ng/L	1.83		92.6	50-150	13.4	50	J
Perfluorododecanoic acid (PFDoA)	1.54	1.8	0.66	ng/L	1.83		84.2	50-150	16.6	50	J
Perfluorotridecanoic acid (PFTTrDA)	1.86	1.8	0.67	ng/L	1.83		102	50-150	11.1	50	
Perfluorotetradecanoic acid (PFTA)	1.32	1.8	0.76	ng/L	1.83		72.3	50-150	6.22	50	J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.58	1.8	1.1	ng/L	1.83		86.5	50-150	4.80	50	J
11Cl-PF3OUdS (F53B Major)	1.72	1.8	0.61	ng/L	1.72		99.6	50-150	22.5	50	J
9Cl-PF3ONS (F53B Minor)	1.69	1.8	0.74	ng/L	1.71		99.3	50-150	21.5	50	J
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.76	1.8	0.80	ng/L	1.73		102	50-150	22.5	50	J
Surrogate: 13C-PFHxA	34.0			ng/L	36.5		93.0	70-130			
Surrogate: M3HFPO-DA	34.3			ng/L	36.5		93.8	70-130			
Surrogate: 13C-PFDA	33.3			ng/L	36.5		91.0	70-130			
Surrogate: D5-NEtFOSAA	137			ng/L	146		93.6	70-130			

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
DL	Method Detection Limit
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.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 537.1 in Drinking Water</i>	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
11CI-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
9CI-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2023
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2023
ME	State of Maine	MA00100	06/9/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2023
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2023

39 Spruce St.
 East Longmeadow, MA. 01028
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Log In Back-Sheet

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



Client Tighe + Bond
 Project PFAS Sample Coll. - Shutesbury
 MCP/RCP Required MCP Req'd
 Deliverable Package Req. N/A
 Location Shutesbury, MA
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier Fed Ex Walk In Other
 Received By / Date / Time DWN 02/17/23 1655
 Back-Sheet By / Date / Time DWN 02/17/23 1905
 Temperature Method GUN # 3
 Temp < 6° C Actual Temperature 4.2
 Rush Samples: Yes / No Notify
 Short Hold: Yes / No Notify

	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:

Container (Circle when applicable)	UnP	HCl	HNO3	H2SO4	NaOH	Trizma	NaS2O3	Other Preservative	
1L Amber Plastic									
500 mL Amber Plastic									
250 mL Amber <u>Plastic</u>						2			
Other Amber Clear Plastic									
16oz Amber Clear									
8oz Amber Clear									
4oz Amber Clear									
2oz Amber Clear									
Col/Bacteria									
Flashpoint									
Plastic Bag									
SOC Kit									
Perchlorate									
Encore									
Frozen									
	Proper Headspace	UnP	HCl	MeOH	Bisulfate	DI	Thiosulfate	Sulfuric	Other
Vials									