

**DES Waste Management Division  
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**SUPPLEMENTAL SITE INVESTIGATION REPORT**

**North Hampton Municipal Complex  
231-235 Atlantic Avenue  
North Hampton, New Hampshire**

**NHDES Site #201904026  
Project #39130**

**Prepared For:**

Town of North Hampton  
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Date of Report: December 20, 2021  
StoneHill Project No. 2021003

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**SUPPLEMENTAL SITE INVESTIGATION REPORT**

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**1.0 INTRODUCTION**

StoneHill Environmental (StoneHill) has prepared this Supplemental Site Investigation (SSI) Report in response to the request by New Hampshire Department of Environmental Services (NHDES) in a letter to the Town of North Hampton (Town) dated October 8, 2020. The SSI Report was prepared in general accordance with New Hampshire Code of Administrative Rules Part Env-Or 606.03 through 606.09, and a Work Plan prepared by StoneHill delivered to NHDES on February 24, 2021.

The subject property is located at 231-235 Atlantic Avenue in the town of North Hampton, New Hampshire (Site). The Site is the location of the town municipal complex which includes the fire station and Town offices. The Site location is shown on Figure 1 – Site Locus Map. The Site is listed by NHDES as Site Number 201904026, Project Number 39130. The SSI was conducted to further assess the nature and extent of groundwater contamination related to a possible release of per- and polyfluoroalkyl substances (PFAS) from unknown sources. In addition, the SSI was conducted to identify public and environmental receptors potentially impacted by the release, and to help support development of additional investigation and/or remedial actions for the Site as appropriate.

**2.0 BACKGROUND**

During NHDES regulated groundwater sampling activities associated with two commercial properties at 227 (Lot 7/150) and 227A (Lot 7/149) Atlantic Avenue in 2017 and 2018, PFAS compounds were detected in groundwater samples at concentrations exceeding applicable NHDES Ambient Groundwater Quality Standards (AGQS). In response to these findings, Sanborn Head & Associates, Inc. (SHA) was retained by NHDES to complete an Abbreviated Preliminary Assessment (APA) and a follow-up Site Inspection assessment in November 2019 and March 2020, respectively. These studies provide in depth details of the Site and vicinity history and property uses. Technical reports prepared by SHA documenting the findings of the APA and Site Inspection are available on the NHDES OneStop database. As a result of these studies, Notification of Groundwater Quality Violations were filed for two additional properties at 233/235 Atlantic Avenue and 231 Atlantic Avenue, properties including Town of North Hampton Fire Department and Town Hall. The SHA assessment activities identified the historical storage and use of Class B aqueous film-forming foam (AFFF) at the North Hampton Fire Department facility. AFFF has been identified as a source for PFAS compounds at other locations, and its presence was identified by SHA as a potential source for the PFAS compounds in the study area. Of particular concern was the presence of a floor drain system at the Fire Department which was connected to a former oil/water separator that discharged to the on-site storm drain system.



The activities completed on the Site by SHA during the Site Inspection included the completion of five overburden soil borings that met shallow refusals on bedrock and the collection of four soil samples for PFAS analyses. The soil analytical results did not detect PFAS above method reporting limits. However, a groundwater sample collected from one temporary monitoring well (SH-06W) installed by SHA at the presumed downgradient property boundary to the northeast did contain PFAS compounds at elevated concentrations. PFAS compounds had also been detected at concentrations above AGQS in samples from multiple monitoring wells on the Hero BX property to the northeast (Lot 7/149), including in a sample from the on-site water supply well installed in bedrock, and in a nearby surface water sample. In response to the PFAS detections, both on the Site and at off-Site locations, NHDES issued a letter to the Town dated October 8, 2020, requesting completion of an SSI at the municipal complex to further investigate the PFAS impacts in the study area.

### 3.0 SCOPE OF WORK AND PROJECT INITIATION

PFAS compounds had been detected in samples from shallow overburden groundwater, bedrock groundwater, and surface water in the Site vicinity. As such, StoneHill proposed an approach that provided a more comprehensive evaluation of likely PFAS source areas relative to overburden and bedrock groundwater impacts. Given the shallow refusals encountered by SHA at on-Site soil boring locations, a substantial portion of the investigation was dedicated to evaluation of shallow bedrock groundwater. The SSI activities consisted of background research; sensitive receptor survey; obtaining Dig Safe clearance for subsurface investigation; the advancement of seven soil borings with six completed as groundwater monitoring wells; stormwater catch basin sediment sampling; groundwater sampling and analyses at the newly installed monitoring wells; well elevation survey; surface water sampling; private water supply sampling; data review; and preparation of this report. This SSI Report is subject to the limitations presented in **Section 9.0**.

StoneHill conducted a review of available background files and hydrogeologic information in preparation for a Site visit to identify the locations of soil borings and groundwater monitoring wells to be installed as part of the SSI. The boring locations were pre-marked in the field for utility clearance by Dig Safe's member utilities. StoneHill prepared a base site plan and a Site Health and Safety Plan as required by the OSHA in 29 Code of Federal Regulations 1910.120. This task also included a kick-off meeting by the members of the StoneHill team to plan and schedule field activities.

### 4.0 SITE DESCRIPTION AND ENVIRONMENTAL SETTING

The subject properties are in the town of North Hampton, New Hampshire, east of the intersection of Atlantic Avenue and Lafayette Road (US Route 1), **See Figure 1 – Site Locus Map**. The properties are identified as Map 7/Lot 146 and Map 7/Lot 147 by the Town of North Hampton Assessor's Department. The facility is the municipal complex which includes town offices and a fire station. The surrounding area consists of a mix of commercial and residential use. Current usage of abutting or nearby properties includes residential to the north, south, and west. Commercial properties are located to the east and northeast. The nature of the surrounding land development is shown on **Figure 2 – Study Area Overview**.

The Site and most of the surrounding area properties are supplied with drinking water via a municipal public water supply system operated by Aquarion Water Company (Aquarion). All residential properties immediately adjacent to the Site property are serviced by municipal water. According to the Town of North Hampton Building Department and on-Site inspections, the Site is serviced with an on-site septic system and leaching field.

The Site elevation is approximately 100 feet above mean sea level. The Site is generally flat with gentle slopes to the north-northeast and the south. The closest surface water features are wetlands and a tributary to the Little River approximately 500 feet to the northeast, and wetlands approximately 400 feet to the south across Atlantic Avenue. The bedrock in the study area is mapped as the Rye Complex and described as light-colored gray schists and gneisses, quartzites, and amphibolites.

### 5.0 FIELD INVESTIGATIONS

#### 5.1 Soil Borings and Installation of Monitoring Wells

Due to the potential presence of a PFAS source and the detected presence of PFAS in a nearby bedrock water supply well, the SSI work plan included the installation of both overburden and shallow bedrock monitoring wells. StoneHill coordinated and oversaw subcontracted drilling services provided by GeoSearch Environmental Contractors (GeoSearch) of Sterling, Massachusetts, for advancement of seven soil borings, all of which were converted to groundwater monitoring wells, except soil boring B-1. The soil boring/monitoring wells were installed at the locations shown on **Figure 3 – Site Features and Monitoring Well Locations**. Well installation and construction logs are provided in **Appendix A**. One monitoring well couplet, MW-2/MW-2R, was constructed to include an overburden water table well and a shallow bedrock well adjacent to the decommissioned oil-water separator location. Two additional shallow bedrock monitoring wells were installed; one in the southwest corner of the property (MW-4R) and the other just north/northeast of the fire station and on-Site leach field (MW-3R). Overburden wells were installed in northern on-Site locations (MW-5 and MW-6) anticipated to be downgradient of the Fire Station and the oil/water separator with respect to the interpreted direction of groundwater flow. A summary of the drilling program and rationales for the monitoring well locations are shown in the following table.

## StoneHill Environmental

WELL ID	TYPE	BDRX DEPTH	BDRX CASING DEPTH	BORING/WELL DEPTH	RATIONALE
B-1 <del>MW-1</del>	OB	1'	NA	15'	NW corner – Groundwater not encountered, well not installed
MW-2R	Bdrx	14'	19'	30'	Adjacent to OWS/possible source
MW-2	OB	NA	NA	12'	Adjacent to OWS/potential source
MW-3R	Bdrx	13'	18'	28'	N property boundary, downgradient of potential source
MW-4R	Bdrx	14'	18.5'	40'	SW corner, potential up- or down-gradient of source
MW-5	OB	NA	NA	12'	NE corner, likely downgradient of source, near SH-06W
MW-6	OB	NA	NA	13.5'	N boundary at location of former DPW Building

**Notes:**

- OB = Overburden water table well
- Bdrx = Shallow bedrock well
- OWS = Former oil/water separator
- NA = Not applicable

A truck-mounted drill rig operated by GeoSearch was utilized to complete soil borings and monitoring wells. The bedrock groundwater wells were completed by drilling with 4.25-inch inside diameter hollow stem augers until refusal was encountered, followed by air hammering (by air-rotary drilling methods) a socket several feet into competent bedrock to seat 4-inch diameter steel casings. The steel casings were then grouted in place with a mixture of bentonite and Portland cement as the augers were removed. The grout was then allowed to cure for a minimum of 24 hours. The bedrock wells were then completed by air hammering with a 3-3/4-inch diameter bit to the completion depth where sufficient groundwater for sampling was encountered.

The overburden groundwater wells were drilled by hollow stem auger techniques with 4.25-inch inner diameter augers and completed as 2-inch diameter PVC monitoring wells. Overburden monitoring wells were installed at the proposed locations except for MW-1 which was not installed due to the lack of observed groundwater in either overburden or in bedrock fractures at this location. Instead, soil boring B-6 located along the northern property boundary was completed as an overburden monitoring well MW-6. The overburden monitoring wells were constructed with five feet of two-inch diameter PVC slotted well screen and solid riser. A clean filter sand pack was placed between the well casing and borehole wall to a depth of at least two feet above the top of the well screen and topped with a one-foot-thick bentonite seal. The remainder of the borehole annulus was backfilled with drill cuttings or filter sand. All monitoring wells were completed at the surface with a flush-mounted steel protective road boxes set in a concrete pad.

Well development was conducted one week following the completion of well installations on April 28, 2021, by the pump and surge methodology utilizing a surge block. On May 17, 2021, the top-of-casing elevations for each well were determined by a level survey referenced to the top of the storm drain grate (CB-1) located south of monitoring wells MW-2/2R which was assigned an elevation of 100.00. Synoptic water levels were measured on three occasions and the results are provided in **Table 1- Groundwater Elevation Data**.

## 5.2 Monitoring Well Sampling

One round of groundwater samples was collected from the six newly installed monitoring wells. The sampling event was performed on May 17, 2021, after the wells had been allowed to equilibrate for over two weeks since well development. Groundwater sampling methods conformed to NHDES published guidelines for PFAS groundwater sampling. Prior to purging and sampling the monitoring wells, water table depths were measured using an electronic water level indicator. The monitoring wells were purged prior to sampling by removal of water with a polyethylene bailer dedicated to each well, until the equivalent of at least three volumes of the standing water in the casing were removed. The groundwater samples were then collected using the polyethylene bailer dedicated to each well. The groundwater samples were transferred into the appropriate containers supplied by the laboratory, placed in an insulated cooler with ice, and transported to the analytical laboratory with appropriate chain of custody documentation. As quality assurance/quality control (QA/QC) measures, a trip blank water sample supplied by the laboratory accompanied the sample bottles during the sampling events and a field blank was also collected. Sheens or odors were not encountered in purge water obtained from any of the monitoring wells. The groundwater samples were submitted for isotope dilution analysis of PFAS using EPA Method 537 (Modified). The analyses included 29 PFAS compounds, including the four (4) regulated compounds: perfluorooctanoic acid (PFOA), perfluorononanoic acid (PFNA), perfluorohexane sulfonate (PFHxS), and perfluorooctane sulfonic acid (PFOS). The analytical results are summarized in **Table 2 – Summary of Groundwater PFAS Analyses**. Laboratory analytical reports are provided in **Appendix B**.

## 5.3 Basin Sediment Sampling

On May 17, 2021, StoneHill collected a sediment sample from the on-Site catch basin (CB-1), which may have received fire equipment wash water runoff associated with fire department operations and historically discharges from the former oil/water separator which was connected to the stormwater drainage system. The sediment sample was collected by removing the storm drain cover and retrieving a sediment sample with a hand auger from the sediment surface to a depth of two feet. The sediment sample was submitted for isotope dilution analysis of PFAS using EPA Method 537 (Modified). The analyses included 29 PFAS compounds, including the four (4) regulated compounds: PFOA, PFNA, PFHxS, and PFOS. The analytical results are summarized in **Table 5 – Summary of Soil PFAS Analyses**. Table 5 also includes the analytical results for soil samples collected from soil borings completed on the Site by SHA in August 2019. The laboratory analytical report for the sediment sample is provided in **Appendix B**.

## 5.4 Surface Water Sampling

StoneHill collected three grab surface water samples on June 3, 2021, from the nearby wetlands to the northeast and south across Atlantic Avenue. The surface water samples were collected directly into laboratory provided teflon-free containers. One sample was collected from the previously established location SW-1 which was identified in the field with flagging that remained from the August 2019 sampling completed by SHA. An additional sampling location, SW-2, was established approximately 800 feet downstream and north-northeast of SW-1. Surface water was observed to be flowing slowly at both surface water sampling locations. The third surface water

sample, SW-3, was collected approximately 350 feet south of Atlantic Avenue in a low-lying vegetated area with standing water that was likely in an area that received stormwater discharged from the Site storm drain system, which discharged from a culvert that passes under Atlantic Avenue. A search for the specific location of the culvert discharge by StoneHill and a Town of North Hampton official was not successful due to dense vegetation. The three surface water samples were packed on ice and submitted to a New Hampshire certified laboratory under proper chain-of-custody protocols for PFAS analysis using isotope dilution by EPA Method 537 (Modified). The analyses included a list of 29 compounds including the four regulated compounds: PFOA, PFNA, PFHxS, and PFOS. The surface water sample locations are shown on **Figure 4 – Area Map w/ Surface Water and Water Supply Well PFAS Results** and the results are summarized on **Table 3 – Summary of Surface Water PFAS Analyses**. Laboratory analytical reports are provided in **Appendix B**.

### 5.5 Site Vicinity Water Supply Well Survey and Sampling

StoneHill personnel reviewed the receptors information compiled by SHA for thoroughness and accuracy to further assess the potential for impacts to sensitive receptors. Potential locations with water supply wells were identified in the Site vicinity by SHA including at 202 Atlantic Avenue, 206B Atlantic Avenue, 219 Atlantic Avenue, 221 Atlantic Avenue, 225A Atlantic Avenue, 227A Atlantic Avenue. Of these locations, only two had been previously sampled. In addition, one public water supply servicing the seasonal Seacoast Camping and RV Resort was identified approximately ½-mile from the Site.

StoneHill completed further research regarding the presence of private water supplies within 1,000-feet of the municipal complex as part of this assessment. Readily available information on local water supply wells was solicited from the Town of North Hampton, NHDES Water Well Board records, inquiries with the local water supplier Aquarion, and completion of a door-to-door survey of the properties with possible on-Site wells. StoneHill's research identified that public water was being supplied to virtually all properties within a 1,000-foot radius except for the previously identified supply well a Lot 7/149, and one newly identified residential supply well located at 206B Atlantic Avenue (Lot 7/77) located approximately 1,000 feet southeast of the Site. These two water supply wells identified within the 1,000-foot radius were sampled on June 3, 2021. The commercial well located at 227 Atlantic Avenue (Lot 7/149) had been previously sampled by SHA in March 2018. StoneHill collected the sample at this location from a sink in the garage. The residential well at 206B Atlantic Avenue was sampled from a spigot at the pressure tank, a location prior to any water treatment. The two supply well samples were packed on ice and submitted to a New Hampshire certified laboratory under proper chain-of-custody protocols for PFAS analysis using isotope dilution by EPA Method 537 (Modified). The analyses included a list of 29 compounds including the four regulated compounds: PFOA, PFNA, PFHxS, and PFOS. The supply well locations are shown on **Figure 4 – Area Map w/ Surface Water and Supply Well PFAS Results** and the analytical results are summarized on **Table 4- Summary of Water Supply Well PFAS Analyses**. Laboratory analytical reports are provided in **Appendix B**.

## 6.0 HYDROGEOLOGIC AND CONTAMINANT EVALUATION

### 6.1 Physical and Hydrogeologic Setting

As shown on the United States Geological Survey (USGS), 7.5 Minute Series Topographic Map of Hampton, New Hampshire Quadrangle (Figure 1), the Site is located at an average elevation of approximately 100 feet above Mean Sea Level. The immediate study area is likely to be underlain by a thin layer of overburden sediments characterized as either glacial till or glacial outwash deposits. The overburden soil borings completed by SHA indicate the Site is primarily underlain by fine to coarse sand, with some gravel and trace silt. During the course subsurface investigations completed on the Site, nine soil borings encountered refusal, assumed to be on bedrock, at depths ranging 6 to 14 feet below ground surface. Two geologic cross sections for the Site have been prepared and are presented as **Figure 5** and **Figure 6**.

Depth to groundwater levels measured in the on-Site monitoring wells were found to range from approximately 6 to 9 feet below ground surface (bgs) (see **Table 1**). Groundwater elevation contours measured during the May 17, 2021, sampling event have been developed and are presented on **Figure 7 – Interpreted Overburden Groundwater Flow**. The overburden groundwater elevations can be interpreted to infer that a groundwater divide trending west-northwest to east-southeast may be present in the overburden in the vicinity of monitoring wells MW-2 and MW-2R, resulting in overburden groundwater flow currently interpreted to be to the northeast and south. The presence of a divide in this vicinity is consistent with what might be interpreted from a review of local surface topography and nearby surface water drainages, which indicates a surface water divide along the axis of Atlantic Avenue in the study area, with flow to the wetlands and an unnamed brook to the south of Atlantic Avenue, and flow to the northeast north of Atlantic Avenue to wetlands and a tributary of the Little River to the northeast of the Site. A review of the water levels in the bedrock/overburden couplet MW-2/2R suggested a slight upward gradient in the data from May 17th and a slight downward gradient in the July 26th data. More rounds of groundwater level measurement are necessary to draw any meaningful conclusions regarding potential vertical gradients between the bedrock and overburden.

### 6.2 Groundwater

Analytical results from the May 17, 2021, sampling indicated that PFAS compounds were detected in all groundwater samples collected from the monitoring wells. Samples from monitoring wells MW-2, MW-2R, MW-3R, MW-4R, and MW-6, contained one or more compounds exceeding established AGQSs for PFAS. Only the sample from well MW-5 was reported to not contain any PFAS compounds exceeding an established AGQS. The low PFAS concentrations detected in the groundwater sample collected from monitoring well MW-5 contrast with the significant concentrations detected in the water sample collected in August 2019 by SHA from the temporary well SH-06W located only 20 feet to the south. The results from samples from the remaining monitoring wells were relatively similar with the exception of slightly more elevated concentrations of PFOA, PFHxS, and PFOS detected in the sample from bedrock monitoring well MW-4R located at the southwest corner of the Site property boundary. The only other consistent trend regarding the concentrations of PFOA, PFHxS, and PFOS detected in groundwater, is that in all samples PFOA was detected at the lowest concentration, followed by PFHxS, with PFOS

reported at the greatest concentrations. Otherwise, it is premature to draw other conclusions until additional rounds of groundwater sampling and analyses have been completed.

The distribution of PFAS detected in groundwater samples at the Site is depicted on **Figure 8 – Groundwater PFAS Results**.

### 6.3 Surface Water

The surface water sample analyses detected PFAS compounds in all three of the samples collected on June 3, 2021. The surface water sample SW-1 contained PFAS compounds at concentrations similar to the results for the sample collected from the same location in August 2019. The concentrations of PFOA, PFHxS, and PFOS in both samples exceeded AGQs which are being used for comparison purposes, since surface water standards have not yet been established for PFAS compounds. As might be expected, at a downstream location likely to be more removed from potential contaminant source areas, the PFAS concentrations detected in the sample collected at SW-2 approximately 800 feet downstream of SW-1, were significantly less and all below AGQs. The analyses of the surface water sample collected at SW-3, located south of Atlantic Avenue in a low-lying area likely to receive stormwater drainage from the Site, detected significant concentrations of PFAS compounds. The PFOA, PFHxS, and PFOS concentrations reported were significantly above AGQs, with the latter two compounds over fifty times the AGQs.

### 6.4 Catch Basin Sediment

The analysis of the sediment sample collected from the stormwater catch basin CB-1 did not contain PFOA, PFNA, PFHxS, or PFOS above the method reporting limit. However, trace estimated concentrations of Perfluorobutanoic Acid (PFBA) and Perfluoropentanoic Acid (PFPeA) were detected in the sediment sample at 0.38 micrograms per kilogram (ug/kg) and 0.45 ug/kg, respectively.

### 6.5 Water Supply Analyses

The sample from 227A Atlantic Avenue (Lot 7/149) was found to contain PFAS compounds at concentrations exceeding the NHDES AGQs for PFOA, PFHxS and PFOS, at concentrations remarkably similar to those detected in a sample collected on March 25, 2018. The water sample collected from the residential supply well located at 206B Atlantic Avenue (Lot 7/77) did not contain PFAS compounds above method detection limits.

## 7.0 SUMMARY AND CONCLUSIONS

The following summary and conclusions are based upon information collected by StoneHill during completion of this SSI for the subject properties located at 231-235 Atlantic Avenue, North Hampton, New Hampshire:

- Seven soil borings were completed with three completed as overburden monitoring wells and three completed as shallow bedrock monitoring wells. The depth to bedrock beneath the Site ranges from 6 to 14 feet. Groundwater elevations measured in the monitoring wells

may indicate that a groundwater flow divide is present in the vicinity of the southern Site boundary and with possibly both overburden and bedrock groundwater to the northeast and south.

- On round of groundwater sampling was completed and the samples analyzed for PFAS. The analytical results indicate PFASs in groundwater in both the overburden and shallow bedrock at concentrations exceeding AGQs for several PFAS compounds. Specific trends in the degree and extent of overburden and bedrock groundwater PFAS contamination can't be determined until additional confirmatory samples are collected and analyzed.
- A sediment sample collected from stormwater catch basin CB-1 which received historic discharges from a former oil/water separator was found to contain only trace concentrations of two PFASs. The sediment in the catch basin does not currently appear to be a source of PFAS at the Site.
- All three surface water samples collected from off-Site locations contained PFAS, confirming the presence of PFAS impacts to the wetlands several hundred feet northeast of the Site, in addition to significantly elevated PFAS concentrations in surface water sampled to the south of the Site across Atlantic Avenue where the Site storm drain system discharges.
- A detailed survey of water supply wells within a 1,000-foot radius of the Site only identified one residential supply well approximately 1,000 feet southeast of the Site. The residential supply well at 206B Atlantic Avenue was sampled and analyses did not identify PFASs above method detection levels. A previously sampled supply well at the commercial property located at 227A Atlantic Avenue, northeast of the Site, was also sampled and the reported PFAS concentrations were similar to those detected in 2019.
- Based upon the data collected during the SSI which indicates the Site is upgradient of the surrounding properties with respect to groundwater flow, it appears that the past handling of AFFF by the North Hampton Fire Department is at least one source of the PFAS contamination identified in groundwater in the study area. While studies to date have not specifically identified an on-Site source area, the PFAS contamination detected is likely to have originated from historic discharges to the Fire Station floor drain system which discharged to an oil/water separator which in turn discharged to a storm drain catch basin which discharges to a wetland area south of Atlantic Avenue. Another potential source could be the historic release of AFFF onto the ground surface at the fire station and the surface runoff of wash water from the cleaning of fire-fighting equipment impacted by AFFF.

## 8.0 RECOMMENDATIONS

Based on the information reviewed and data collected as part of this SSI, StoneHill recommends the following:

1. At least one additional round of groundwater samples should be collected from the on-Site monitoring wells to confirm the results of the May 2021 sampling round.



2. Additional investigation of the degree and extent PFAS contamination at the SW-3 surface water sampling location is necessary. The additional assessment should include soil sampling and additional surface water sampling, possibly downstream of SW-3. It is also recommended that the exact location of stormwater culvert discharge be located. This may be best accomplished during a rainfall event at which time the discharge water could be sampled for PFAS analyses to determine if stormwater discharged from this location is still a source of PFAS migration.
3. To date, soil samples have not been collected at the exact location of the decommissioned oil/water separator. As such, the completion of soil borings at this location would appear warranted to eliminate or confirm the presence of soil which may be a continuing source of PFAS migration to groundwater.

## **9.0 LIMITATIONS**

The SSI was conducted to further evaluate the nature, extent and magnitude of PFAS contamination at the Town of North Hampton municipal complex and the surrounding vicinity. The SSI is not intended to be a comprehensive environmental site assessment, audit or industrial hygiene survey which would ascertain compliance with federal and state regulations other than those explicitly stated herein. The information in this report is subject to the limitations of historical documentation, the availability and accuracy pertinent records reviewed during the course of the investigation. The information presented in this report is applicable only to the dates indicated in this SSI Report.

It should be noted that the findings and conclusions of this SI do not constitute scientific certainties, but rather probabilities based upon our professional judgement concerning data gathered during the course of the investigation. Information potentially obtained during further investigative activities, which were beyond the scope of this SSI, could result in a modification of the findings stated above. This report has been prepared in accordance with generally accepted site investigation practices and a degree of care and skill exercised by other environmental consulting firms undertaking similar studies at the same time in the same geographical area. No other warranty, expressed or implied, is made.

## **10.0 REFERENCES**

Lyons, John B. et. Al., Geologic Map of New Hampshire, 1997.

New Hampshire Department of Environmental Services Web-Based Data Retrieval System, various reports, correspondence, and well records reviewed by StoneHill.

**TABLES**

**Table 1**  
**Groundwater Elevation Data**  
 North Hampton Municipal Center  
 233 Atlantic Avenue  
 North Hampton, New Hampshire

Monitoring Well	Well Casing ID (inches)	Well Depth (feet)	Stickup Height (feet)	Top of Casing Elevation (feet)	Measurement Date	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-2	2	12.1	-0.3	101.13	04/28/21	7.85	93.28
					05/17/21	8.02	93.11
					08/26/21	7.37	93.76
MW-2R	4	30.2	-0.3	100.45	04/28/21	12.17**	88.28
					05/17/21	6.81	93.64
					08/26/21	6.82	93.63
MW-3R	4	28.0	-0.3	101.64	04/28/21	8.95	92.69
					05/17/21	9.16	92.48
					08/26/21	8.50	93.14
MW-4R	4	39.2	-0.3	100.73	04/28/21	8.44	92.29
					05/17/21	8.53	92.20
					08/26/21	8.17	92.56
MW-5	2	12.09	-0.3	98.42	04/28/21	6.36	92.06
					05/17/21	6.56	91.86
					08/26/21	6.26	92.16
MW-6	2	13.65	-0.3	100.77	04/28/21	8.36	92.41
					05/17/21	8.61	92.16
					08/26/21	8.10	92.67

**Notes:**

\*\* - Casing plug difficult to remove due to vacuum. Measured depth to water likely not accurate.

Level survey by StoneHill Environmental on 05/17/21 using a recoverable benchmark assigned an elevation of 100.00 feet on the northeast corner of the sewer grate in the front parking lot.

**TABLE 2**  
**SUMMARY OF GROUNDWATER PFAS ANALYSES**  
 North Hampton Municipal Complex  
 233 Atlantic Avenue  
 North Hampton, New Hampshire

PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)	Carboxylates/ Carboxylic Acids											Sulfonates/Sulfonic Acids								Sulfonamides/Fluorotolomers					Total PFOS + PFOA	
	Perfluorobutanoic Acid (PFBA)	Perfluoropentanoic Acid (PFPeA)	Perfluorohexanoic Acid (PFHxA)	Perfluoroheptanoic Acid (PFHpA)	Perfluorooctanoic Acid (PFOA)	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluoroundecanoic Acid (PFUnA)	Perfluorododecanoic Acid (PFDoA)	Perfluorotridecanoic Acid (PFTriDA)	Perfluorotetradecanoic Acid (PFTeDA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluoropentane-1-sulfonic Acid (PFPeS)	Perfluorohexane sulfonic Acid (PFHxS)	Perfluoroheptane Sulfonate (PFHpS)	Perfluorooctane Sulfonic Acid (PFOS)	Perfluorooctane Sulfonamide (PFOSA)	Perfluorononanesulfonic Acid (PFNS)	Perfluorodecane Sulfonate (PFDS)	N-ethylperfluorooctanesulfonamidoacetic acid (EtFOSAA)	N-methylperfluorooctanesulfonamidoacetic acid (MeFOSAA)	4:2 Fluorotolomer Sulfonate	6:2 Fluorotolomer Sulfonate	8:2 Fluorotolomer sulfonate		
CAS Number	375-22-4	2706-90-3	307-24-4	375-85-9	335-67-1	375-95-1	335-76-2	2058-94-8	307-55-1	72629-94-8	376-06-7	375-73-5	2706-91-4	355-46-4	375-92-8	1763-23-1	754-91-6	68259-12-1	335-77-3	2991-50-6	2355-31-9	757124-72-4	27619-97-2	39108-34-4	NA	
NHDES AGQS**	ns	ns	ns	ns	12	11	ns	ns	ns	ns	ns	ns	ns	18	ns	15	ns	ns	ns	ns	ns	ns	ns	ns	70	
<b>Location</b>	<b>Date</b>																									
MW-2	5/17/2021	7.9	16	19	6.2	10	2.7	1.5 J	0.26 J	<2.1	<2.1	<2.1	9.9	2.8	22	0.59 J	34	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	0.73 J	2.8	44
MW-2R	5/17/2021	3.8	4.0	5.9	2.5	4.8	1.1 J	<2.3	<2.3	<2.3	<2.3	<2.3	5.7	1.8 J	16	0.40 J	20	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	24.8
MW-3R	5/17/2021	9.1	31	44	5.8	14	4.8	2.9	<2.4	<2.4	<2.4	<2.4	23	2.6	32	1.0 J	86	2.2 J	<2.4	<2.4	<2.4	<2.4	<2.4	1.7 J	0.40 J	100
MW-4R	5/17/2021	6.8	15	24	5.1	13	1.6 J	<2.1	<2.1	<2.1	<2.1	<2.1	34	15	110	4.7	180	0.26 J	<2.1	<2.1	<2.1	<2.1	<2.1	1.3 J	<2.1	193
MW-5	5/17/2021	1.0 J	2.1J	2.2 J	0.95 J	2.3	0.99 J	<2.3	<2.3	<2.3	<2.3	<2.3	1.3 J	<2.3	2.3	<2.3	2.5	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	4.8
MW-6	5/17/2021	5.0	7.4	10	2.1 J	5.8	2.4	1.4 J	<2.3	<2.3	<2.3	<2.3	7.4	1.5 J	17	0.36 J	26	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	31.8
<b>Sanborn Head &amp; Associates Data:</b>																										
MW-3	4/30/2018	490	10	40	10	110	2.0	<0.54	--	--	--	--	5.7	--	290	20	660	--	--	<0.87	--	--	--	<10	--	770
MW-4	4/30/2018	5.6	11	29	11	58	0.93 J	<K 0.54	--	--	--	--	11	--	150	2.9	26	--	--	<0.87	--	--	--	<1.0	--	84
MW-8	4/30/2018	63	<8.7	32	<4.7	53	<6.8	<5.4	--	--	--	--	<8.9	--	100	<7.7	400	--	--	<8.7	--	--	--	<10	--	453
MW-10	8/23/2019	7.4	<4.57	14	<4.57	31	<4.57	<4.57	<4.57	<4.57	<4.57	--	7.3	<4.57	154	<4.57	9.4	<4.57	<4.57	<4.57	<4.57	<4.57	<4.57	<4.57	<4.57	40
SH-06W	8/22/2019	4.7	10	33	<4.59	139	<4.59	<4.59	<4.59	<4.59	<4.59	--	<4.59	<4.59	267	<4.59	29	<4.59	<4.59	<4.59	<4.59	<4.59	<4.59	<4.59	<4.59	168

- Notes:
1. The current samples were collected by StoneHill on the date indicated. Earlier samples collected by others.
  2. All concentrations are reported in ng/L, equivalent to parts per trillion (ppt), except where indicated.
  3. "<X" indicates that the parameter was not detected at the specified reporting limit X.
  4. Concentrations in Bold indicate a detection.
  5. Bold and Shaded indicate exceedances of applicable AGQS.
  6. "ns" indicates that no standard is established for the compound.
  7. "--" indicates the parameter was not analyzed.
  8. "J" indicates estimated concentration between EDL and RDL.
  9. The current analyses were performed by Absolute Resource Associates via EPA Method 537.1 (mod) for PFAS.
  10. Sanborn Head & Associates analyses were performed by Vista Analytical Laboratory (Vista) by USEPA Method 537 (mod) for PFAS.

**TABLE 3**  
**SUMMARY OF SURFACE WATER PFAS ANALYSES**

North Hampton Municipal Complex  
233 Atlantic Avenue  
North Hampton, New Hampshire

PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)		Carboxylates/ Carboxylic Acids											Sulfonates/Sulfonic Acids								Sulfonamides/Fluorotelomers					Total PFOS + PFOA
		Perfluorobutanoic Acid (PFBA)	Perfluoropentanoic Acid (PFPeA)	Perfluorohexanoic Acid (PFHxA)	Perfluoroheptanoic Acid (PFHpA)	Perfluorooctanoic Acid (PFOA)	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluoroundecanoic Acid (PFUnA)	Perfluorododecanoic Acid (PFDoA)	Perfluorotridecanoic Acid (PFTriDA)	Perfluorotetradecanoic Acid (PFTeDA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluoropentane-1-sulfonic Acid (PFPeS)	Perfluorohexane sulfonic Acid (PFHxS)	Perfluoroheptane Sulfonate (PFHpS)	Perfluorooctane Sulfonic Acid (PFOS)	Perfluorooctane Sulfonamide (PFOSA)	Perfluorononanesulfonic Acid (PFNS)	Perfluorodecane Sulfonate (PFDS)	N-ethylperfluorooctanesulfonamidoacetic acid (EiFOSSAA)	N-methylperfluorooctanesulfonamidoacetic acid (MeFOSSAA)	4:2 Fluorotelomer Sulfonate	6:2 Fluorotelomer Sulfonate	8:2 Fluorotelomer sulfonate	
CAS Number		375-22-4	2706-90-3	307-24-4	375-85-9	335-67-1	375-95-1	335-76-2	2058-94-8	307-55-1	72629-94-8	376-06-7	375-73-5	2706-91-4	355-46-4	375-92-8	1763-23-1	754-91-6	68259-12-1	335-77-3	2991-50-6	2355-31-9	757124-72-4	27619-97-2	39108-34-4	NA
NHDES AGQS**		ns	ns	ns	ns	12	11	ns	ns	ns	ns	ns	ns	ns	18	ns	15	ns	ns	ns	ns	ns	ns	ns	ns	ns
Location	Date																									
SW-1	8/23/2019	<b>7.6</b>	<b>9.5</b>	<b>23</b>	<b>9.5</b>	<b>41</b>	<4.63	<4.63	<4.63	<4.63	<4.63	--	<b>8.7</b>	<4.63	<b>130</b>	<4.63	<b>102</b>	<4.63	<4.63	<4.63	<4.63	<4.63	<4.63	<4.63	<4.63	<b>143</b>
	6/3/2021	<b>5.6</b>	<b>6.3</b>	<b>17</b>	<b>7.5</b>	<b>34</b>	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<b>5.9</b>	<1.9	<b>82</b>	<1.9	<b>71</b>	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<b>105</b>
SW-2	6/3/2021	<1.9	<1.9	<1.9	<1.9	<b>6.7</b>	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<b>2.0</b>	<1.9	<b>8.1</b>	<1.9	<b>2.1</b>	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<b>8.8</b>
SW-3	6/3/2021	<b>31</b>	<b>120</b>	<b>85</b>	<b>24</b>	<b>73</b>	<b>9.5</b>	<b>4.4</b>	<1.9	<1.9	<1.9	<1.9	<b>45</b>	<b>95</b>	<b>890</b>	<b>44</b>	<b>1,100</b>	<b>21</b>	<1.9	<1.9	<1.9	<1.9	<b>8.4</b>	<b>2.2</b>	<b>1,173</b>	

- Notes:
- The current samples were collected by StoneHill on the date indicated. Earlier samples collected by others.
  - All concentrations are reported in ng/L, equivalent to parts per trillion (ppt), except where indicated.
  - "<X" indicates that the parameter was not detected at the specified reporting limit X.
  - Concentrations in Bold indicate a detection.
  - Bold and Shaded indicate exceedances of applicable AGQS.
  - "ns" indicates that no standard is established for the compound.
  - "--" indicates the parameter was not analyzed.
  - The current analyses were performed by Absolute Resource Associates via EPA Method 537.1. (mod) for PFAS.
  - The SW-1 sample collected on 8.23/2019 was collected by Sanborn Head & Associates, analyses were performed by Vista Analytical Laboratory (Vista) by USEPA Method 537 (mod) for PFAS.
  - Surface water quality standards (SWQS) have not been developed for PFAS at this time. AGQS is being used for comparison purposes.

**TABLE 4**  
**SUMMARY OF WATER SUPPLY WELL PFAS ANALYSES**  
 North Hampton Municipal Complex  
 233 Atlantic Avenue  
 North Hampton, New Hampshire

PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)	Carboxylates/ Carboxylic Acids											Sulfonates/Sulfonic Acids							Sulfonamides/Fluorotelomers					Total PFOS + PFOA		
	Perfluorobutanoic Acid (PFBA)	Perfluoropentanoic Acid (PFPeA)	Perfluorohexanoic Acid (PFHxA)	Perfluoroheptanoic Acid (PFHpA)	Perfluorooctanoic Acid (PFOA)	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluoroundecanoic Acid (PFUnA)	Perfluorododecanoic Acid (PFDoA)	Perfluorotridecanoic Acid (PFTeDA)	Perfluorotetradecanoic Acid (PFTeDA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluoropentane-1-sulfonic Acid (PFPeS)	Perfluorohexane sulfonic Acid (PFHxS)	Perfluoroheptane Sulfonate (PFHpS)	Perfluorooctane Sulfonic Acid (PFOS)	Perfluorooctane Sulfonamide (PFOSA)	PerfluoroNonanesulfonic Acid (PFNS)	Perfluorodecane Sulfonate (PFDS)	N-ethylperfluorooctanesulfonamidoacetic acid (EtFOSAA)	N-methylperfluorooctanesulfonamidoacetic acid (MeFOSAA)	4:2 Fluorotelomer Sulfonate	6:2 Fluorotelomer Sulfonate		8:2 Fluorotelomer sulfonate	
CAS Number	375-22-4	2706-90-3	307-24-4	375-85-9	335-67-1	375-95-1	335-76-2	2058-94-8	307-55-1	72629-94-8	376-06-7	375-73-5	2706-91-4	355-46-4	375-92-8	1763-23-1	754-91-6	68259-12-1	335-77-3	2991-50-6	2355-31-9	757124-72-4	27619-97-2	39108-34-4	NA	
NHDES AGQS**	ns	ns	ns	ns	12	11	ns	ns	ns	ns	ns	ns	ns	18	ns	15	ns	ns	ns	ns	ns	ns	ns	ns	70	
<b>Location</b>	<b>Date</b>																									
Map 7 Lot 149	6/3/2021	<b>2.1</b>	<b>5.9</b>	<b>14</b>	<b>3.8</b>	<b>44</b>	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<b>5.6</b>	<b>4.5</b>	<b>44</b>	<1.7	<b>16</b>	<1.7	<1.7	<1.7	<1.7	<1.7	<b>2.0</b>	<1.7	<b>60</b>	
Map 7 Lot 77	6/3/2021	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	

- Notes:
1. The current samples were collected by StoneHill on the date indicated. Earlier samples collected by others.
  2. All concentrations are reported in ng/L, equivalent to parts per trillion (ppt), except where indicated.
  3. "<X" indicates that the parameter was not detected at the specified reporting limit X.
  4. Concentrations in Bold indicate a detection.
  5. Bold and Shaded indicate exceedances of applicable AGQS.
  6. "ns" indicates that no standard is established for the compound.
  7. "-" indicates the parameter was not analyzed.
  8. "J" indicates estimated concentration between EDL and RDL.
  9. "\*\*" indicates this analogue showed recovery outside of the acceptance area.
  10. The current analyses were performed by Absolute Resource Associates via EPA Method 537.1 (mod) for PFAS.

**TABLE 5**  
**SUMMARY OF SOIL PFAS ANALYSES**

North Hampton Municipal Complex  
233 Atlantic Avenue  
North Hampton, New Hampshire

	Carboxylates/ Carboxylic Acids											Sulfonates/Sulfonic Acids								Sulfonamides/Fluorotelomers					Total PFOS + PFOA	
	Perfluorobutanoic Acid (PFBA)	Perfluoropentanoic Acid (PFPeA)	Perfluorohexanoic Acid (PFHxA)	Perfluoroheptanoic Acid (PFHpA)	Perfluorooctanoic Acid (PFOA)	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluoroundecanoic Acid (PFUnA)	Perfluorododecanoic Acid (PFDoA)	Perfluorotridecanoic Acid (PFTriDA)	Perfluorotetradecanoic Acid (PFTeDA) (PFTA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluoropentane-1-sulfonic Acid (PFPeS)	Perfluorohexane sulfonic Acid (PFHxS)	Perfluoroheptane Sulfonate (PFHpS)	Perfluorooctane Sulfonic Acid (PFOS)	Perfluorooctane Sulfonamide (PFOSA)	Perfluorononane Sulfonic Acid (PFNS)	Perfluorodecane Sulfonate (PFDS)	N-ethylperfluorooctanesulfonamidoacetic acid (EtFOSAA)	N-methylperfluorooctanesulfonamidoacetic acid (MeFOSAA)	4:2 Fluorotelomer Sulfonate	6:2 Fluorotelomer Sulfonate	8:2 Fluorotelomer sulfonate		
CAS Number	375-22-4	2706-90-3	307-24-4	375-85-9	335-67-1	375-95-1	335-76-2	2058-94-8	307-55-1	72629-94-8	376-06-7	375-73-5	2706-91-4	355-46-4	375-92-8	1763-23-1	754-91-6	68259-12-1	335-77-3	2991-50-6	2355-31-9	757124-72-4	27619-97-2	39108-34-4	NA	
NHDES Res. DCRB	ns	ns	ns	ns	500	ns	ns	ns	ns	ns	ns	ns	ns	ns	500	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
NHDES Maint. Worker DCRB	ns	ns	ns	ns	4,300	ns	ns	ns	ns	ns	ns	ns	ns	ns	4,300	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
<b>Location</b>	<b>Date</b>																									
Storm Drain Sediment	5/17/2021	<b>380 J</b>	<b>450 J</b>	<0.16	<0.17	<0.20	<0.27	<0.24	<0.25	<0.19	<0.22	<0.30	<0.17	<0.26	<0.30	<0.17	<0.27	<0.20	<0.24	<0.27	--	--	--	--	--	<0.27
<b>Sanborn Head &amp; Associates Data:</b>																										
SH-02 (5-6 ft bgs)	8/21/2019	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95
SH-03 (8-9 ft bgs)	8/21/2019	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
SH-04 (10.5-11.5 ft bgs)	8/21/2019	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92	<1.92
SH-05 (10-10.5 ft bgs)	8/21/2019	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00

- Notes:
- NHDES Res. DCRB" and "Maint. Worker DCRB" indicate the direct contact risk-based (DCRB) screening level concentrations derived by the State of New Hampshire Environmental Health Program for PFOA and PFOS in residential settings and for maintenance workers. The screening levels for PFOA are 0.5 mg/kg (500 ng/g) and 4.3 mg/kg (4,300 ng/g) for residential and maintenance workers, respectively, and are presented in a memorandum from David B. Larson, M.P.H. to John Regan, P.G., dated June 17, 2016 and titled "Direct Contact Risk-Based Soil Concentration, Perfluorooctanoic Acid, CAS #335-67-1". The screening levels for PFOS are 0.5 mg/kg (500 ng/g) and 4.3 mg/kg (4,300 ng/g).
  - All concentrations are reported in ng/Kg, equivalent to parts per trillion (ppt), except where indicated.
  - "<X" indicates that the parameter was not detected at the specified reporting limit X.
  - Concentrations in Bold indicate a detection.
  - Bold and Shaded indicate exceedances of applicable AGQS.
  - "ns" indicates that no standard is established for the compound.
  - "-" indicates the parameter was not analyzed.
  - "J" indicates estimated concentration between EDL and RDL.
  - "ft bgs" indicates feet below ground surface.
  - The current analyses were performed by Absolute Resource Associates via EPA Method 537.1 (mod) for PFAS.
  - Sanborn Head & Associates analyses were performed by Vista Analytical Laboratory (Vista) by USEPA Method 537 (mod) for PFAS.

**Table 6**  
**Properties within 1,000-foot Radius**  
 North Hampton Municipal Center  
 233 Atlantic Avenue  
 North Hampton, New Hampshire

Address	Map/Lot	Owner Name	Owner Mailing Address (if different than site address)	Property Use	Water Supply
33-49 Lafayette Road, North Hampton, NH	7/53	W/S North Hampton Properties OP LLC	33 Boylston Street, Suite 3000, Chestnut Hill, MA 02467	Undeveloped/Plaza	Aquarion Water Co
228 Atlantic Avenue, North Hampton, NH	7/66	Dean E Stevens Trustee	69 Lafayette Road, North Hampton, NH 03862	Residential	"
224 Atlantic Avenue, North Hampton, NH	7/67	David & Irene Tomkinson	224 Atlantic Avenue, North Hampton, NH 03862	Residential	"
222 Atlantic Avenue, North Hampton, NH	7/68	Michael & Sandra Queenan	222 Atlantic Avenue, North Hampton, NH 03862	Residential	"
220 Atlantic Avenue, North Hampton, NH	7/69	Wallace & Kathleen Kilgore	220 Atlantic Avenue, North Hampton, NH 03862	Residential	"
218 Atlantic Avenue, North Hampton, NH	7/70	John J & Deborah Anne Sillay Trustees	218 Atlantic Avenue, North Hampton, NH 03862	Residential	"
216 Atlantic Avenue, North Hampton, NH	7/71	Jooseph & Marcella Ormsby	216 Atlantic Avenue, North Hampton, NH 03862	Residential	"
214 Atlantic Avenue, North Hampton, NH	7/72	David & Crystal Adams	214 Atlantic Avenue, North Hampton, NH 03862	Residential	"
Atlantic Ave Rear, North Hampton, NH	7/73	Kelly Carolyn A Burgess	210 Atlantic Avenue, North Hampton, NH 03862	Vacant Land	"
212 Atlantic Avenue, North Hampton, NH	7/74	Kelly Carolyn A Burgess	210 Atlantic Avenue, North Hampton, NH 03862	Residential	"
210 Atlantic Avenue, North Hampton, NH	7/75	Michael C. Kelley	210 Atlantic Avenue, North Hampton, NH 03862	Residential	"
208 Atlantic Avenue, North Hampton, NH	7/76	208 Atlantic LLC	6 Squier Drive North Hampton, NH 03862	Office bldg/Fm Railroad Station	"
206B Atlantic Avenue, North Hampton, NH	7/77	Philip Thayer	206B Atlantic Avenue, North Hampton, NH 03862	Residential	On-Site Well
206 Atlantic Avenue, North Hampton, NH	7/78	Decko Holdings LLC	79 Exeter Road, North Hampton, NH 03862	Residential	Aquarion Water Co
206A Atlantic Avenue, North Hampton, NH	7/79	Charlene Genest Trustee	206A Atlantic Avenue, North Hampton, NH 03862	Residential	"
204 Atlantic Avenue, North Hampton, NH	7/80	Jason & Tina Saltmarsh	204 Atlantic Avenue, North Hampton, NH 03862	Residential	"
202 Atlantic Avenue, North Hampton, NH	7/81	Donald A Robin	202 Atlantic Avenue, North Hampton, NH 03862	Residential	"
247 Atlantic Avenue, North Hampton, NH	7/128	E Dean & Cora A Stevens Trust	69 Lafayette Road, North Hampton, NH 03862	Undeveloped	"
245 Atlantic Avenue, North Hampton, NH	7/129	Peter & Allison Doyle	245 Atlantic Avenue, North Hampton, NH 03862	Residential	"
243 Atlantic Avenue, North Hampton, NH	7/130	Christine Catherine Hayes	243 Atlantic Avenue, North Hampton, NH 03862	Residential	"
2 Alden Drive, North Hampton, NH	7/131	Deborah M Paul Trustee	50 Watchic Road #19, Standish, ME 04084	Vacant Land	"
4 Alden Drive, North Hampton, NH	7/132	Kimberley Daly Trustee	4 Alden Drive, North Hampton, NH 03862	Residential	"
6 Alden Drive, North Hampton, NH	7/133	Bob & Hope Miller Trustees	6 Alden Drive, North Hampton, NH 03862	Residential	"
5 Alden Drive, North Hampton, NH	7/134	Christine M Neville	5 Alden Drive, North Hampton, NH 03862	Residential	"
7 Hampshire Road, North Hampton, NH	7/135	Michael & Tamara Saal	7 Hampshire Road, North Hampton, NH 03862	Residential	"
9 Hampshire Road, North Hampton, NH	7/136	Erin Van Dalinda Trustee	9 Hampshire Road, North Hampton, NH 03862	Residential	"
11 Hampshire Road, North Hampton, NH	7/137	Donald & Nicole Corcoran	11 Hampshire Road, North Hampton, NH 03862	Residential	"
239 Atlantic Avenue, North Hampton, NH	7/138	Town of North Hampton	233 Atlantic Avenue, North Hampton, NH	Municipal playground?	"
2 Hampshire Road, North Hampton, NH	7/139	Patricia & Anthony Delyani	2 Hampshire Road, North Hampton, NH 03862	Residential	"
4 Hampshire Road, North Hampton, NH	7/140	Michael Gallagher	4 Hampshire Road, North Hampton, NH 03862	Residential	"
6 Hampshire Road, North Hampton, NH	7/141	James & Shannon Dawson Jr.	6 Hampshire Road, North Hampton, NH 03862	Residential	"
8 Hampshire Road, North Hampton, NH	7/142	Rebecca Kollmorgen Trustee	8 Hampshire Road, North Hampton, NH 03862	Residential	"
10 Hampshire Road, North Hampton, NH	7/143	Robert & Judith Fitta	10 Hampshire Road, North Hampton, NH 03862	Residential	"
237 Atlantic Avenue, North Hampton, NH	7/145	Town of North Hampton	233 Atlantic Avenue, North Hampton, NH 03862	Library	"
<b>233/235 Atlantic Avenue, North Hampton, NH</b>	<b>7/146</b>	<b>Town of North Hampton</b>	<b>233 Atlantic Avenue, North Hampton, NH 03862</b>	<b>Fire Department</b>	"
231 Atlantic Avenue, North Hampton, NH	7/147	Town of North Hampton	233 Atlantic Avenue, North Hampton, NH 03862	Town Hall	"
229 Atlantic Avenue, North Hampton, NH	7/148	Kutt Property Management LLC	229 Atlantic Avenue, North Hampton, NH 03862	Commercial/store	"
227A Atlantic Avenue, North Hampton, NH	7/149	Stuart M Spooner Trustee	3 Woodknoll Drive, North Hampton, NH 03862	office/storage	On-Site Well
227 Atlantic Avenue, North Hampton, NH	7/150	Lake Erie Biofuels LLC	1540 E Lake Road, Erie, PA 16511	Bulk Fuel Storage	Aquarion Water Co
225 Atlantic Avenue, North Hampton, NH	7/151	Dow Annex LLC	P.O. Box 294 North Hampton, NH 03862	Commercial	"

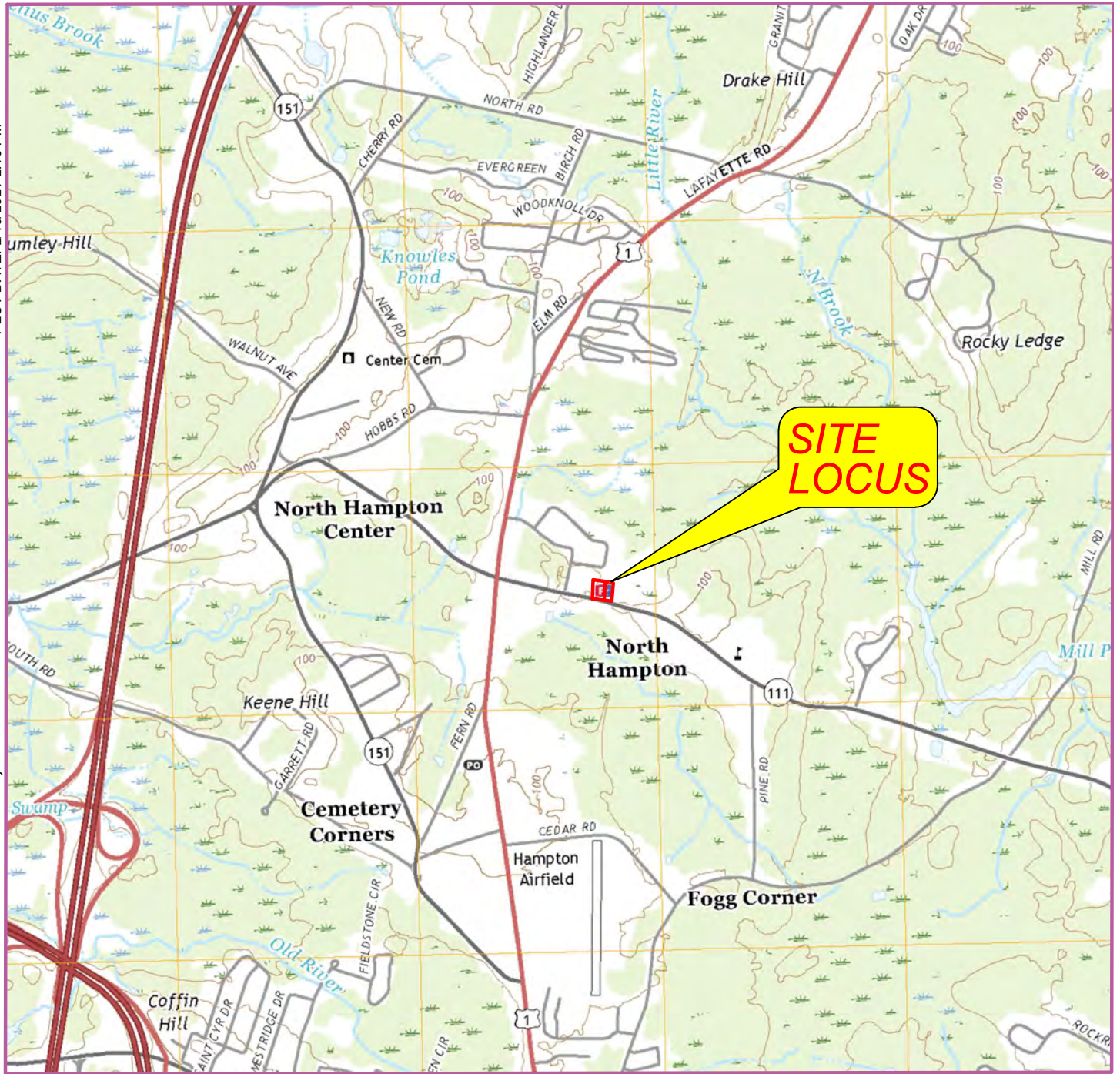


Address	Map/Lot	Owner Name	Owner Mailing Address (if different than site address)	Property Use	Water Supply
Atlantic Ave Blacksmith P, North Hampton, NH	7/152	State of New Hampshire	7 Hazen Drive P.O. Box 483, Concord, NH 03302	Vacant Land	"
223 Atlantic Avenue, North Hampton, NH	7/153	Paul E McDavitt Trustee	223 Atlantic Avenue, North Hampton, NH 03862	Residential	"
221 Atlantic Avenue, North Hampton, NH	7/154	Edward & Jacqueline Kohlhasse Trustees	66 Tuttle Lane Greenland, NH 03840	Residential	"
219 Atlantic Avenue, North Hampton, NH	7/155-1	Allen & Jill Brandt	219 Atlantic Avenue, North Hampton, NH 03862	Residential	"
217 Atlantic Avenue, North Hampton, NH	7/156	David & Cynthia Tufts	217 Atlantic Avenue, North Hampton, NH 03862	Residential	"
207 Atlantic Avenue, North Hampton, NH	7/158	Diane & Richard Jones Trustees	207 Atlantic Avenue, North Hampton, NH 03862	Residential	"
225A Atlantic Avenue, North Hampton, NH	7/175	Thera Research	P.O. Box 916, North Hampton, NH 03862	Barn	"
6 Glendale Road, North Hampton, NH	13/38	Rhonda Martin & Marilyn Henkel	6 Glendale Road, North Hampton, NH 03862	Residential	"
4 Glendale Road, North Hampton, NH	13/39	Kerry Whitten	4 Glendale Road, North Hampton, NH 03862	Residential	"
2 Glendale Road, North Hampton, NH	13/40	Kenneth & Eleanor Cormier	2 Glendale Road, North Hampton, NH 03862	Residential	"
1 Kimberly Drive, North Hampton, NH	13/53	Ronald & Gayle Moores Trustees	1 Kimberly Drive, North Hampton, NH 03862	Residential	"
16 Hampshire Road, North Hampton, NH	13/54	William & Juliette McCue Trustees	16 Hampshire Road, North Hampton, NH 03862	Residential	Aquarion Water Co
14 Hampshire Road, North Hampton, NH	13/55	Dale & Kimberly Rochford	14 Hampshire Road, North Hampton, NH 03862	Residential	"
15 Hampshire Road, North Hampton, NH	13/56	William & Elizabeth Needham Trustees	15 Hampshire Road, North Hampton, NH 03862	Residential	"
6 Kimberly Drive, North Hampton, NH	13/57	Thomas & Nancy Argue Trustees	6 Kimberly Drive, North Hampton, NH 03862	Residential	"
7 Alden Drive, North Hampton, NH	13/58	Rena Correia Trustee	7 Alden Drive, North Hampton, NH 03862	Residential	"
3 Glendale Road, North Hampton, NH	13/59	Jeffrey & Linda Hillier Trustees	3 Glendale Road, North Hampton, NH 03862	Residential	"
5 Glendale Road, North Hampton, NH	13/60	Paul & Jean Whitcomb Trustees	5 Glendale Road, North Hampton, NH 03862	Residential	"
10 Kimberly Drive, North Hampton, NH	13/65	Robert & Donna Garland	10 Kimberly Drive, North Hampton, NH 03862	Vacant Land	"
8 Kimberly Drive, North Hampton, NH	13/66	Dale & Judith Flemming Trustees	8 Kimberly Drive, North Hampton, NH 03862	Residential	"
Kimberly Drive, North Hampton, NH	13/67	Thomas & Nancy Argue Trustees	6 Kimberly Drive, North Hampton, NH 03862	Vacant Land	"
Lafayette Road, North Hampton, NH	13/68	Glenn Martin	196 Atlantic Avenue, North Hampton, NH 03862	Vacant Land	"

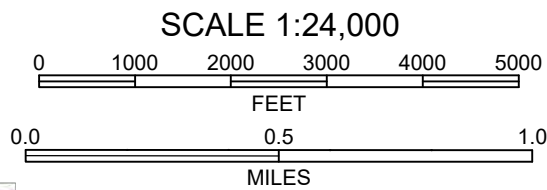
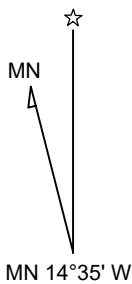
**FIGURES**

PLOT DATE: 2/10/2021 2:19 PM

StoneHill Environmental Project No. 2021003



HAMPTON, NH, MA Topographic 2018 USGSX24K19146 North American Vertical Datum of 1988



Site Coordinates:  
 42° 58' 23.8" N  
 70° 49' 46.5" W

Site Location:  
 231-235 Atlantic Avenue  
 North Hampton, NH



**StoneHill**  
 Environmental

600 State Street, Suite 2, Portsmouth, NH 03801  
 1-800-639-4503

**Figure 1**  
**Site Locus Map**



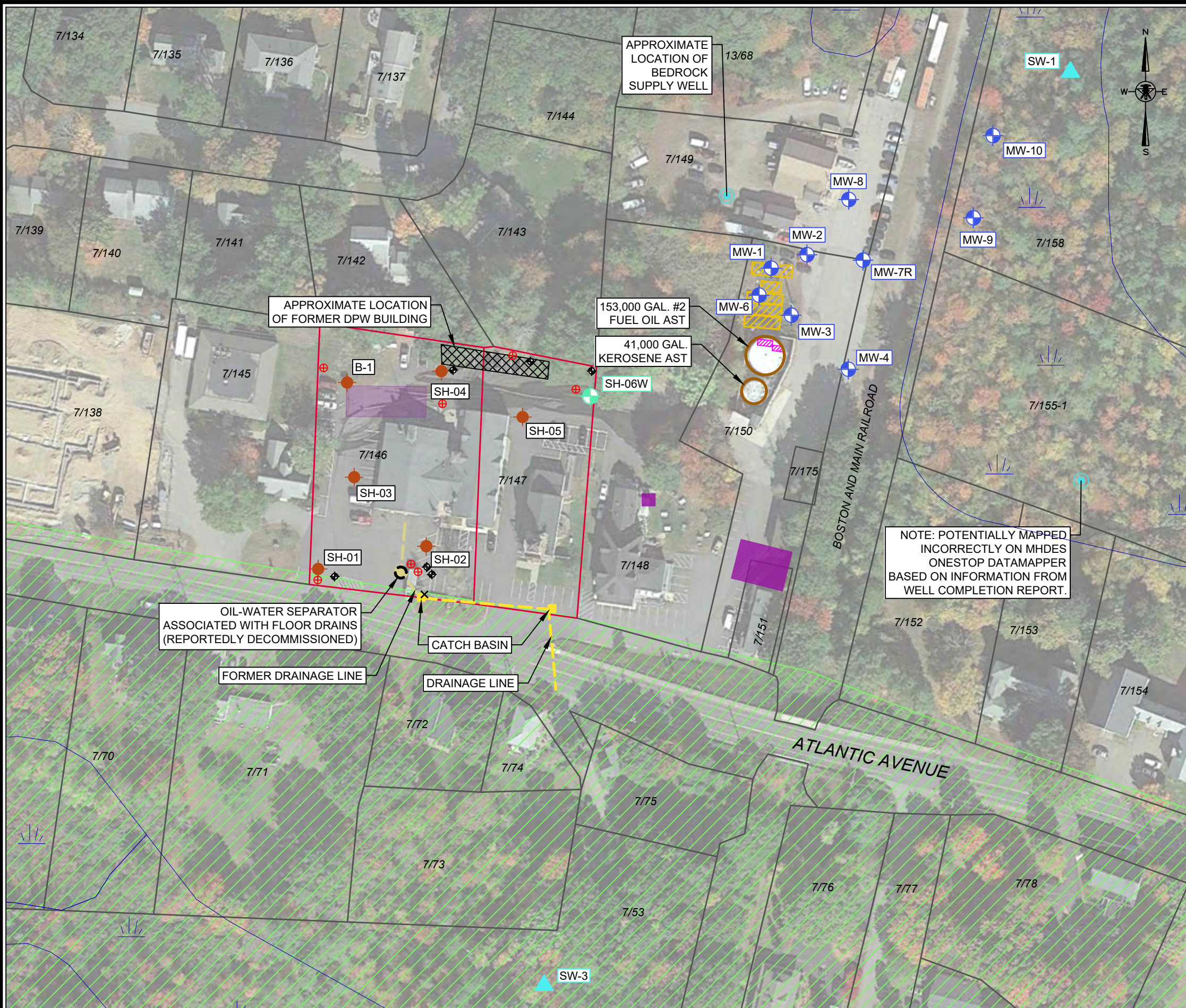
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Reviewed by: T. Stone

Drafted by: L. Hayden

Revision Date: 9/12/21 LKH

File Name: H:\STONEHILL\Projects\2021003 Figure 2 - Site Layout.dwg



# LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE TAX MAP BOUNDARY
- MONITORING WELL
- SITE INVESTIGATION (SI) TEMPORARY WELL
- SI SOIL BORING (SHA)
- TAX MAP/LOT NUMBER
- SEPTIC SYSTEM AREA (APPROX.) BASED ON LOCAL FILE REVIEW (SHA)
- SI SURFACE WATER SAMPLE LOCATION
- WATER SUPPLY WELL
- NATIONAL WETLANDS INVENTORY (NW) (APPROXIMATE 2021)
- EXISTING ABOVE GROUND STORAGE TANK (AST)
- FORMER AST
- FORMER MOTOR OIL UST
- APPROXIMATE LOCATION OF WELLHEAD PROTECTION AREA

# SCALE



1 INCH = 100 FEET (APPROXIMATE)

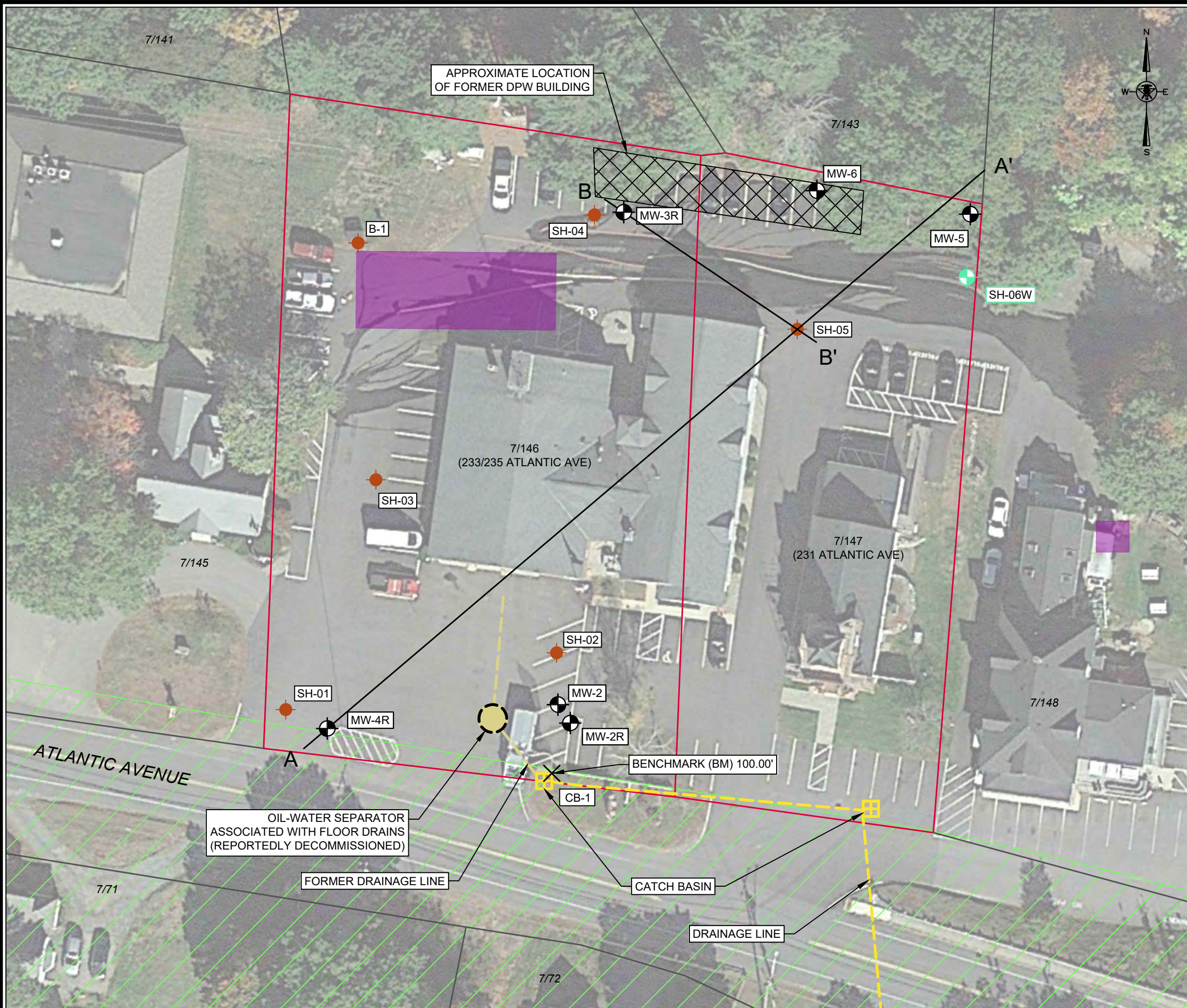
NOTE:  
 SITE PLAN AND FEATURES ARE APPROXIMATE. SITE PLAN IS BASED ON "SITE FEATURES AND EXPLORATION LOCATION PLAN" BY SANBORN HEAD, DATED MARCH 2020; AERIAL IMAGERY; AND FIELD OBSERVATIONS.

## FIGURE 2 STUDY AREA OVERVIEW

North Hampton Municipal Complex  
 231-235 Atlantic Avenue Area  
 North Hampton, NH  
 NHDES Site No. 201904026

Prepared by:  
 StoneHill Environmental  
 a subsidiary of CEA  
 Project No. 2021003





# LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE TAX MAP BOUNDARY
- SH-06W SITE INVESTIGATION (SI) TEMPORARY WELL
- SH-01 SI SOIL BORING (SHA)
- 7/143 TAX MAP/LOT NUMBER
- SEPTIC SYSTEM AREA (APPROX.) BASED ON LOCAL FILE REVIEW (SHA)
- APPROXIMATE LOCATION OF WELLHEAD PROTECTION AREA
- MW-2 OVERBURDEN GROUNDWATER MONITORING WELL
- MW-2R BEDROCK GROUNDWATER MONITORING WELL

# SCALE



1 INCH = 40 FEET (APPROXIMATE)

NOTE:  
 SITE PLAN AND FEATURES ARE APPROXIMATE.  
 SITE PLAN IS BASED ON "SITE FEATURES AND EXPLORATION LOCATION PLAN" BY SANBORN HEAD, DATED MARCH 2020; AERIAL IMAGERY; AND FIELD OBSERVATIONS.

## FIGURE 3 SITE FEATURES AND MONITORING WELL LOCATIONS

North Hampton Municipal Complex  
 231-235 Atlantic Avenue Area  
 North Hampton, NH  
 NHDES Site No. 201904026

Prepared by:  
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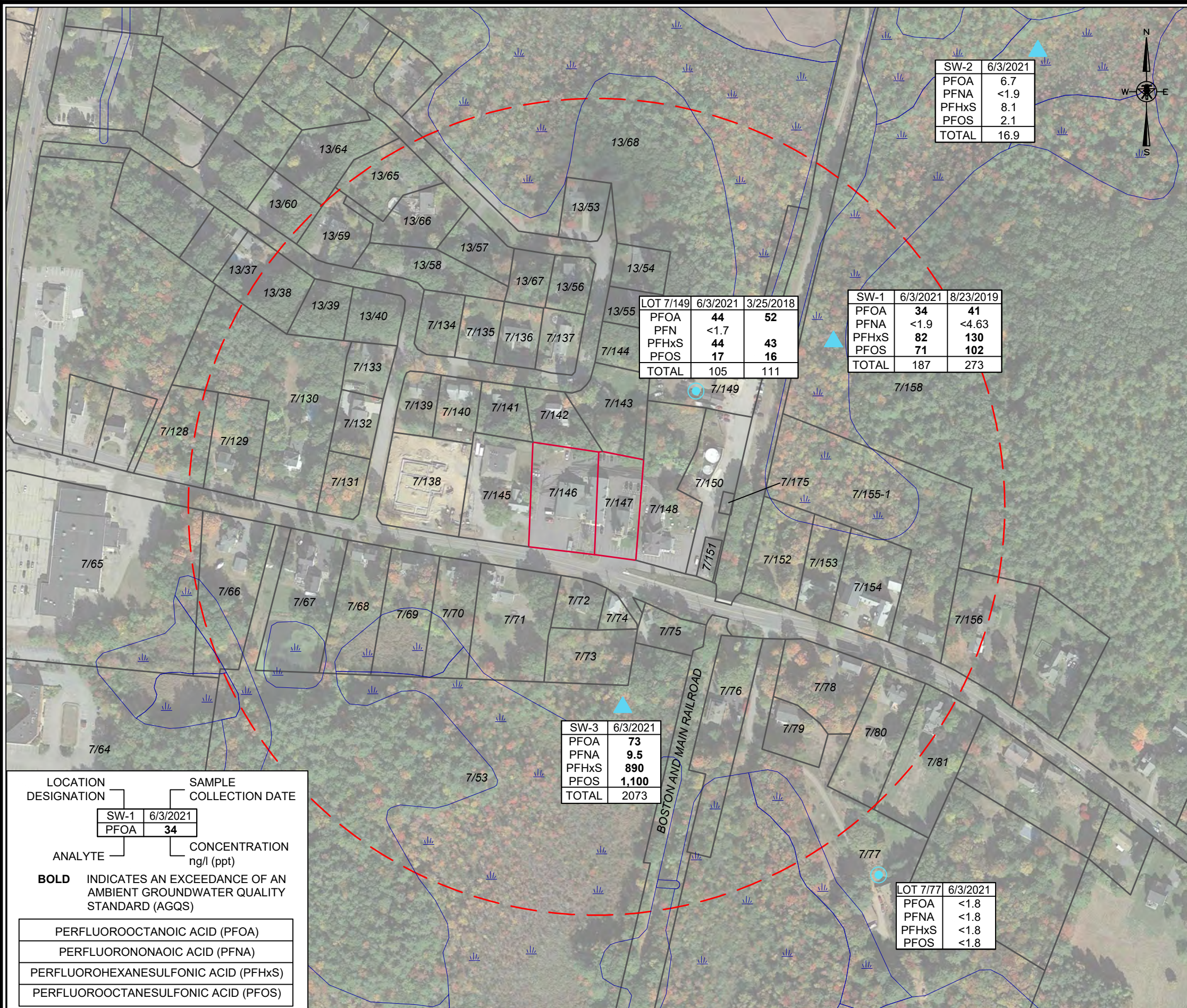
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Reviewed by: T. Stone

Drafted by: L. Hayden

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SW-2	6/3/2021
PFOA	6.7
PFNA	<1.9
PFHxS	8.1
PFOS	2.1
<b>TOTAL</b>	<b>16.9</b>

LOT 7/149	6/3/2021	3/25/2018
PFOA	<b>44</b>	<b>52</b>
PFN	<1.7	
PFHxS	<b>44</b>	<b>43</b>
PFOS	<b>17</b>	<b>16</b>
<b>TOTAL</b>	<b>105</b>	<b>111</b>

SW-1	6/3/2021	8/23/2019
PFOA	<b>34</b>	<b>41</b>
PFNA	<1.9	<4.63
PFHxS	<b>82</b>	<b>130</b>
PFOS	<b>71</b>	<b>102</b>
<b>TOTAL</b>	<b>187</b>	<b>273</b>

SW-3	6/3/2021
PFOA	<b>73</b>
PFNA	<b>9.5</b>
PFHxS	<b>890</b>
PFOS	<b>1,100</b>
<b>TOTAL</b>	<b>2073</b>

LOT 7/77	6/3/2021
PFOA	<1.8
PFNA	<1.8
PFHxS	<1.8
PFOS	<1.8

LOCATION DESIGNATION	SAMPLE COLLECTION DATE
SW-1	6/3/2021
PFOA	<b>34</b>

ANALYTE	CONCENTRATION ng/l (ppt)
<b>PFOA</b>	<b>34</b>
PFNA	<1.9
PFHxS	8.1
PFOS	2.1

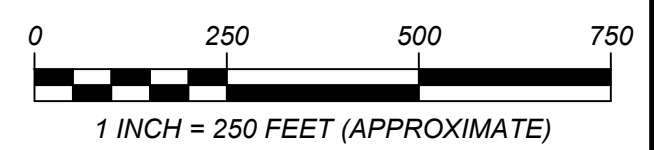
**BOLD** INDICATES AN EXCEEDANCE OF AN AMBIENT GROUNDWATER QUALITY STANDARD (AGQS)

PERFLUOROCTANOIC ACID (PFOA)
PERFLUORONONAOIC ACID (PFNA)
PERFLUOROHEXANESULFONIC ACID (PFHxS)
PERFLUOROCTANESULFONIC ACID (PFOS)

# LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE TAX MAP BOUNDARY
- WATER SUPPLY WELL
- TAX MAP/LOT NUMBER
- 1000' RADIUS
- NATIONAL WETLANDS INVENTORY (NWI) (APPROXIMATE 2021)
- SURFACE WATER SAMPLE LOCATION

# SCALE



NOTE:  
 SITE PLAN AND FEATURES ARE APPROXIMATE. SITE PLAN IS BASED ON "SITE FEATURES AND EXPLORATION LOCATION PLAN" BY SANBORN HEAD, DATED MARCH 2020; AERIAL IMAGERY; AND FIELD OBSERVATIONS.

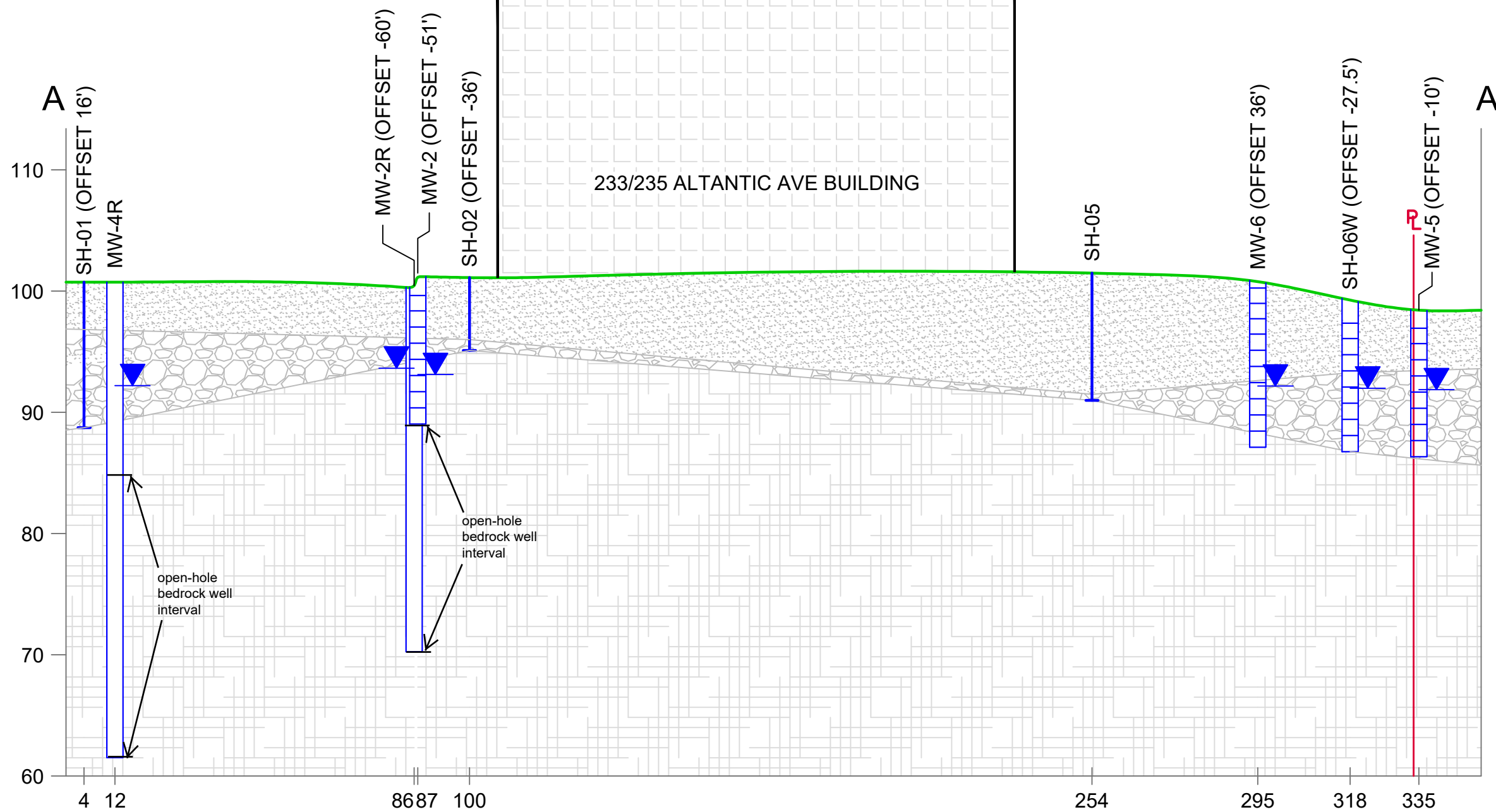
## FIGURE 4 AREA MAP W/ SURFACE WATER AND SUPPLY WELL PFAS RESULTS

North Hampton Municipal Complex  
 231-235 Atlantic Avenue Area  
 North Hampton, NH  
 NHDES Site No. 201904026

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VERTICAL SCALE: 1" = 10'



HORIZONTAL SCALE: 1" = 30'

LEGEND

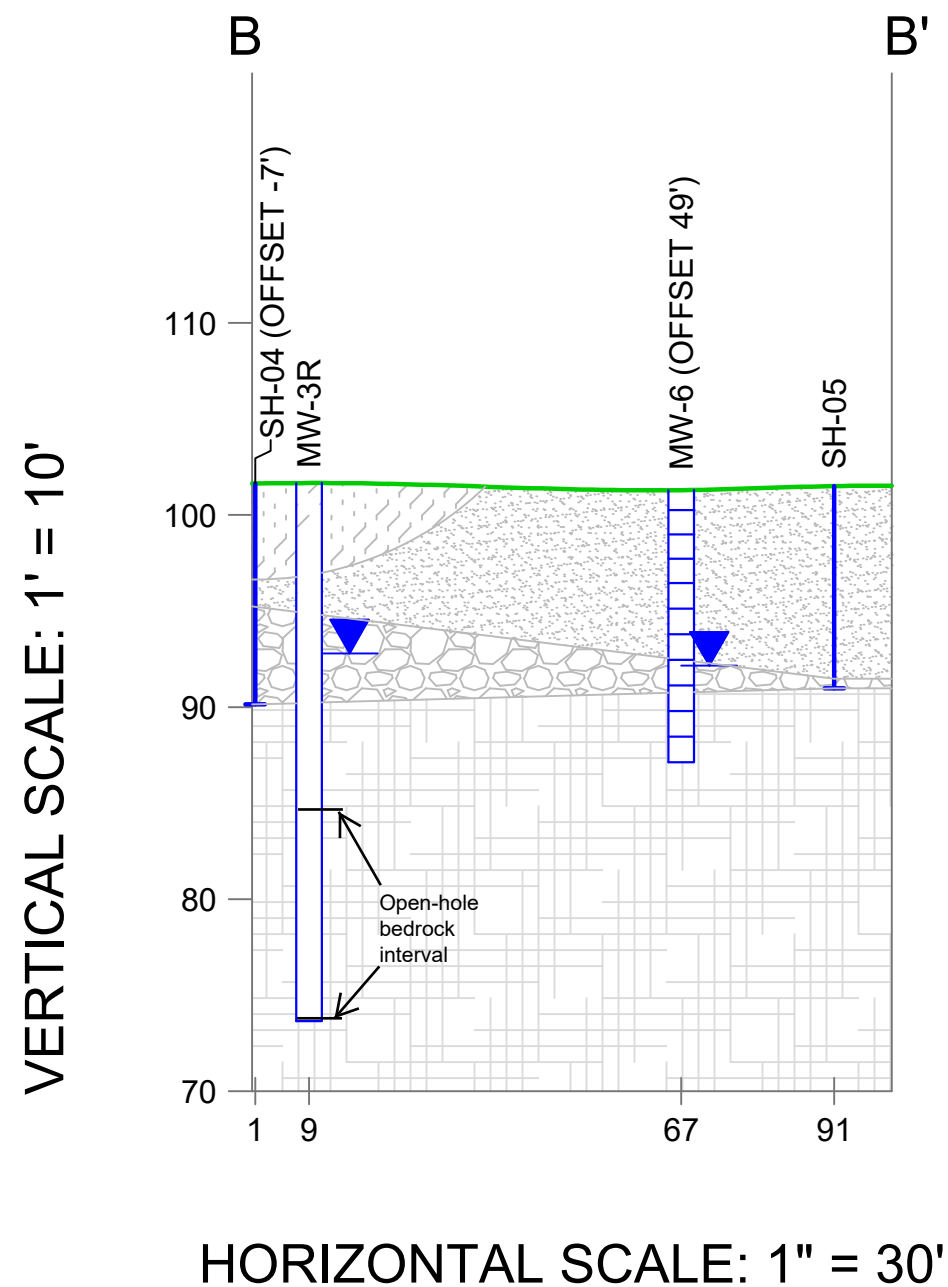
- GROUNDWATER (GW) ELEVATION
- SOIL BORING
- GW MONITORING WELL RISER
- GW MONITORING WELL SCREEN INTERVAL  
Note: Wells 2R & 5R are open-hole (no screen installed)
- SAND
- SAND AND GRAVEL
- BEDROCK

1"x1" SCALE BOX

FIGURE 5  
CROSS SECTION A-A'

North Hampton Municipal Complex  
231-235 Atlantic Avenue Area  
North Hampton, NH  
NHDES Site No. 201904026

Prepared by:  
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Project No. 2021003



### LEGEND

GROUNDWATER (GW) ELEVATION

SOIL BORING

GW MONITORING WELL RISER

GW MONITORING WELL SCREEN INTERVAL

Note: Well 3R is open-hole (no screen installed)

SAND

SAND AND GRAVEL

BEDROCK

FILL

1"x1" SCALE BOX

## FIGURE 6 CROSS SECTION B-B'

North Hampton Municipal Complex  
231-235 Atlantic Avenue Area  
North Hampton, NH  
NHDES Site No. 201904026

Prepared by:  
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Project No. 2021003



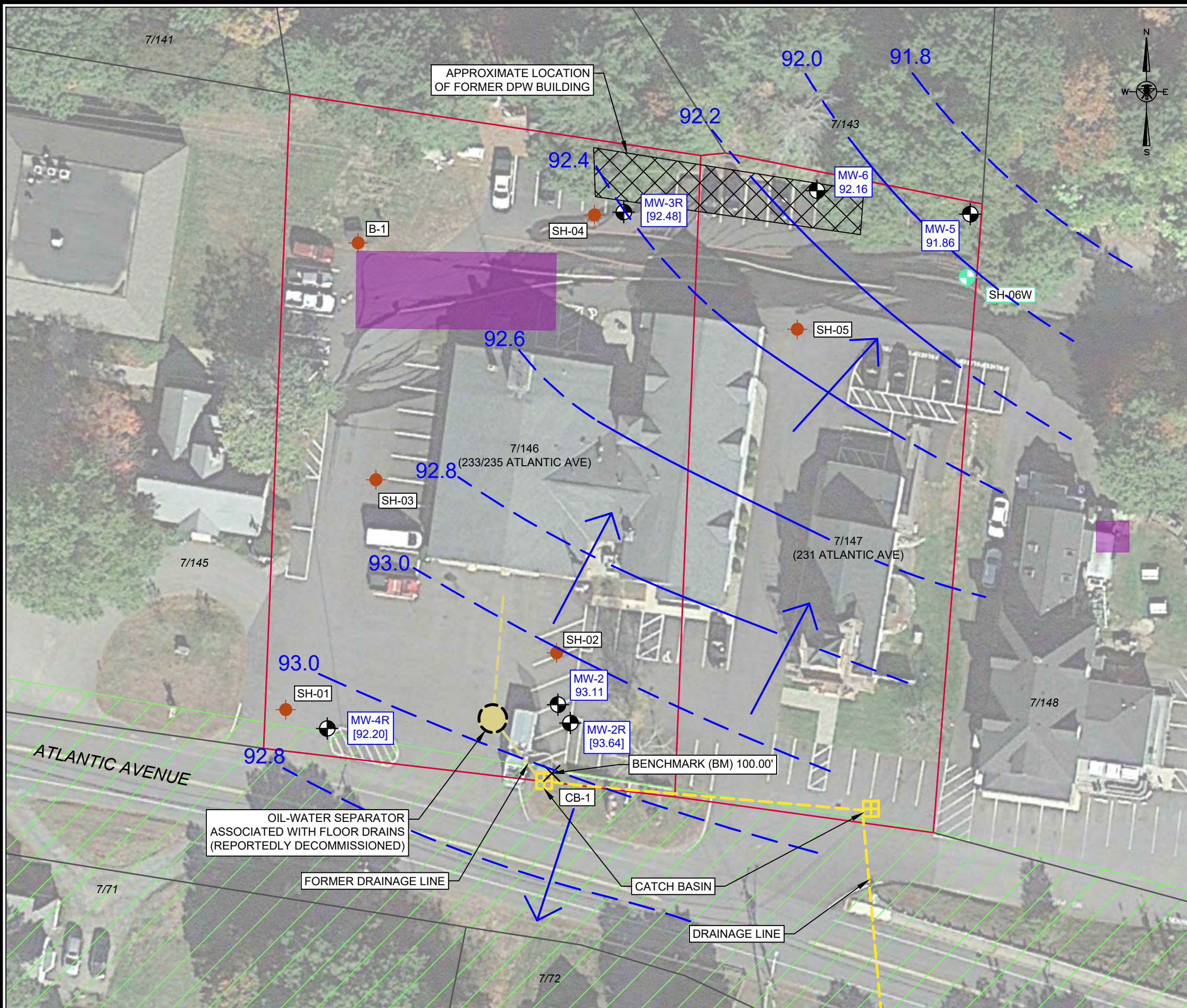
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Reviewed by: T. Stone

Drafted by: L. Hayden

Revision Date: 9/12/21 LKH

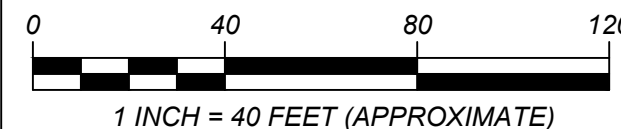
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# LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE TAX MAP BOUNDARY
- INTERPRETED GROUNDWATER ELEVATION CONTOUR (FT) AND FLOW DIRECTION
- SH-06W SITE INVESTIGATION (SI) TEMPORARY WELL
- SH-01 SI SOIL BORING (SHA)
- TAX MAP/LOT NUMBER
- SEPTIC SYSTEM AREA (APPROX.) BASED ON LOCAL FILE REVIEW (SHA)
- APPROXIMATE LOCATION OF WELLHEAD PROTECTION AREA
- MW-2 OVERBURDEN GROUNDWATER MONITORING WELL W/ GW ELEVATION (FT) [93.11]
- MW-2R BEDROCK GROUNDWATER MONITORING WELL W/ GW ELEVATION (FT) [93.64]

## SCALE

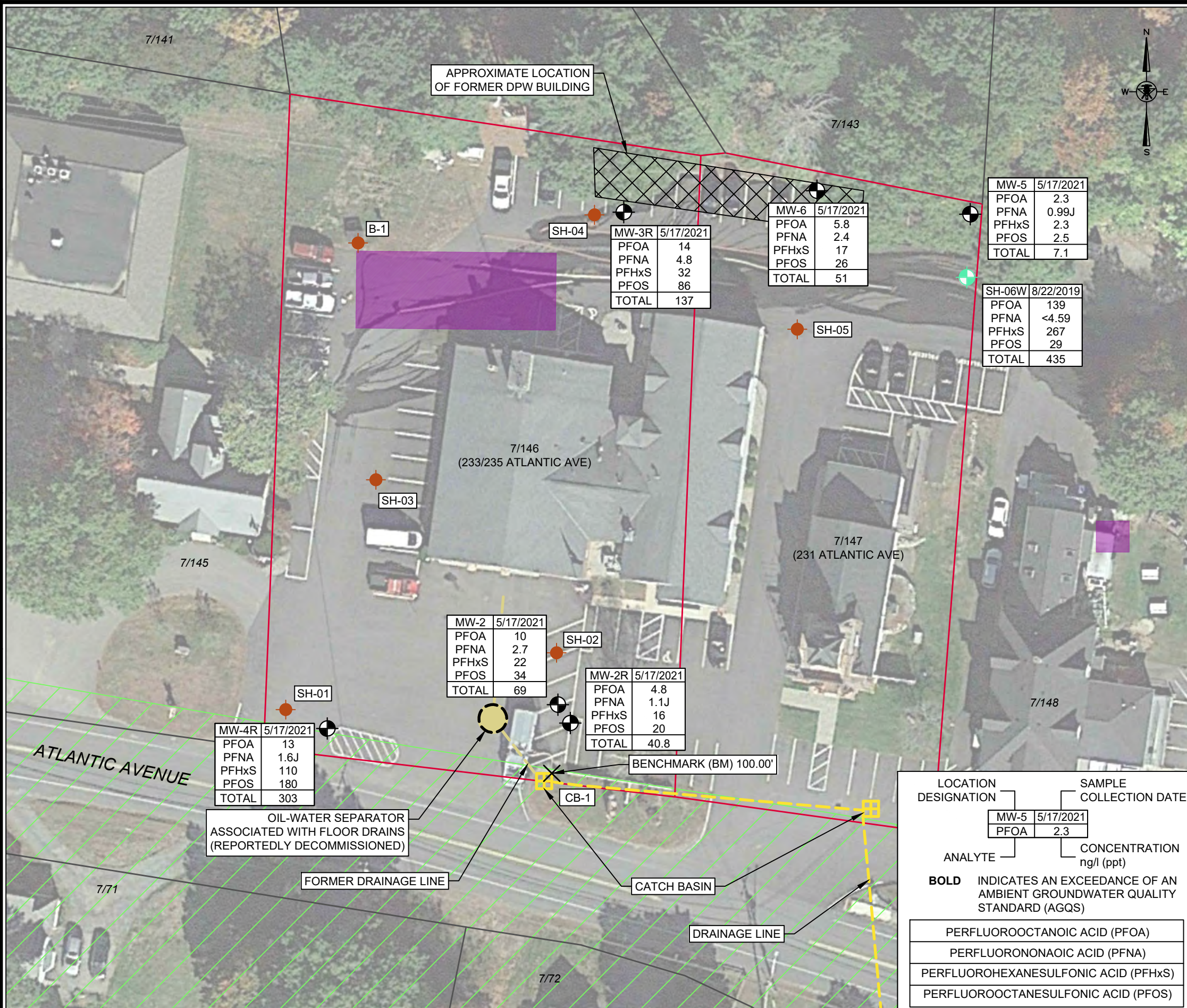


NOTES:  
 SITE PLAN AND FEATURES ARE APPROXIMATE. SITE PLAN IS BASED ON "SITE FEATURES AND EXPLORATION LOCATION PLAN" BY SANBORN HEAD, DATED MARCH 2020; AERIAL IMAGERY; AND FIELD OBSERVATIONS. BENCHMARK AT NE CORNER OF STORM DRAIN GRATE ASSIGNED 100.00 FEET.

**FIGURE 7**  
**INTERPRETED OVERBURDEN GROUNDWATER FLOW (MAY 17, 2021)**  
 North Hampton Municipal Complex  
 231-235 Atlantic Avenue Area  
 North Hampton, NH  
 NHDES Site No. 201904026

Prepared by:  
 StoneHill Environmental  
 a subsidiary of CEA  
 Project No. 2021003





# LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE TAX MAP BOUNDARY
- SH-06W SITE INVESTIGATION (SI) TEMPORARY WELL
- SH-01 SI SOIL BORING (SHA)
- 7/143 TAX MAP/LOT NUMBER
- SEPTIC SYSTEM AREA (APPROX.) BASED ON LOCAL FILE REVIEW (SHA)
- APPROXIMATE LOCATION OF WELLHEAD PROTECTION AREA
- MW-2 OVERBURDEN GROUNDWATER MONITORING WELL
- MW-2R BEDROCK GROUNDWATER MONITORING WELL

# SCALE



NOTE:  
 SITE PLAN AND FEATURES ARE APPROXIMATE.  
 SITE PLAN IS BASED ON "SITE FEATURES AND EXPLORATION LOCATION PLAN" BY SANBORN HEAD, DATED MARCH 2020; AERIAL IMAGERY; AND FIELD OBSERVATIONS.

## FIGURE 8 GROUNDWATER PFAS RESULTS

North Hampton Municipal Complex  
 231-235 Atlantic Avenue Area  
 North Hampton, NH  
 NHDES Site No. 201904026

Prepared by:  
 StoneHill Environmental  
 a subsidiary of CEA  
 Project No. 2021003

LOCATION DESIGNATION	SAMPLE COLLECTION DATE
<b>MW-5</b>	<b>5/17/2021</b>
<b>PFOA</b>	<b>2.3</b>
ANALYTE	CONCENTRATION ng/l (ppt)
<b>PFOA</b>	<b>2.3</b>
PERFLUORONONAOIC ACID (PFNA)	
PERFLUOROHXANESULFONIC ACID (PFHxS)	
PERFLUOROCTANESULFONIC ACID (PFOS)	

**BOLD** INDICATES AN EXCEEDANCE OF AN AMBIENT GROUNDWATER QUALITY STANDARD (AGQS)



**APPENDIX A**

**Boring Logs/Monitoring Well Construction Data**

BORING CO: Geosearch      DRILLING METHOD: Air hammer      STICKUP HT:  
FOREMAN: Christopher Stamas      BORING LOCATION: NW of complex near dumpster      CASING ELEV:  
GEOLOGIST: M. Eyster      DATE START: 4/19/2021      DATE END: 4/19/2021      GROUND ELEV:

SAMPLER				GROUNDWATER				FIELD HEAD-SPACE SCREEN (ppm)	DEPTH (FT.)	WELL COMPLETION DETAILS
Method Used				DATE	DEPTH	REFERENCE	STABILIZATION TIME			
TYPE:	DIAMETER:	FALL:	WT:	SAMPLE DESCRIPTION						
DEPTH (FT.)	SAMPLE NUMBER	X	SAMPLE REC/PEN	BLOWS/6 inches	Casing (blows/ft) Drill (min/ft)			NOTES		
1	B-1 (0-15 ft)					Surface: Grass			1	
2						0 - 15 feet: Light grey, weathered schist, powdery, some Gravel. Dry.			2	
3									3	
4									4	
5									5	
6									6	
7									7	
8									8	
9									9	
10									10	
11									11	
12									12	
13									13	
14									14	
15									15	
16								End boring at 15 ft bgs. No well installed.		
17							17			
18							18			
19							19			
20							20			

GRANULAR SOILS		COHESIVE SOILS		NOTES:	LEGEND
BLOWS/ft.	DENSITY	BLOWS/ft.	CONSISTENCY	ft. = feet	
0-4	V.LOOSE	<2	V.SOFT	bgs = below ground surface	- Bentonite
4-10	LOOSE	2-4	SOFT		- Cement
10-30	M.DENSE	4-8	M.STIFF		- Backfill
30-50	DENSE	8-15	STIFF		- Sand
>50	V.DENSE	15-30	V.STIFF		- Well screen
		>30	HARD		- Water Table

X = Approximate depth of sample recovered for possible laboratory analyses  
REC/PEN = Inches of sample recovered in split spoon/Penetration depth of split spoon

WOR = Weight of Rods.  
WOH = Weight of Hammer.

BORING CO: Geosearch  
FOREMAN: Christopher Stamas  
GEOLOGIST: M. Eyster

DRILLING METHOD: 4.25" ID hollow stem auger  
BORING LOCATION: S side of complex, N of MW-2R  
DATE START: 4/19/2021 DATE END: 4/19/2021

STICKUP HT: flush  
CASING ELEV: 101.13 ft  
GROUND ELEV: NA

SAMPLER				GROUNDWATER				FIELD HEAD-SPACE SCREEN (ppm)	DEPTH (FT.)	WELL COMPLETION DETAILS			
Method Used				DATE	DEPTH	REFERENCE	STABILIZATION TIME						
				4/28/2021	7.85	BTOC (PVC)	7 days						
TYPE: DIAMETER: FALL: WT:				SAMPLE DESCRIPTION				NOTES	DEPTH (FT.)	WELL COMPLETION DETAILS			
DEPTH (FT.)	SAMPLE NUMBER	SAMPLE REC/PEN	BLOWS/6 inches	Casing (blows/ft) Drill (min/ft)									
1	B-2 (0-12 ft)				Surface: Pavement 0 - 12 feet: Brown, fine to coarse SAND, some Silt and Gravel.						1		
2											2		
3											3		
4											4		
5											5		
6											6		
7											7		
8											8		
9											9		
10											10		
11											11		
12											12		
13					End boring at 12 ft bgs. Set well at 12 ft bgs. Installed two-inch diameter, 0.01-inch slot PVC screen between 7 and 12 ft, and two-inch diameter PVC riser between 0 and 7 ft. Filled with cuttings between 0.5 to 5 ft bgs and installed filter sand between 6 to 12 ft bgs, and bentonite chips between 5 to 6 ft bgs. Completed well with protective roadbox flush with ground surface set in concrete pad.						13		
14											14		
15											15		
16											16		
17											17		
18											18		
19									19				
20									20				

GRANULAR SOILS		COHESIVE SOILS		NOTES:	LEGEND
BLOWS/ft.	DENSITY	BLOWS/ft.	CONSISTENCY		
0-4	V.LOOSE	<2	V.SOFT	ft. = feet bgs = below ground surface	
4-10	LOOSE	2-4	SOFT		
10-30	M.DENSE	4-8	M.STIFF		
30-50	DENSE	8-15	STIFF		
>50	V.DENSE	15-30	V.STIFF		
		>30	HARD		

X = Approximate depth of sample recovered for possible laboratory analyses  
REC/PEN = Inches of sample recovered in split spoon/Penetration depth of split spoon

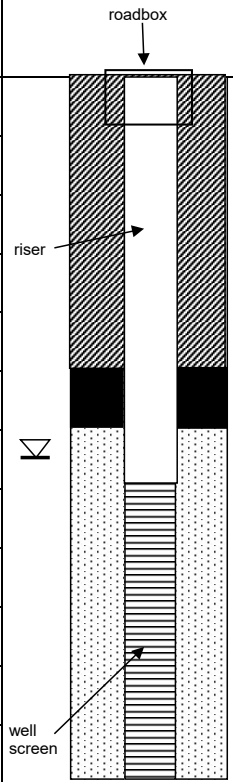
WOR = Weight of Rods.  
WOH = Weight of Hammer.

BORING CO: Geosearch	DRILLING METHOD: 4.25" ID hollow stem auger	STICKUP HT: flush
FOREMAN: Christopher Stamas	BORING LOCATION: NE side of complex, E of MW-6	CASING ELEV: 98.42 ft
GEOLOGIST: M. Eyster	DATE START: 4/20/2021      DATE END: 4/20/2021	GROUND ELEV: NA

SAMPLER		GROUNDWATER				FIELD HEAD-SPACE SCREEN (ppm)	WELL COMPLETION DETAILS
TYPE: Acetate Sleeves	Method Used	DATE	DEPTH	REFERENCE	STABILIZATION TIME		
DIAMETER:		4/28/2021	6.36	BTOC (PVC)	7 days		
FALL:	WT:						

DEPTH (FT.)	SAMPLE			Casing (blows/ft) Drill (min/ft)	SAMPLE DESCRIPTION	NOTES	DEPTH (FT.)
	SAMPLE NUMBER	X	SAMPLE REC/PEN				
1					Surface: Grass		1
2							2
3							3
4							4
5							5
6							6
7							7
8							8
9	B-5 (8-10 ft)	X	1.5' / 2'	22	8 - 9 feet: Brown, fine to coarse SAND and clayey SILT, some Gravel. Wet.		9
29							
34							
10				50	9 - 10 feet: Brown, fine to coarse SAND and SILT, some Gravel.		10
11							11
12							12
13					End boring at 12 ft bgs. Set well at 12 ft bgs.		13
14					Installed two-inch diameter, 0.01-inch slot PVC screen between 7 and 12 ft, and two-inch diameter PVC riser between 0 and 7 ft.		14
15					Filled with cuttings between 0.5 to 5 ft bgs and installed filter sand between 6 to 12 ft bgs, and bentonite chips between 5 to 6 ft bgs.		15
16					Completed well with protective roadbox flush with ground surface set in concrete pad.		16
17							17
18							18
19							19
20							20

GRANULAR SOILS		COHESIVE SOILS		NOTES: Lab sample collected from 8-9 ft bgs.  ft. = feet  bgs = below ground surface	LEGEND	
BLOWS/ft.	DENSITY	BLOWS/ft.	CONSISTENCY			
0-4	V.LOOSE	<2	V.SOFT			- Bentonite
4-10	LOOSE	2-4	SOFT			- Cement
10-30	M.DENSE	4-8	M.STIFF			- Backfill
30-50	DENSE	8-15	STIFF			- Sand
>50	V.DENSE	15-30	V.STIFF			- Well screen
		>30	HARD			- Water Table



X = Approximate depth of sample recovered for possible laboratory analyses  
REC/PEN = Inches of sample recovered in split spoon/Penetration depth of split spoon

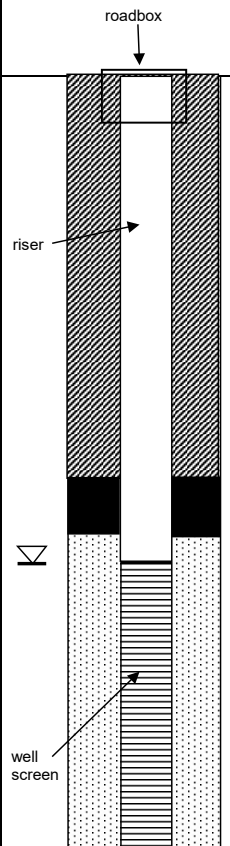
WOR = Weight of Rods.  
WOH = Weight of Hammer.

BORING CO: Geosearch  
FOREMAN: Christopher Stamas  
GEOLOGIST: M. Eyster

DRILLING METHOD: 4.25"ID hollow stem auger  
BORING LOCATION: NE side of complex, W of MW-5  
DATE START: 4/19/2021 DATE END: 4/19/2021

STICKUP HT: flush  
CASING ELEV: 100.765 ft  
GROUND ELEV: NA

SAMPLER				GROUNDWATER				NOTES	FIELD HEAD-SPACE SCREEN (ppm)	DEPTH (FT.)	WELL COMPLETION DETAILS
TYPE:			Method Used	DATE	DEPTH	REFERENCE	STABILIZATION TIME				
DIAMETER:				4/28/2021	8.36	BTOC (PVC)	7 days				
FALL:			WT:								
DEPTH (FT.)	SAMPLE			Casing (blows/ft) Drill (min/ft)	SAMPLE DESCRIPTION				DEPTH (FT.)	WELL COMPLETION DETAILS	
	SAMPLE NUMBER	X	SAMPLE REC/PEN								BLOWS/6 inches
1					Surface: Grass						
2					0 - 2 feet: (Topsoil) Brown, fine to coarse SAND and SILT, little Gravel.						
3					2 - 6 feet: Light grey, powdery rock						
4											
5											
6											
7					6 - 13.5 feet: Brown, fine to coarse SAND, some Silt.						
8											
9											
10											
11											
12											
13											
14					13.5 - 15 feet: Brown to gray, fine to coarse SAND, some silty Clay. Wet.						
15											
16					End boring at 15 ft bgs. Set well at 13.5 ft bgs.						
17					Installed two-inch diameter, 0.01-inch slot PVC screen between 8.5 and 13.5 ft, and two-inch diameter PVC riser between 0 and 8.5 ft.						
18					Filled with cuttings between 0.5 to 7 ft bgs and installed filter sand between 8 to 13.5 ft bgs, and bentonite chips between 7 to 8 ft bgs.						
19					Completed well with protective roadbox flush with ground surface set in concrete pad.						
20											



GRANULAR SOILS		COHESIVE SOILS	
BLOWS/ft.	DENSITY	BLOWS/ft.	CONSISTENCY
0-4	V.LOOSE	<2	V.SOFT
4-10	LOOSE	2-4	SOFT
10-30	M.DENSE	4-8	M.STIFF
30-50	DENSE	8-15	STIFF
>50	V.DENSE	15-30	V.STIFF
		>30	HARD

NOTES:  
ft. = feet  
bgs = below ground surface

LEGEND	
	- Bentonite
	- Cement
	- Backfill
	- Sand
	- Well screen
	- Water Table

X = Approximate depth of sample recovered for possible laboratory analyses  
REC/PEN = Inches of sample recovered in split spoon/Penetration depth of split spoon

WOR = Weight of Rods.  
WOH = Weight of Hammer.

BORING CO: Geosearch FOREMAN: Christopher Stamas GEOLOGIST: C. Tomforde (NHPG)	DRILLING METHOD: Air hammer BORING LOCATION: In driveway; south side of complex. DATE START: 4/19/21      DATE END: 4/20/21	STICKUP HT: flush CASING ELEV: 100.45 ft GROUND ELEV: not surveyed
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SAMPLER				GROUNDWATER				FIELD HEAD-SPACE SCREEN (ppmv)	DEPTH (FT.)	WELL COMPLETION DETAILS
TYPE:	Method Used			DATE	DEPTH	REFERENCE	STABILIZATION TIME			
DIAMETER:				4/28/2021	12.17**	BOC	See note below			
FALL:	WT:			SAMPLE DESCRIPTION				NOTES	DEPTH (FT.)	WELL COMPLETION DETAILS
DEPTH (FT.)	SAMPLE NUMBER	X	SAMPLE REC/PEN	BLOWS/6 inches	Casing (blows/ft) core (min/ft)					
1						Advance boring with 4 1/4- inch ID HSA.				
2						0 - 10 feet: (Cuttings) Gray, fine to coarse SAND, some Gravel, little Silt.				
3										
4										
5										
6										
7										
8										
9										
10										
11						Resistance at 10 feet, air hammer inside HSA.				
12						10 - 14 feet: Brown, SILT and SAND. Wet.				
13										
14										
15						Refusal on bedrock @ 14'				
16										
17										
18										
19										
20						Air hammer 4" diameter "socket" into bedrock to 19 feet bgs.				
21						Install 4-inch diameter steel casing from ground surface to 19 feet bgs and grout in place with Portland cement/bentonite mixture. Return on 4/20/21 and roller bit/wash grout from steel casing and advance boring in bedrock to 30 feet bgs.				

GRANULAR SOILS		COHESIVE SOILS		LEGEND
OWS/ft.	DENSITY	BLOWS/ft.	NSISTENCY	
0-4	V.LOOSE	<2	V.SOFT	<div style="display: flex; flex-direction: column; gap: 5px;"> <div><span style="display: inline-block; width: 15px; height: 10px; background-color: black; border: 1px solid black;"></span> - Bentonite</div> <div><span style="display: inline-block; width: 15px; height: 10px; border: 1px dashed black;"></span> - Cement</div> <div><span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); border: 1px solid black;"></span> - Backfill</div> <div><span style="display: inline-block; width: 15px; height: 10px; background: radial-gradient(circle, black 1px, transparent 1px); background-size: 4px 4px; border: 1px solid black;"></span> - Sand</div> <div><span style="display: inline-block; width: 15px; height: 10px; border-top: 1px solid black; border-bottom: 1px solid black;"></span> - Well screen</div> <div><span style="display: inline-block; width: 15px; height: 10px; border-bottom: 1px solid black;"></span> - Water Table</div> </div>
4-10	LOOSE	2-4	SOFT	
10-30	M.DENSE	4-8	M.STIFF	
30-50	DENSE	8-15	STIFF	
>50	V.DENSE	15-30	V.STIFF	
		>30	HARD	

X = Approximate depth of sample recovered for possible laboratory analyses  
 REC/PEN = Inches of sample recovered in sampler/Penetration depth of sampler  
 WOR = Weight of Rods.  
 WOH = Weight of Hammer.





BORING CO: Geosearch FOREMAN: Christopher Stamas GEOLOGIST: C. Tomforde (NHPG)	DRILLING METHOD: Air hammer BORING LOCATION: In driveway; north side of complex. DATE START: 4/16/21      DATE END: 4/20/21	STICKUP HT: flush CASING ELEV: 101.64 ft GROUND ELEV: not surveyed
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SAMPLER				GROUNDWATER				FIELD HEAD-SPACE SCREEN (ppmv)	DEPTH (FT.)	WELL COMPLETION DETAILS
Method Used				DATE	DEPTH	REFERENCE	STABILIZATION TIME			
				4/28/2021	8.95	BTOC (Steel)	1 week			
DEPTH (FT.)	SAMPLE NUMBER	SAMPLE WT: REC/PEN		BLOWS/6 inches	Casing (blows/ft) core (min/ft)				NOTES	roadbox
SAMPLE DESCRIPTION										
1					Advance boring with 4 1/4- inch ID HSA.				<p>4-inch diam steel casing to 18 feet</p> <p>3-3/4-inch diam open hole bedrock well</p>	
2					0 - 5 feet: (Cuttings) Brown SAND.					
3										
4										
5										
6										
7					Refusal at 7 feet, air hammer inside HSA.					
8					7 - 9 feet: Boulder.					
9										
10					9 - 13 feet: Brown SAND and GRAVEL (glacial till).					
11										
12										
13										
14					Refusal @ 13' on weathered grey schist bedrock					
15										
16										
17										
18										
19					Air hammer 4-inch diameter "socket" into bedrock to 18 feet bgs.					
20					Install 4-inch diameter steel casing from ground surface to 18 feet bgs and grout in place with Portland cement/bentonite mixture.					
21					Return on 4/20/21 and air hammer 3.75" diameter boring in bedrock to 28 feet bgs.					

GRANULAR SOILS		COHESIVE SOILS		LEGEND	
OWS/ft.	DENSITY	BLOWS/ft.	NSISTENCY		
0-4	V.LOOSE	<2	V.SOFT		- Bentonite
4-10	LOOSE	2-4	SOFT		- Cement
10-30	M.DENSE	4-8	M.STIFF		- Backfill
30-50	DENSE	8-15	STIFF		- Sand
>50	V.DENSE	15-30	V.STIFF		- Well screen
		>30	HARD		- Water Table

X = Approximate depth of sample recovered for possible laboratory analyses  
 REC/PEN = Inches of sample recovered in sampler/Penetration depth of sampler  
 WOR = Weight of Rods.  
 WOH = Weight of Hammer.



BORING CO: Geosearch FOREMAN: Christopher Stamas GEOLOGIST: C. Tomforde (NHPG)	DRILLING METHOD: Hollow Stem Auger & Air Hammer BORING LOCATION: In driveway; southwest side of complex. DATE START: 4/16/21      DATE END: 4/20/21	STICKUP HT: flush CASING ELEV: 100.725 ft GROUND ELEV: not surveyed
--------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------

SAMPLER				GROUNDWATER				FIELD HEAD-SPACE SCREEN (ppmv)	DEPTH (FT.)	WELL COMPLETION DETAILS
TYPE:	Method Used			DATE	DEPTH	REFERENCE	STABILIZATION TIME			
DIAMETER:				4/28/2021	8.44	BTOC	1 week			
FALL:	WT:			SAMPLE DESCRIPTION				NOTES		roadbox
DEPTH (FT.)	SAMPLE NUMBER	X	SAMPLE REC/PEN							
1					Advance boring with 4 1/4- inch ID HSA. 0 - 14 feet: (Cuttings) Grayish brown, fine to coarse SAND and GRAVEL, some Silt (till). Relatively dense.			1	<p>4-inch diam steel casing to 18 feet</p> <p>3-3/4-inch diam open hole bedrock well</p>	
2										2
3										3
4										4
5										5
6										6
7										7
8										8
9										9
10										10
11										11
12										12
13										13
14										14
15					Refusal on grey schist at 14 feet, air hammer inside HSA to 18.5'			15		
16									16	
17									17	
18									18	
19									19	
20									20	
21									21	

GRANULAR SOILS		COHESIVE SOILS		LEGEND	
OWS/ft.	DENSITY	BLOWS/ft.	NSISTENCY		
0-4	V.LOOSE	<2	V.SOFT		- Bentonite
4-10	LOOSE	2-4	SOFT		- Cement
10-30	M.DENSE	4-8	M.STIFF		- Backfill
30-50	DENSE	8-15	STIFF		- Sand
>50	V.DENSE	15-30	V.STIFF		- Well screen
		>30	HARD		- Water Table

X = Approximate depth of sample recovered for possible laboratory analyses  
 REC/PEN = Inches of sample recovered in sampler/Penetration depth of sampler  
 WOR = Weight of Rods.  
 WOH = Weight of Hammer.

BORING CO: Geosearch FOREMAN: Christopher Stamas GEOLOGIST: C. Tomforde (NHPG)	DRILLING METHOD: Air hammer BORING LOCATION: In driveway; southwest side of complex. DATE START: 4/16/21      DATE END: 4/20/21	STICKUP HT: flush CASING ELEV: 100.725 ft GROUND ELEV: not surveyed
--------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------

SAMPLER					GROUNDWATER				NOTES	FIELD HEAD-SPACE SCREEN (ppmv)	DEPTH (FT.)	WELL COMPLETION DETAILS				
TYPE:		Method Used			DATE	DEPTH	REFERENCE	STABILIZATION TIME								
DIAMETER:																
FALL:		WT:			SAMPLE DESCRIPTION											
DEPTH (FT.)	SAMPLE NUMBER	X	SAMPLE REC/PEN	BLOWS/6 inches								Casing (blows/ft) core (min/ft)				
21					Roller bit/wash bedrock boring to 40 feet below ground surface (bgs).					21						
22													22			
23													23			
24													24			
25													25			
26													26			
27													27			
28													28			
29													29			
30													30			
31													31			
32													32			
33													33			
34													34			
35													35			
36													36			
37													37			
38													38			
39													39			
40													40			
41													41			

3-3/4-inch diam open hole bedrock well →

<b>GRANULAR SOILS</b> 0-4    V.LOOSE 4-10    LOOSE 10-30    M.DENSE 30-50    DENSE >50    V.DENSE	<b>COHESIVE SOILS</b> <2    V.SOFT 2-4    SOFT 4-8    M.STIFF 8-15    STIFF 15-30    V.STIFF >30    HARD	<b>NOTES:</b>	<b>LEGEND</b> 
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X = Approximate depth of sample recovered for possible laboratory analyses  
 REC/PEN = Inches of sample recovered in sampler/Penetration depth of sampler  
 WOR = Weight of Rods.  
 WOH = Weight of Hammer.

**APPENDIX B**

**Laboratory Analytical Reports**

# Laboratory Report



**Absolute Resource** *associates*

124 Heritage Avenue Portsmouth NH 03801

Mark Henderson  
StoneHill Environmental  
600 State St  
Suite 2  
Portsmouth, NH 03801

PO Number: None  
Job ID: 57015  
Date Received: 5/17/21

Project: 231 Atlantic Ave. North Hampton, NH 2021003

Attached please find results for the analysis of the samples received on the date referenced above.

Subcontracted analyses are provided under separate cover.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below. The reported results apply to the sample(s) in the condition as received at the time the laboratory took custody. This report shall not be reproduced except in full, without written approval of the laboratory. The liability of ARA is limited to the cost of the requested analyses, unless otherwise agreed upon in writing.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,  
Absolute Resource Associates

A handwritten signature in black ink, appearing to read "A. DeWees".

Aaron DeWees  
Chief Operating Officer

Date of Approval: 6/4/2021  
Total number of pages: 19

## **Absolute Resource Associates Certifications**

New Hampshire 1732  
Maine NH902

Massachusetts M-NH902

Project ID: 231 Atlantic Ave. North Hampton, NH 2021003

Job ID: 57015

Sample#: 57015-001

Sample ID: MW-2

Matrix: Water

Sampled: 5/17/21 13:45

Method Reference: SOP-5317r0

Parameter	Result	Reporting			Dil'n	Analyst	Prep Date	Batch	Analysis	
		Limit	DL	Units					Date	Time
perfluorotetradecanoic acid (PFTEA)	2.1 U	2.1	0.49	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorotridecanoic acid (PFTRIA)	2.1 U	2.1	1.1	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorododecanoic acid (PFDOA)	2.1 U	2.1	0.38	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluoroundecanoic acid (PFUNA)	0.26 J	2.1	0.24	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorodecanoic acid (PFDA)	1.5 J	2.1	0.72	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorononanoic acid (PFNA)	2.7	2.1	0.61	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorooctanoic acid (PFOA)	10	2.1	0.17	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluoroheptanoic acid (PFHPA)	6.2	2.1	0.082	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorohexanoic acid (PFHXA)	19	2.1	0.34	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluoropentanoic acid (PFPA)	16	2.1	1.3	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorobutanoic acid (PFBA)	7.9	2.1	0.17	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorodecane sulfonic acid (PFDS)	2.1 U	2.1	0.15	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorononanesulfonic acid (PFNS)	2.1 U	2.1	0.25	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorooctane sulfonic acid (PFOS)	34	2.1	0.22	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluoroheptane sulfonic acid (PFHPS)	0.59 J	2.1	0.23	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorohexane sulfonic acid (PFHXS)	22	2.1	0.37	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluoropentane sulfonic acid (PFPEs)	2.8	2.1	0.12	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorobutane sulfonic acid (PFBS)	9.9	2.1	0.36	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
8:2 fluorotelomer sulfonic acid (82FTS)	2.8	2.1	0.21	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
6:2 fluorotelomer sulfonic acid (62FTS)	0.73 J	2.1	0.31	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
4:2 fluorotelomer sulfonic acid (42FTS)	2.1 U	2.1	0.29	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
perfluorooctane sulfonamide (PFOSA) (FOSA)	2.1 U	2.1	0.16	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
n-methyl perfluorooctane sulfonamide (NMEFOSA)	2.1 U	2.1	0.25	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	2.1 U	2.1	0.69	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	2.1 U	2.1	0.60	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	2.1 U	2.1	0.21	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	2.1 U	2.1	0.20	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	2.1 U	2.1	0.20	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	2.1 U	2.1	0.15	ng/L	1	ACA	5/20/21	13894	5/20/21	17:10
<b>Surrogate Recovery</b>										
13C2-PFTeA SUR	83	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:10

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.



**Project ID:** 231 Atlantic Ave. North Hampton, NH 2021003

**Job ID:** 57015

**Sample#:** 57015-001

**Sample ID:** MW-2

**Matrix:** Water

**Sampled:** 5/17/21 13:45

**Method Reference:** SOP-5317r0

Parameter	Result	Reporting	Dil'n			Prep	Analysis		
		Limit	DL	Units	Factor	Analyst	Date	Batch	Date
<b>Surrogate Recovery</b>		<b>Limits</b>							
13C-PFDoA SUR	<b>104</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C7-PFUnA SUR	<b>97</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C6-PFDA SUR	<b>93</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C9-PFNA SUR	<b>93</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C8-PFOA SUR	<b>98</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C4-PFHpA SUR	<b>89</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C5-PFHxA SUR	<b>85</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C5-PFPeA SUR	<b>167</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C-PFBA SUR	<b>100</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C8-PFOS SUR	<b>95</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C3-PFHxS SUR	<b>95</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C3-PFBS SUR	<b>88</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C2-8:2FTSA SUR	<b>144</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C2-6:2FTSA SUR	<b>156</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C2-4:2FTSA SUR	<b>163</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C8-FOSA SUR	<b>60</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
D3-NMeFOSA SUR	<b>20</b>	10-100	%	1	ACA	5/20/21	13894	5/20/21	17:10
D5-NEtFOSAA SUR	<b>115</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
D3-NMeFOSAA SUR	<b>104</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10
13C3-HFPO-DA SUR	<b>66</b>	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:10

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.

Project ID: 231 Atlantic Ave. North Hampton, NH 2021003

Job ID: 57015

Sample#: 57015-002

Sample ID: MW-2R

Matrix: Water

Sampled: 5/17/21 13:55

Method Reference: SOP-5317r0

Parameter	Result	Reporting			Dil'n	Analyst	Prep Date	Batch	Analysis	
		Limit	DL	Units					Date	Time
perfluorotetradecanoic acid (PFTEA)	2.3 U	2.3	0.53	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorotridecanoic acid (PFTRIA)	2.3 U	2.3	1.2	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorododecanoic acid (PFDOA)	2.3 U	2.3	0.41	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluoroundecanoic acid (PFUNA)	2.3 U	2.3	0.26	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorodecanoic acid (PFDA)	2.3 U	2.3	0.77	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorononanoic acid (PFNA)	1.1 J	2.3	0.66	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorooctanoic acid (PFOA)	4.8	2.3	0.18	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluoroheptanoic acid (PFHPA)	2.5	2.3	0.088	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorohexanoic acid (PFHXA)	5.9	2.3	0.37	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluoropentanoic acid (PFPA)	4.0	2.3	1.4	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorobutanoic acid (PFBA)	3.8	2.3	0.18	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorodecane sulfonic acid (PFDS)	2.3 U	2.3	0.16	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorononanesulfonic acid (PFNS)	2.3 U	2.3	0.27	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorooctane sulfonic acid (PFOS)	20	2.3	0.24	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluoroheptane sulfonic acid (PFHPS)	0.40 J	2.3	0.24	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorohexane sulfonic acid (PFHXS)	16	2.3	0.39	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluoropentane sulfonic acid (PFPEs)	1.8 J	2.3	0.13	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorobutane sulfonic acid (PFBS)	5.7	2.3	0.39	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
8:2 fluorotelomer sulfonic acid (82FTS)	2.3 U	2.3	0.22	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
6:2 fluorotelomer sulfonic acid (62FTS)	2.3 U	2.3	0.33	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
4:2 fluorotelomer sulfonic acid (42FTS)	2.3 U	2.3	0.31	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
perfluorooctane sulfonamide (PFOSA) (FOSA)	2.3 U	2.3	0.17	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
n-methyl perfluorooctane sulfonamide (NMEFOSA)	2.3 U	2.3	0.27	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	2.3 U	2.3	0.74	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	2.3 U	2.3	0.65	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	2.3 U	2.3	0.23	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	2.3 U	2.3	0.21	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	2.3 U	2.3	0.22	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	2.3 U	2.3	0.16	ng/L	1	ACA	5/20/21	13894	5/21/21	14:59
<b>Surrogate Recovery</b>										
13C2-PFTeA SUR	115	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59	

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.

Project ID: 231 Atlantic Ave. North Hampton, NH 2021003

Job ID: 57015

Sample#: 57015-002

Sample ID: MW-2R

Matrix: Water

Sampled: 5/17/21 13:55

Method Reference: SOP-5317r0

Parameter	Result	Reporting	Dil'n			Prep Date	Batch	Analysis	
		Limit	DL	Units	Factor			Analyst	Date
<b>Surrogate Recovery</b>		<b>Limits</b>							
13C-PFDoA SUR	81	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C7-PFUnA SUR	59	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C6-PFDA SUR	104	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C9-PFNA SUR	103	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C8-PFOA SUR	103	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C4-PFHpA SUR	102	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C5-PFHxA SUR	93	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C5-PFPeA SUR	147	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C-PFBA SUR	103	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C8-PFOS SUR	99	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C3-PFHxS SUR	98	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C3-PFBS SUR	90	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C2-8:2FTSA SUR	235 *	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C2-6:2FTSA SUR	251 *	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C2-4:2FTSA SUR	276 *	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C8-FOSA SUR	57	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
D3-NMeFOSA SUR	22	10-100	%	1	ACA	5/20/21	13894	5/21/21	14:59
D5-NEtFOSAA SUR	148	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
D3-NMeFOSAA SUR	144	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59
13C3-HFPO-DA SUR	71	50-200	%	1	ACA	5/20/21	13894	5/21/21	14:59

\* This analogue showed recovery outside of the acceptance criteria. Re-analysis produced similar results.

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.

**Project ID:** 231 Atlantic Ave. North Hampton, NH 2021003

**Job ID:** 57015

**Sample#:** 57015-003

**Sample ID:** MW-3R

**Matrix:** Water

**Sampled:** 5/17/21 14:15

**Method Reference:** SOP-5317r0

Parameter	Result	Reporting			Dil'n	Analyst	Prep Date	Batch	Analysis	
		Limit	DL	Units					Date	Time
perfluorotetradecanoic acid (PFTEA)	2.4 U	2.4	0.54	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorotridecanoic acid (PFTRIA)	2.4 U	2.4	1.2	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorododecanoic acid (PFDOA)	2.4 U	2.4	0.42	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluoroundecanoic acid (PFUNA)	2.4 U	2.4	0.26	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorodecanoic acid (PFDA)	2.9	2.4	0.79	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorononanoic acid (PFNA)	4.8	2.4	0.67	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorooctanoic acid (PFOA)	14	2.4	0.19	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluoroheptanoic acid (PFHPA)	5.8	2.4	0.090	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorohexanoic acid (PFHXA)	44	2.4	0.38	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluoropentanoic acid (PFPA)	31	2.4	1.5	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorobutanoic acid (PFBA)	9.1	2.4	0.18	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorodecane sulfonic acid (PFDS)	2.4 U	2.4	0.17	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorononanesulfonic acid (PFNS)	2.4 U	2.4	0.27	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorooctane sulfonic acid (PFOS)	86	2.4	0.24	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluoroheptane sulfonic acid (PFHPS)	1.0 J	2.4	0.25	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorohexane sulfonic acid (PFHXS)	32	2.4	0.40	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluoropentane sulfonic acid (PFPEs)	2.6	2.4	0.13	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorobutane sulfonic acid (PFBS)	23	2.4	0.40	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
8:2 fluorotelomer sulfonic acid (82FTS)	0.40 J	2.4	0.23	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
6:2 fluorotelomer sulfonic acid (62FTS)	1.7 J	2.4	0.34	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
4:2 fluorotelomer sulfonic acid (42FTS)	2.4 U	2.4	0.32	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
perfluorooctane sulfonamide (PFOSA) (FOSA)	2.2 J	2.4	0.18	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
n-methyl perfluorooctane sulfonamide (NMEFOSA)	2.4 U	2.4	0.27	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	3.8	2.4	0.76	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	2.4 U	2.4	0.66	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	2.4 U	2.4	0.23	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	2.4 U	2.4	0.22	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	2.4 U	2.4	0.22	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	2.4 U	2.4	0.16	ng/L	1	ACA	5/20/21	13894	5/21/21	15:15
<b>Surrogate Recovery</b>		<b>Limits</b>								
13C2-PFTeA SUR	140	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15	

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.

Project ID: 231 Atlantic Ave. North Hampton, NH 2021003

Job ID: 57015

Sample#: 57015-003

Sample ID: MW-3R

Matrix: Water

Sampled: 5/17/21 14:15

Method Reference: SOP-5317r0

Parameter	Result	Reporting	Dil'n			Prep Date	Batch	Analysis	
		Limit	DL	Units	Factor			Analyst	Date
<b>Surrogate Recovery</b>		<b>Limits</b>							
13C-PFDoA SUR	128	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C7-PFUnA SUR	90	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C6-PFDA SUR	95	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C9-PFNA SUR	91	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C8-PFOA SUR	105	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C4-PFHpA SUR	99	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C5-PFHxA SUR	91	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C5-PFPeA SUR	448 *	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C-PFBA SUR	104	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C8-PFOS SUR	97	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C3-PFHxS SUR	99	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C3-PFBS SUR	88	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C2-8:2FTSA SUR	182	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C2-6:2FTSA SUR	158	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C2-4:2FTSA SUR	198	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C8-FOSA SUR	71	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
D3-NMeFOSA SUR	23	10-100	%	1	ACA	5/20/21	13894	5/21/21	15:15
D5-NEtFOSAA SUR	119	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
D3-NMeFOSAA SUR	148	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15
13C3-HFPO-DA SUR	76	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:15

Note: The response of IS13C4-PFBA was below acceptance criteria. Re-analysis produced similar results. Matrix interference suspected.

\* This analogue showed recovery outside of the acceptance criteria. Re-analysis produced similar results.

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.

Project ID: 231 Atlantic Ave. North Hampton, NH 2021003

Job ID: 57015

Sample#: 57015-004

Sample ID: MW-4R

Matrix: Water

Sampled: 5/17/21 14:05

Method Reference: SOP-5317r0

Parameter	Result	Reporting			Dil'n	Analyst	Prep Date	Batch	Analysis	
		Limit	DL	Units					Date	Time
perfluorotetradecanoic acid (PFTEA)	2.1 U	2.1	0.48	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorotridecanoic acid (PFTRIA)	2.1 U	2.1	1.1	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorododecanoic acid (PFDOA)	2.1 U	2.1	0.37	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluoroundecanoic acid (PFUNA)	2.1 U	2.1	0.24	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorodecanoic acid (PFDA)	2.1 U	2.1	0.71	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorononanoic acid (PFNA)	1.6 J	2.1	0.60	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorooctanoic acid (PFOA)	13	2.1	0.17	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluoroheptanoic acid (PFHPA)	5.1	2.1	0.080	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorohexanoic acid (PFHXA)	24	2.1	0.34	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluoropentanoic acid (PFPA)	15	2.1	1.3	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorobutanoic acid (PFBA)	6.8	2.1	0.16	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorodecane sulfonic acid (PFDS)	2.1 U	2.1	0.15	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorononanesulfonic acid (PFNS)	2.1 U	2.1	0.24	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorooctane sulfonic acid (PFOS)	180	2.1	0.22	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluoroheptane sulfonic acid (PFHPS)	4.7	2.1	0.22	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorohexane sulfonic acid (PFHXS)	110	2.1	0.36	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluoropentane sulfonic acid (PFPEs)	15	2.1	0.12	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorobutane sulfonic acid (PFBS)	34	2.1	0.36	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
8:2 fluorotelomer sulfonic acid (82FTS)	2.1 U	2.1	0.20	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
6:2 fluorotelomer sulfonic acid (62FTS)	1.3 J	2.1	0.30	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
4:2 fluorotelomer sulfonic acid (42FTS)	2.1 U	2.1	0.28	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
perfluorooctane sulfonamide (PFOSA) (FOSA)	0.26 J	2.1	0.16	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
n-methyl perfluorooctane sulfonamide (NMEFOSA)	2.1 U	2.1	0.24	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	2.1 U	2.1	0.68	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	2.1 U	2.1	0.59	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	2.1 U	2.1	0.21	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	2.1 U	2.1	0.19	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	2.1 U	2.1	0.20	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	2.1 U	2.1	0.14	ng/L	1	ACA	5/20/21	13894	5/20/21	17:58
<b>Surrogate Recovery</b>		<b>Limits</b>								
13C2-PFTeA SUR	87	50-200	%	1	ACA	5/20/21	13894	5/20/21	17:58	

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.

**Project ID:** 231 Atlantic Ave. North Hampton, NH 2021003

**Job ID:** 57015

**Sample#:** 57015-004

**Sample ID:** MW-4R

**Matrix:** Water

**Sampled:** 5/17/21 14:05

**Method Reference:** SOP-5317r0

Parameter	Result	Reporting	Dil'n			Prep	Analysis			
		Limit	DL	Units	Factor	Analyst	Date	Batch	Date	Time
<b>Surrogate Recovery</b>		<b>Limits</b>								
13C-PFDoA SUR	<b>108</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C7-PFUnA SUR	<b>93</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C6-PFDA SUR	<b>90</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C9-PFNA SUR	<b>83</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C8-PFOA SUR	<b>99</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C4-PFHpA SUR	<b>111</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C5-PFHxA SUR	<b>108</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C5-PFPeA SUR	<b>149</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C-PFBA SUR	<b>102</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C8-PFOS SUR	<b>99</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C3-PFHxS SUR	<b>105</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C3-PFBS SUR	<b>101</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C2-8:2FTSA SUR	<b>102</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C2-6:2FTSA SUR	<b>102</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C2-4:2FTSA SUR	<b>102</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C8-FOSA SUR	<b>61</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
D3-NMeFOSA SUR	<b>19</b>	10-100		%	1	ACA	5/20/21	13894	5/20/21	17:58
D5-NEtFOSAA SUR	<b>92</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
D3-NMeFOSAA SUR	<b>106</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58
13C3-HFPO-DA SUR	<b>100</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21	17:58

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.

Project ID: 231 Atlantic Ave. North Hampton, NH 2021003

Job ID: 57015

Sample#: 57015-005

Sample ID: MW-5

Matrix: Water

Sampled: 5/17/21 14:35

Method Reference: SOP-5317r0

Parameter	Result	Reporting			Dil'n	Analyst	Prep Date	Batch	Analysis	
		Limit	DL	Units					Date	Time
perfluorotetradecanoic acid (PFTEA)	2.3 U	2.3	0.52	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorotridecanoic acid (PFTRIA)	2.3 U	2.3	1.1	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorododecanoic acid (PFDOA)	2.3 U	2.3	0.40	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluoroundecanoic acid (PFUNA)	2.3 U	2.3	0.25	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorodecanoic acid (PFDA)	2.3 U	2.3	0.75	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorononanoic acid (PFNA)	0.99 J	2.3	0.64	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorooctanoic acid (PFOA)	2.3	2.3	0.18	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluoroheptanoic acid (PFHPA)	0.95 J	2.3	0.086	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorohexanoic acid (PFHXA)	2.2 J	2.3	0.36	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluoropentanoic acid (PFPA)	2.1 J	2.3	1.4	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorobutanoic acid (PFBA)	1.0 J	2.3	0.17	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorodecane sulfonic acid (PFDS)	2.3 U	2.3	0.16	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorononanesulfonic acid (PFNS)	2.3 U	2.3	0.26	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorooctane sulfonic acid (PFOS)	2.5	2.3	0.23	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluoroheptane sulfonic acid (PFHPS)	2.3 U	2.3	0.24	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorohexane sulfonic acid (PFHXS)	2.3	2.3	0.38	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluoropentane sulfonic acid (PFPEs)	2.3 U	2.3	0.13	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorobutane sulfonic acid (PFBS)	1.3 J	2.3	0.38	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
8:2 fluorotelomer sulfonic acid (82FTS)	2.3 U	2.3	0.22	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
6:2 fluorotelomer sulfonic acid (62FTS)	2.3 U	2.3	0.32	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
4:2 fluorotelomer sulfonic acid (42FTS)	2.3 U	2.3	0.30	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
perfluorooctane sulfonamide (PFOSA) (FOSA)	2.3 U	2.3	0.17	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
n-methyl perfluorooctane sulfonamide (NMEFOSA)	2.3 U	2.3	0.26	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	2.3 U	2.3	0.72	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	2.3 U	2.3	0.63	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	2.3 U	2.3	0.22	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	2.3 U	2.3	0.21	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	2.3 U	2.3	0.21	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	2.3 U	2.3	0.15	ng/L	1	ACA	5/20/21	13894	5/21/21	15:31
<b>Surrogate Recovery</b>		<b>Limits</b>								
13C2-PFTeA SUR	96	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:31	

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.



Project ID: 231 Atlantic Ave. North Hampton, NH 2021003

Job ID: 57015

Sample#: 57015-005

Sample ID: MW-5

Matrix: Water

Sampled: 5/17/21 14:35

Method Reference: SOP-5317r0

Parameter	Result	Reporting	DL	Units	Dil'n	Analyst	Prep	Batch	Analysis	
		Limit							Date	Time
<b>Surrogate Recovery</b>		<b>Limits</b>								
13C-PFDoA SUR	<b>104</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C7-PFUnA SUR	<b>79</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C6-PFDA SUR	<b>99</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C9-PFNA SUR	<b>102</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C8-PFOA SUR	<b>103</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C4-PFHpA SUR	<b>98</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C5-PFHxA SUR	<b>82</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C5-PFPeA SUR	<b>140</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C-PFBA SUR	<b>102</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C8-PFOS SUR	<b>99</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C3-PFHxS SUR	<b>97</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C3-PFBS SUR	<b>83</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C2-8:2FTSA SUR	<b>107</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C2-6:2FTSA SUR	<b>129</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C2-4:2FTSA SUR	<b>156</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C8-FOSA SUR	<b>55</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
D3-NMeFOSA SUR	<b>12</b>	10-100		%	1	ACA	5/20/21	13894	5/21/21	15:31
D5-NEtFOSAA SUR	<b>98</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
D3-NMeFOSAA SUR	<b>104</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31
13C3-HFPO-DA SUR	<b>81</b>	50-200		%	1	ACA	5/20/21	13894	5/21/21	15:31

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.

Project ID: 231 Atlantic Ave. North Hampton, NH 2021003

Job ID: 57015

Sample#: 57015-006

Sample ID: MW-6

Matrix: Water

Sampled: 5/17/21 14:25

Method Reference: SOP-5317r0

Parameter	Result	Reporting			Dil'n	Analyst	Prep Date	Batch	Analysis	
		Limit	DL	Units					Date	Time
perfluorotetradecanoic acid (PFTEA)	2.3 U	2.3	0.52	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorotridecanoic acid (PFTRIA)	2.3 U	2.3	1.2	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorododecanoic acid (PFDOA)	2.3 U	2.3	0.40	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluoroundecanoic acid (PFUNA)	2.3 U	2.3	0.26	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorodecanoic acid (PFDA)	1.4 J	2.3	0.77	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorononanoic acid (PFNA)	2.4	2.3	0.65	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorooctanoic acid (PFOA)	5.8	2.3	0.18	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluoroheptanoic acid (PFHPA)	2.1 J	2.3	0.087	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorohexanoic acid (PFHXA)	10.0	2.3	0.36	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluoropentanoic acid (PFPA)	7.4	2.3	1.4	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorobutanoic acid (PFBA)	5.0	2.3	0.18	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorodecane sulfonic acid (PFDS)	2.3 U	2.3	0.16	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorononanesulfonic acid (PFNS)	2.3 U	2.3	0.26	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorooctane sulfonic acid (PFOS)	26	2.3	0.23	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluoroheptane sulfonic acid (PFHPS)	0.36 J	2.3	0.24	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorohexane sulfonic acid (PFHXS)	17	2.3	0.39	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluoropentane sulfonic acid (PFPEs)	1.5 J	2.3	0.13	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorobutane sulfonic acid (PFBS)	7.4	2.3	0.39	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
8:2 fluorotelomer sulfonic acid (82FTS)	2.3 U	2.3	0.22	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
6:2 fluorotelomer sulfonic acid (62FTS)	2.3 U	2.3	0.33	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
4:2 fluorotelomer sulfonic acid (42FTS)	2.3 U	2.3	0.31	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
perfluorooctane sulfonamide (PFOSA) (FOSA)	2.3 U	2.3	0.17	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
n-methyl perfluorooctane sulfonamide (NMEFOSA)	2.3 U	2.3	0.26	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	2.3 U	2.3	0.73	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	2.3 U	2.3	0.64	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	2.3 U	2.3	0.22	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	2.3 U	2.3	0.21	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	2.3 U	2.3	0.22	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	2.3 U	2.3	0.16	ng/L	1	ACA	5/20/21	13894	5/21/21	15:47
<b>Surrogate Recovery</b>										
13C2-PFTeA SUR	93	50-200	%	1	ACA	5/20/21	13894	5/21/21	15:47	

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.

Project ID: 231 Atlantic Ave. North Hampton, NH 2021003

Job ID: 57015

Sample#: 57015-006

Sample ID: MW-6

Matrix: Water

Sampled: 5/17/21 14:25

Method Reference: SOP-5317r0

Parameter	Result	Reporting	Dil'n			Prep Date	Batch	Analysis	
		Limit	DL	Units	Factor			Analyst	Date
<b>Surrogate Recovery</b>		<b>Limits</b>							
13C-PFDoA SUR	92	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C7-PFUnA SUR	80	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C6-PFDA SUR	89	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C9-PFNA SUR	79	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C8-PFOA SUR	98	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C4-PFHpA SUR	100	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C5-PFHxA SUR	96	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C5-PFPeA SUR	260 *	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C-PFBA SUR	102	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C8-PFOS SUR	99	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C3-PFHxS SUR	102	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C3-PFBS SUR	93	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C2-8:2FTSA SUR	129	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C2-6:2FTSA SUR	117	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C2-4:2FTSA SUR	143	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C8-FOSA SUR	55	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
D3-NMeFOSA SUR	16	10-100		%	1	ACA	5/20/21	13894	5/21/21 15:47
D5-NEtFOSAA SUR	86	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
D3-NMeFOSAA SUR	103	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47
13C3-HFPO-DA SUR	80	50-200		%	1	ACA	5/20/21	13894	5/21/21 15:47

Note: The response of IS13C4-PFBA was below acceptance criteria. Re-analysis produced similar results. Matrix interference suspected.

\* This analogue showed recovery outside of the acceptance criteria. Re-analysis produced similar results.

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.

Project ID: 231 Atlantic Ave. North Hampton, NH 2021003

Job ID: 57015

Sample#: 57015-007

Sample ID: Field Blank

Matrix: Water

Sampled: 5/17/21 14:45

Method Reference: SOP-5317r0

Parameter	Result	Reporting			Dil'n	Analyst	Prep Date	Batch	Analysis	
		Limit	DL	Units					Date	Time
perfluorotetradecanoic acid (PFTEA)	1.8 U	1.8	0.41	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorotridecanoic acid (PFTRIA)	1.8 U	1.8	0.90	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorododecanoic acid (PFDOA)	1.8 U	1.8	0.31	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluoroundecanoic acid (PFUNA)	1.8 U	1.8	0.20	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorodecanoic acid (PFDA)	1.8 U	1.8	0.59	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorononanoic acid (PFNA)	1.8 U	1.8	0.51	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorooctanoic acid (PFOA)	1.8 U	1.8	0.14	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluoroheptanoic acid (PFHPA)	1.8 U	1.8	0.068	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorohexanoic acid (PFHXA)	1.8 U	1.8	0.28	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluoropentanoic acid (PFPA)	1.8 U	1.8	1.1	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorobutanoic acid (PFBA)	1.8 U	1.8	0.14	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorodecane sulfonic acid (PFDS)	1.8 U	1.8	0.12	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorononanesulfonic acid (PFNS)	1.8 U	1.8	0.20	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorooctane sulfonic acid (PFOS)	1.8 U	1.8	0.18	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluoroheptane sulfonic acid (PFHPS)	1.8 U	1.8	0.19	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorohexane sulfonic acid (PFHXS)	1.8 U	1.8	0.30	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluoropentane sulfonic acid (PFPEs)	1.8 U	1.8	0.099	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorobutane sulfonic acid (PFBS)	1.8 U	1.8	0.30	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
8:2 fluorotelomer sulfonic acid (82FTS)	1.8 U	1.8	0.17	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
6:2 fluorotelomer sulfonic acid (62FTS)	1.8 U	1.8	0.25	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
4:2 fluorotelomer sulfonic acid (42FTS)	1.8 U	1.8	0.24	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
perfluorooctane sulfonamide (PFOSA) (FOSA)	1.8 U	1.8	0.13	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
n-methyl perfluorooctane sulfonamide (NMEFOSA)	1.8 U	1.8	0.20	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	1.8 U	1.8	0.57	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	1.8 U	1.8	0.50	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	1.8 U	1.8	0.17	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	1.8 U	1.8	0.16	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	1.8 U	1.8	0.17	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	1.8 U	1.8	0.12	ng/L	1	ACA	5/20/21	13894	5/20/21	16:06
<b>Surrogate Recovery</b>		<b>Limits</b>								
13C2-PFTeA SUR	<b>90</b>	<b>50-200</b>	<b>%</b>	<b>1</b>	<b>ACA</b>	<b>5/20/21</b>	<b>13894</b>	<b>5/20/21</b>	<b>16:06</b>	

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.

**Project ID:** 231 Atlantic Ave. North Hampton, NH 2021003

**Job ID:** 57015

**Sample#:** 57015-007

**Sample ID:** Field Blank

**Matrix:** Water

**Sampled:** 5/17/21 14:45

**Method Reference:** SOP-5317r0

Parameter	Result	Reporting	Dil'n			Prep Date	Batch	Analysis	
		Limit	DL	Units	Factor			Analyst	Date
<b>Surrogate Recovery</b>		<b>Limits</b>							
13C-PFDoA SUR	<b>86</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C7-PFUnA SUR	<b>74</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C6-PFDA SUR	<b>89</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C9-PFNA SUR	<b>88</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C8-PFOA SUR	<b>102</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C4-PFHpA SUR	<b>91</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C5-PFHxA SUR	<b>90</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C5-PFPeA SUR	<b>104</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C-PFBA SUR	<b>100</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C8-PFOS SUR	<b>98</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C3-PFHxS SUR	<b>100</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C3-PFBS SUR	<b>90</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C2-8:2FTSA SUR	<b>88</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C2-6:2FTSA SUR	<b>97</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C2-4:2FTSA SUR	<b>82</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C8-FOSA SUR	<b>59</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
D3-NMeFOSA SUR	<b>14</b>	10-100		%	1	ACA	5/20/21	13894	5/20/21 16:06
D5-NEtFOSAA SUR	<b>83</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
D3-NMeFOSAA SUR	<b>156</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06
13C3-HFPO-DA SUR	<b>85</b>	50-200		%	1	ACA	5/20/21	13894	5/20/21 16:06

U = This compound was analyzed for, but not detected above the associated method detection limit.

J = The analytical result was below the instrument calibration range, but above the method detection limit. The reported concentration is an estimate.



## Isotope Dilution

SOP-5317r0 is an isotope dilution method. As such, isotopically labelled analogues and performance standards are used to account for variability that may arise from the extraction process or analytical instrumentation. Compounds labelled as “SUR” are utilized as extracted internal standards, meaning that they are subject to all steps of the extraction process. Compounds labelled as “IS” are used as performance standards and are added to samples following extraction. Isotope dilution analogue concentrations are calculated based upon the response of internal standards. In turn, the concentration of a target analyte is calculated in relation to the recovery of its associated analogue.

Direct analogues are used whenever possible, as they will behave identically to their analogous target analyte during the extraction process. However, not all the reported analytes have direct analogues commercially available. In instances where no direct analogue is available, an analogue with similar structure and chemistry to the target analyte is employed.

Refer to the included “Isotope Dilution Association Table” for the specific analogue (SS) and performance standard (IS) associated with each target compound.



124 Heritage Avenue Unit 16  
Portsmouth, NH 03801

[www.absoluteresourceassociates.com](http://www.absoluteresourceassociates.com)

## Isotope Dilution Association Table

Analyte	Analogue (SS)	Performance Standard (IS)
PFTEA	13C2-PFTeA SUR	13C2-PFOA IS
PFTRIA	13C2-PFTeA SUR	13C2-PFOA IS
PFDOA	13C-PFDoA SUR	13C2-PFOA IS
PFUNA	13C7-PFUnA SUR	13C2-PFOA IS
PFDA	13C6-PFDA SUR	13C2-PFOA IS
PFNA	13C9-PFNA SUR	13C2-PFOA IS
PFOA	13C8-PFOA SUR	13C2-PFOA IS
PFHPA	13C4-PFHpA SUR	13C2-PFOA IS
PFHXA	13C5-PFHxA SUR	13C2-PFOA IS
PFPA	13C5-PFPeA SUR	13C3-PFBA IS
PFBA	13C-PFBA SUR	13C3-PFBA IS
PFDS	13C8-PFOS SUR	13C4-PFOS IS
PFNS	13C8-PFOS SUR	13C4-PFOS IS
PFOS	13C8-PFOS SUR	13C4-PFOS IS
PFHPS	13C8-PFOS SUR	13C4-PFOS IS
PFHXS	13C3-PFHxS SUR	13C4-PFOS IS
PFPEs	13C3-PFHxS SUR	13C4-PFOS IS
PFBS	13C3-PFBS SUR	13C4-PFOS IS
82FTS	13C2-8:2FTSA SUR	13C4-PFOS IS
62FTS	13C2-6:2FTSA SUR	13C4-PFOS IS
42FTS	13C2-4:2FTSA SUR	13C4-PFOS IS
FOSA	13C8-FOSA SUR	13C4-PFOS IS
NMEFOSA	D3-NMeFOSA SUR	13C4-PFOS IS
NETFOSAA	D5-NEtFOSAA SUR	13C2-PFOA IS
NMEFOSAA	D3-NMeFOSAA SUR	13C2-PFOA IS
HFPODA	13C3-HFPO-DA SUR	13C2-PFOA IS
ADONA	13C4-PFHpA SUR	13C2-PFOA IS
11CLPF3OUDS	13C8-PFOS SUR	13C4-PFOS IS
9CLPF3ONS	13C8-PFOS SUR	13C4-PFOS IS



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[www.absoluteresourceassociates.com](http://www.absoluteresourceassociates.com)



124 Heritage Avenue #16  
 Portsmouth, NH 03801  
 603-436-2001  
 absolutesourceassociates.com

**CHAIN-OF-CUSTODY RECORD  
 AND ANALYSIS REQUEST**

57015

**ANALYSIS REQUEST**

**Company Name:** Stonehill Environmental  
**Company Address:** 600 State St., Suite 2, Portsmouth, NH  
**Report To:** Mark Henderson  
**Phone #:** 603-812-7071  
**Invoice to:** Haley.Molett@cea-inc.com  
**Email:**  
**PO #:**

**Project Name:** 231 Atlantic Ave.  
**Project #:** 2021003  
**Project Location:** NH MA ME VT  
**Accreditation Required? N/Y:**  
**Protocol:** RCRA SDWA NPDES  
 MCP NHDES DOD  
**Reporting Limits:** QAPP SWH S-1  
 EPA DW Other  
**Quote #**  
 NH Reimbursement Pricing

<input type="checkbox"/> VOC 8260	<input type="checkbox"/> VOC 8260 NHDES	<input type="checkbox"/> VOC 8260 MADEP	<input type="checkbox"/> VOC 624.1	<input type="checkbox"/> VOC BTEX MBE, only	<input type="checkbox"/> VOC 8021VT	<input type="checkbox"/> VPH MADEP	<input type="checkbox"/> GR0 8015	<input type="checkbox"/> 1,4-Dioxane	<input type="checkbox"/> VOC 524.2	<input type="checkbox"/> VOC 524.2 NH List	<input type="checkbox"/> Gases-List:	<input type="checkbox"/> TPH	<input type="checkbox"/> DR0 8015	<input type="checkbox"/> EPH MADEP	<input type="checkbox"/> TPH Fingerprint	<input type="checkbox"/> 8270PAH	<input type="checkbox"/> 8270ABN	<input type="checkbox"/> 825.1	<input type="checkbox"/> EDB	<input type="checkbox"/> 8092 PCB	<input type="checkbox"/> 8081 Pesticides	<input type="checkbox"/> 608.3 Pest/PCB	<input checked="" type="checkbox"/> PFAS 57.1	<input type="checkbox"/> O&G 1664	<input type="checkbox"/> Mineral O&G 1664	<input type="checkbox"/> pH	<input type="checkbox"/> BOD	<input type="checkbox"/> Conductivity	<input type="checkbox"/> Turbidity	<input type="checkbox"/> Apparent Color	<input type="checkbox"/> TSS	<input type="checkbox"/> TDS	<input type="checkbox"/> TS	<input type="checkbox"/> TVS	<input type="checkbox"/> Alkalinity	<input type="checkbox"/> Acidity	<input type="checkbox"/> RCRA Metals	<input type="checkbox"/> Priority Pollutant Metals	<input type="checkbox"/> TAL Metals	<input type="checkbox"/> Hardness	<input type="checkbox"/> Total Metals-List:	<input type="checkbox"/> Dissolved Metals-List:	<input type="checkbox"/> Ammonia	<input type="checkbox"/> COD	<input type="checkbox"/> TKN	<input type="checkbox"/> TM	<input type="checkbox"/> TOC	<input type="checkbox"/> Ferrous Iron	<input type="checkbox"/> T-Phosphorus	<input type="checkbox"/> Bacteria P/A	<input type="checkbox"/> Bacteria MPN	<input type="checkbox"/> Enterococci	<input type="checkbox"/> Cyanide	<input type="checkbox"/> Sulfide	<input type="checkbox"/> Nitrite + Nitrate	<input type="checkbox"/> Ortho P	<input type="checkbox"/> Phenols	<input type="checkbox"/> Nitrate	<input type="checkbox"/> Nitrite	<input type="checkbox"/> Chloride	<input type="checkbox"/> Sulfate	<input type="checkbox"/> Bromide	<input type="checkbox"/> Fluoride	<input type="checkbox"/> Corrosivity	<input type="checkbox"/> Ignitibility/PP	<input type="checkbox"/> TCLP Metals	<input type="checkbox"/> TCLP VOC	<input type="checkbox"/> TCLP SVOC	<input type="checkbox"/> TCLP Pesticide	Subcontract: <input type="checkbox"/> Grain Size <input type="checkbox"/> Herbicides <input type="checkbox"/> Asbestos	Grab (G) or Composite (C)
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Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix			Preservation Method					Sampling			SAMPLER	
			WATER	SOLID	OTHER	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	DATE	TIME			
57015-01	MW-2	2	X									5-17-21	1345	ME	
02	MW-2R	2	X									5-17-21	1355	ME	
03	MW-3R	2	X									5-17-21	1415	ME	
04	MW-4R	2	X									5-17-21	1405	ME	
05	MW-5	2	X									5-17-21	1435	ME	
06	MW-6	2	X									5-17-21	1425	ME	
07	Field blank	1	X									5-17-21	1445	ME	
08	3 (MW-5), 89' gas	1		X								4-20-21	0830	ME	Cancel per customer - 5/18/21
09	sewer drain	1		X								5-17-21	0925	ME	

**TAT REQUESTED:** Priority (24 hr)\*  Expedited (48 hr)\*  Standard (10 Business Days)  \*Date Needed

See absolutesourceassociates.com for sample acceptance policy and current accreditation lists.

**SPECIAL INSTRUCTIONS**

**REPORTING INSTRUCTIONS:**  PDF (e-mail address) Mark.Henderson@stonehillenvironmental.com  
 HARD COPY REQUIRED  EDD

**RECEIVED ON ICE TEMPERATURE:** YES  NO  3 °C

**CUSTODY RECORD**  
 OSD-01 Revision 03/09/2020

Relinquished by Sampler: <i>Mark Henderson</i>	Date: 5-17-21 Time: 17:30	Received by:	Date:	Time:
Relinquished by:	Date:	Received by:	Date:	Time:
Relinquished by:	Date:	Received by Laboratory: <i>[Signature]</i>	Date: 5/17/21	Time: 1730



# Sample Receipt Condition Report

# 57015

**Absolute Resource Associates**
**Job Number:**

Samples Received from: -UPS -FedEx -USPS -Lab Courier -Client Drop-off -\_\_\_\_\_

Custody Seals - present & intact: -Yes -No -N/A CoC signed: -Yes -No

Receipt Temp: 3 °C Samples on ice? -Yes -No -N/A Sampled < 24 hrs ago? -Yes -No

PFAS-only real ice? -Yes -No -N/A Any signs of freezing? -Yes -No

Comments:

Preservation / Analysis	Bottle Size/Type & Quantity						Check pH for ALL applicable* samples and document:
HCl	40mL(G)	250mL(P)	500mL(P)	1L(G)			
HNO <sub>3</sub>	125mL(P)	250mL(P)	500mL(P)				
H <sub>2</sub> SO <sub>4</sub>	40mL(G)	60mL(P)	125mL(P)	250mL(P)	500mL(P)		
NaOH	125mL(P)	250mL(P)					
(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	60mL(P)	125mL(P)	250mL(P)				
ZnAc-NaOH	125mL(P)	250mL(P)					
Trizma	125mL(P)	250mL (P)					*pH ✓ by analyst: VOC, PFAS, TOC, O&G
NH <sub>4</sub> Ac	125mL(P)	250mL (P)	13				Residual Cl not present:
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	40mL(G)	120mL(P)					ABN625 _____ Pest608 _____
MeOH	20mL(G)	40mL(G)					Bacteria ResCl ✓ by analyst
None (solid)	2oz(G)	4oz(G)	8oz(G)	Syringe	250(P)	2	PC Dry applicable? Y N
None (water)	40ml (G)	60mL(P)	125mL(P)	250mL(P)	500mL(P)		1L(G) 1L (P)

Mold	Cassette	Bulk	Plate	Tape Lift
Asbestos	Cassette	Bulk		
Lead	Cassette	Bulk	Wipe	

Login Review	Yes	No	N/A	Comments
Proper lab sample containers/enough volume/correct preservative?	X			
Analyses marked on COC match bottles received?	X			
VOC & TOC Water-no headspace?			X	
VOC Solid-MeOH covers solid, no leaks, Prep Expiration OK?			X	
PFAS: Lab specific bottles? QC received, if required?	X			
Bacteria bottles provided by ARA?			X	
Samples within holding time?	X			-08 solid sampled 4/20
Immediate tests communicated in writing: NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , pH, BOD, Coliform/E. coli (P/A or MPN), Enterococci, Color Surfactants, Turbidity, Odor, CrVI, Ferrous Iron, Dissolved Oxygen, Unpres 624			X	
Date, time & ID on samples match CoC?	X			
Rushes communicated to analyst in writing?			X	
Subcontract note on login board?	X			BV Labs
Pesticides EPA 608 pH5-9?	X			
Compliance samples have no discrepancies/require no flags?	X			(Or must be rejected)
Log-in Supervisor notified immediately of following items:				Discrepancies, compliance samples (NHDES, MADEP, DoD etc.) or uncommon requests. <u>Solid PFAS</u>

 Inspected and Received By: [Signature]

 Date/Time: 5/18/21 9:29

Peer Review Checklist			
<input checked="" type="checkbox"/> Client ID/Project Manager	<input checked="" type="checkbox"/> On Ice, Temperature OK?	<input checked="" type="checkbox"/> Sample IDs	<input checked="" type="checkbox"/> Analyses in Correctly
<input checked="" type="checkbox"/> Project Name	<input checked="" type="checkbox"/> PO# (if provided)	<input checked="" type="checkbox"/> Matrix	-references
<input type="checkbox"/> TAT/rushes communicated	<input checked="" type="checkbox"/> Sub samples sent? Shipping Charge?	<input checked="" type="checkbox"/> Date/Time collected	-wastewater methods
<input checked="" type="checkbox"/> Received Date/Time	<input type="checkbox"/> Issues noted above communicated?	<input type="checkbox"/> Short HT's communicated	<input type="checkbox"/> Notes from CoC in LIMS
Reviewed By: <u>[Signature]</u>		Date: <u>5-21-21</u>	

Notes: (continue on back as needed)

Initials	Date	What was sent?
Uploaded / PDF	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	Report / Data / EDD / Invoice



# Catch Basin CB-1 Sediment Sample

Your P.O. #: 57015  
Your Project #: 57015  
Your C.O.C. #: na

**Attention: Aaron DeWees**

Absolute Resource Associates LLC  
124 Heritage Avenue  
Unit # 16  
Portsmouth, NH  
USA 03801

**Report Date: 2021/06/04**  
Report #: R6661597  
Version: 1 - Final

## CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C1D5176**  
**Received: 2021/05/19, 12:38**

Sample Matrix: Soil  
# Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Moisture	1	N/A	2021/05/20	CAM SOP-00445	Carter 2nd ed 51.2 m
PFAS in soil by SPE/LCMS (1)	1	2021/05/27	2021/06/02	CAM SOP-00894	ASTM D7968-17a m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

U = Undetected at the limit of quantitation.

J = Estimated concentration between the EDL & RDL.

B = Blank Contamination.

Q = One or more quality control criteria failed.

E = Analyte concentration exceeds the maximum concentration level.

K = Estimated maximum possible concentration due to ion abundance ratio failure.



Your P.O. #: 57015  
Your Project #: 57015  
Your C.O.C. #: na

**Attention: Aaron DeWees**

Absolute Resource Associates LLC  
124 Heritage Avenue  
Unit # 16  
Portsmouth, NH  
USA 03801

**Report Date: 2021/06/04**  
Report #: R6661597  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1D5176**  
**Received: 2021/05/19, 12:38**

Encryption Key

Lori Dufour  
Project Manager  
04 Jun 2021 11:28:13

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Lori Dufour, Project Manager  
Email: Lori.Dufour@bureauveritas.com  
Phone# (905) 817-5700

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU  
VERITAS

BV Labs Job #: C1D5176  
Report Date: 2021/06/04

Absolute Resource Associates LLC  
Client Project #: 57015  
Your P.O. #: 57015

### RESULTS OF ANALYSES OF SOIL

<b>BV Labs ID</b>		PPM141			
<b>Sampling Date</b>		2021/05/17 09:25			
<b>COC Number</b>		na			
	<b>UNITS</b>	<b>SEWER DRAIN</b>	<b>RDL</b>	<b>MDL</b>	<b>QC Batch</b>
<b>Inorganics</b>					
Moisture	%	14	1.0	0.50	7364139
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



BUREAU  
VERITAS

BV Labs Job #: C1D5176  
Report Date: 2021/06/04

Absolute Resource Associates LLC  
Client Project #: 57015  
Your P.O. #: 57015

### PERFLUOROALKYL SUBSTANCES (SOIL)

BV Labs ID		PPM141			
Sampling Date		2021/05/17 09:25			
COC Number		na			
	UNITS	SEWER DRAIN	RDL	MDL	QC Batch
<b>Perfluorinated Compounds</b>					
Perfluorobutanoic acid (PFBA)	ug/kg	0.38 J	1.0	0.24	7379547
Perfluoropentanoic acid (PFPeA)	ug/kg	0.45 J	1.0	0.23	7379547
Perfluorohexanoic acid (PFHxA)	ug/kg	0.16 U	1.0	0.16	7379547
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.17 U	1.0	0.17	7379547
Perfluorooctanoic acid (PFOA)	ug/kg	0.20 U	1.0	0.20	7379547
Perfluorononanoic acid (PFNA)	ug/kg	0.27 U	1.0	0.27	7379547
Perfluorodecanoic acid (PFDA)	ug/kg	0.24 U	1.0	0.24	7379547
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.25 U	1.0	0.25	7379547
Perfluorododecanoic acid (PFDoA)	ug/kg	0.19 U	1.0	0.19	7379547
Perfluorotridecanoic acid (PFTRDA)	ug/kg	0.22 U	1.0	0.22	7379547
Perfluorotetradecanoic acid (PFTEDA)	ug/kg	0.30 U	1.0	0.30	7379547
Perfluorobutanesulfonic acid (PFBS)	ug/kg	0.17 U	1.0	0.17	7379547
Perfluoropentanesulfonic acid (PFPS)	ug/kg	0.26 U	1.0	0.26	7379547
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	0.30 U	1.0	0.30	7379547
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	0.17 U	1.0	0.17	7379547
Perfluorooctanesulfonic acid (PFOS)	ug/kg	0.27 U	1.0	0.27	7379547
Perfluorononanesulfonic acid (PFNS)	ug/kg	0.24 U	1.0	0.24	7379547
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.27 U	1.0	0.27	7379547
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.20 U	1.0	0.20	7379547
<b>Surrogate Recovery (%)</b>					
13C2-Perfluorodecanoic acid	%	96	N/A	N/A	7379547
13C2-Perfluorododecanoic acid	%	92	N/A	N/A	7379547
13C2-Perfluorohexanoic acid	%	97	N/A	N/A	7379547
13C2-perfluorotetradecanoic acid	%	91	N/A	N/A	7379547
13C2-Perfluoroundecanoic acid	%	98	N/A	N/A	7379547
13C3-Perfluorobutanesulfonic acid	%	95	N/A	N/A	7379547
13C4-Perfluorobutanoic acid	%	91	N/A	N/A	7379547
13C4-Perfluoroheptanoic acid	%	95	N/A	N/A	7379547
13C4-Perfluorooctanesulfonic acid	%	94	N/A	N/A	7379547
13C4-Perfluorooctanoic acid	%	94	N/A	N/A	7379547
13C5-Perfluorononanoic acid	%	96	N/A	N/A	7379547
13C5-Perfluoropentanoic acid	%	91	N/A	N/A	7379547
13C8-Perfluorooctane Sulfonamide	%	89	N/A	N/A	7379547
18O2-Perfluorohexanesulfonic acid	%	90	N/A	N/A	7379547
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable					



BUREAU  
VERITAS

BV Labs Job #: C1D5176  
Report Date: 2021/06/04

Absolute Resource Associates LLC  
Client Project #: 57015  
Your P.O. #: 57015

### TEST SUMMARY

**BV Labs ID:** PPM141  
**Sample ID:** SEWER DRAIN  
**Matrix:** Soil

**Collected:** 2021/05/17  
**Shipped:**  
**Received:** 2021/05/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	7364139	N/A	2021/05/20	Gurpreet Kaur (ONT)
PFAS in soil by SPE/LCMS	LCMS	7379547	2021/05/27	2021/06/02	Lovelpreet Thind



BUREAU  
VERITAS

BV Labs Job #: C1D5176  
Report Date: 2021/06/04

Absolute Resource Associates LLC  
Client Project #: 57015  
Your P.O. #: 57015

### GENERAL COMMENTS

Results relate only to the items tested.



BUREAU  
VERITAS

BV Labs Job #: C1D5176  
Report Date: 2021/06/04

Absolute Resource Associates LLC  
Client Project #: 57015  
Your P.O. #: 57015

### QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
	7364139	MYG	RPD - Sample/Sample Dup	Moisture	2021/05/20	4.0		%	20
	7379547	LOV	Matrix Spike	13C2-Perfluorododecanoic acid	2021/06/02		63	%	50 - 150
				13C2-Perfluorododecanoic acid	2021/06/02		73	%	50 - 150
				13C2-Perfluorohexanoic acid	2021/06/02		91	%	50 - 150
				13C2-perfluorotetradecanoic acid	2021/06/02		61	%	50 - 150
				13C2-Perfluoroundecanoic acid	2021/06/02		73	%	50 - 150
				13C3-Perfluorobutanesulfonic acid	2021/06/02		92	%	50 - 150
				13C4-Perfluorobutanoic acid	2021/06/02		92	%	50 - 150
				13C4-Perfluoroheptanoic acid	2021/06/02		87	%	50 - 150
				13C4-Perfluorooctanesulfonic acid	2021/06/02		83	%	50 - 150
				13C4-Perfluorooctanoic acid	2021/06/02		82	%	50 - 150
				13C5-Perfluorononanoic acid	2021/06/02		70	%	50 - 150
				13C5-Perfluoropentanoic acid	2021/06/02		87	%	50 - 150
				13C8-Perfluorooctane Sulfonamide	2021/06/02		73	%	50 - 150
				18O2-Perfluorohexanesulfonic acid	2021/06/02		88	%	50 - 150
				Perfluorobutanoic acid (PFBA)	2021/06/02		79	%	70 - 130
				Perfluoropentanoic acid (PFPeA)	2021/06/02		79	%	70 - 130
				Perfluorohexanoic acid (PFHxA)	2021/06/02		80	%	70 - 130
				Perfluoroheptanoic acid (PFHpA)	2021/06/02		80	%	70 - 130
				Perfluorooctanoic acid (PFOA)	2021/06/02		78	%	70 - 130
				Perfluorononanoic acid (PFNA)	2021/06/02		87	%	70 - 130
				Perfluorododecanoic acid (PFDA)	2021/06/02		83	%	70 - 130
				Perfluoroundecanoic acid (PFUnA)	2021/06/02		79	%	70 - 130
				Perfluorododecanoic acid (PFDoA)	2021/06/02		80	%	70 - 130
				Perfluorotridecanoic acid (PFTRDA)	2021/06/02		92	%	70 - 130
				Perfluorotetradecanoic acid(PFTEDA)	2021/06/02		81	%	70 - 130
				Perfluorobutanesulfonic acid (PFBS)	2021/06/02		77	%	70 - 130
				Perfluoropentanesulfonic acid PFPes	2021/06/02		84	%	70 - 130
				Perfluorohexanesulfonic acid(PFHxS)	2021/06/02		79	%	70 - 130
				Perfluoroheptanesulfonic acid PFHpS	2021/06/02		79	%	70 - 130
				Perfluorooctanesulfonic acid (PFOS)	2021/06/02		81	%	70 - 130
				Perfluorononanesulfonic acid (PFNS)	2021/06/02		92	%	70 - 130
				Perfluorodecanesulfonic acid (PFDS)	2021/06/02		94	%	70 - 130
				Perfluorooctane Sulfonamide (PFOSA)	2021/06/02		79	%	70 - 130
	7379547	LOV	Spiked Blank	13C2-Perfluorododecanoic acid	2021/06/02		99	%	50 - 150
				13C2-Perfluorododecanoic acid	2021/06/02		90	%	50 - 150
				13C2-Perfluorohexanoic acid	2021/06/02		98	%	50 - 150
				13C2-perfluorotetradecanoic acid	2021/06/02		84	%	50 - 150
				13C2-Perfluoroundecanoic acid	2021/06/02		96	%	50 - 150
				13C3-Perfluorobutanesulfonic acid	2021/06/02		98	%	50 - 150
				13C4-Perfluorobutanoic acid	2021/06/02		96	%	50 - 150
				13C4-Perfluoroheptanoic acid	2021/06/02		98	%	50 - 150
				13C4-Perfluorooctanesulfonic acid	2021/06/02		99	%	50 - 150
				13C4-Perfluorooctanoic acid	2021/06/02		98	%	50 - 150
				13C5-Perfluorononanoic acid	2021/06/02		100	%	50 - 150
				13C5-Perfluoropentanoic acid	2021/06/02		95	%	50 - 150
				13C8-Perfluorooctane Sulfonamide	2021/06/02		96	%	50 - 150
				18O2-Perfluorohexanesulfonic acid	2021/06/02		96	%	50 - 150
				Perfluorobutanoic acid (PFBA)	2021/06/02		79	%	70 - 130
				Perfluoropentanoic acid (PFPeA)	2021/06/02		78	%	70 - 130
				Perfluorohexanoic acid (PFHxA)	2021/06/02		81	%	70 - 130
				Perfluoroheptanoic acid (PFHpA)	2021/06/02		80	%	70 - 130





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BV Labs Job #: C1D5176  
Report Date: 2021/06/04

Absolute Resource Associates LLC  
Client Project #: 57015  
Your P.O. #: 57015

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctanoic acid (PFOA)	2021/06/02		79	%	70 - 130
			Perfluorononanoic acid (PFNA)	2021/06/02		87	%	70 - 130
			Perfluorodecanoic acid (PFDA)	2021/06/02		80	%	70 - 130
			Perfluoroundecanoic acid (PFUnA)	2021/06/02		82	%	70 - 130
			Perfluorododecanoic acid (PFDoA)	2021/06/02		81	%	70 - 130
			Perfluorotridecanoic acid (PFTRDA)	2021/06/02		87	%	70 - 130
			Perfluorotetradecanoic acid(PFTEDA)	2021/06/02		80	%	70 - 130
			Perfluorobutanesulfonic acid (PFBS)	2021/06/02		78	%	70 - 130
			Perfluoropentanesulfonic acid PFPes	2021/06/02		83	%	70 - 130
			Perfluorohexanesulfonic acid(PFHxS)	2021/06/02		81	%	70 - 130
			Perfluoroheptanesulfonic acid PFHpS	2021/06/02		79	%	70 - 130
			Perfluorooctanesulfonic acid (PFOS)	2021/06/02		81	%	70 - 130
			Perfluorononanesulfonic acid (PFNS)	2021/06/02		80	%	70 - 130
			Perfluorodecanesulfonic acid (PFDS)	2021/06/02		75	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2021/06/02		79	%	70 - 130
7379547	LOV	Method Blank	13C2-Perfluorodecanoic acid	2021/06/02		101	%	50 - 150
			13C2-Perfluorododecanoic acid	2021/06/02		96	%	50 - 150
			13C2-Perfluorohexanoic acid	2021/06/02		102	%	50 - 150
			13C2-perfluorotetradecanoic acid	2021/06/02		93	%	50 - 150
			13C2-Perfluoroundecanoic acid	2021/06/02		98	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2021/06/02		101	%	50 - 150
			13C4-Perfluorobutanoic acid	2021/06/02		97	%	50 - 150
			13C4-Perfluoroheptanoic acid	2021/06/02		101	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2021/06/02		98	%	50 - 150
			13C4-Perfluorooctanoic acid	2021/06/02		99	%	50 - 150
			13C5-Perfluorononanoic acid	2021/06/02		100	%	50 - 150
			13C5-Perfluoropentanoic acid	2021/06/02		97	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2021/06/02		95	%	50 - 150
			18O2-Perfluorohexanesulfonic acid	2021/06/02		97	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2021/06/02	0.24 U, MDL=0.24		ug/kg	
			Perfluoropentanoic acid (PFPeA)	2021/06/02	0.23 U, MDL=0.23		ug/kg	
			Perfluorohexanoic acid (PFHxA)	2021/06/02	0.16 U, MDL=0.16		ug/kg	
			Perfluoroheptanoic acid (PFHpA)	2021/06/02	0.17 U, MDL=0.17		ug/kg	
			Perfluorooctanoic acid (PFOA)	2021/06/02	0.20 U, MDL=0.20		ug/kg	
			Perfluorononanoic acid (PFNA)	2021/06/02	0.27 U, MDL=0.27		ug/kg	
			Perfluorodecanoic acid (PFDA)	2021/06/02	0.24 U, MDL=0.24		ug/kg	
			Perfluoroundecanoic acid (PFUnA)	2021/06/02	0.25 U, MDL=0.25		ug/kg	
			Perfluorododecanoic acid (PFDoA)	2021/06/02	0.19 U, MDL=0.19		ug/kg	
			Perfluorotridecanoic acid (PFTRDA)	2021/06/02	0.22 U, MDL=0.22		ug/kg	
			Perfluorotetradecanoic acid(PFTEDA)	2021/06/02	0.30 U, MDL=0.30		ug/kg	
			Perfluorobutanesulfonic acid (PFBS)	2021/06/02	0.17 U, MDL=0.17		ug/kg	



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BV Labs Job #: C1D5176  
Report Date: 2021/06/04

Absolute Resource Associates LLC  
Client Project #: 57015  
Your P.O. #: 57015

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoropentanesulfonic acid PFPes	2021/06/02	0.26 U, MDL=0.26		ug/kg	
			Perfluorohexanesulfonic acid(PFHxS)	2021/06/02	0.30 U, MDL=0.30		ug/kg	
			Perfluoroheptanesulfonic acid PFHpS	2021/06/02	0.17 U, MDL=0.17		ug/kg	
			Perfluorooctanesulfonic acid (PFOS)	2021/06/02	0.27 U, MDL=0.27		ug/kg	
			Perfluorononanesulfonic acid (PFNS)	2021/06/02	0.24 U, MDL=0.24		ug/kg	
			Perfluorodecanesulfonic acid (PFDS)	2021/06/02	0.27 U, MDL=0.27		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2021/06/02	0.20 U, MDL=0.20		ug/kg	
7379547	LOV	RPD - Sample/Sample Dup	Perfluorobutanoic acid (PFBA)	2021/06/02	NC		%	30
			Perfluoropentanoic acid (PFPeA)	2021/06/02	NC		%	30
			Perfluorohexanoic acid (PFHxA)	2021/06/02	NC		%	30
			Perfluoroheptanoic acid (PFHpA)	2021/06/02	NC		%	30
			Perfluorooctanoic acid (PFOA)	2021/06/02	NC		%	30
			Perfluorononanoic acid (PFNA)	2021/06/02	NC		%	30
			Perfluorodecanoic acid (PFDA)	2021/06/02	NC		%	30
			Perfluoroundecanoic acid (PFUnA)	2021/06/02	NC		%	30
			Perfluorododecanoic acid (PFDoA)	2021/06/02	NC		%	30
			Perfluorotridecanoic acid (PFTRDA)	2021/06/02	NC		%	30
			Perfluorotetradecanoic acid(PFTEDA)	2021/06/02	NC		%	30
			Perfluorobutanesulfonic acid (PFBS)	2021/06/02	NC		%	30
			Perfluoropentanesulfonic acid PFPes	2021/06/02	NC		%	30
			Perfluorohexanesulfonic acid(PFHxS)	2021/06/02	NC		%	30
			Perfluoroheptanesulfonic acid PFHpS	2021/06/02	NC		%	30
			Perfluorooctanesulfonic acid (PFOS)	2021/06/02	NC		%	30
			Perfluorononanesulfonic acid (PFNS)	2021/06/02	NC		%	30
			Perfluorodecanesulfonic acid (PFDS)	2021/06/02	NC		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2021/06/02	NC		%	30

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



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BV Labs Job #: C1D5176  
Report Date: 2021/06/04

Absolute Resource Associates LLC  
Client Project #: 57015  
Your P.O. #: 57015

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

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Anastassia Hamanov, Scientific Specialist

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Colm McNamara, Senior Analyst, Liquid Chromatography

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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



**SUBCONTRACT CHAIN OF CUSTODY DOCUMENTATION**

Client: Absolute Resource Associates		Contact: Aaron DeWees		Phone: 603-416-3001		Fax:		Page: 1/1	
Report to: Aaron DeWees/Charles Leahy		Address: 124 Heritage Ave. #16		Project Name/Number: 57016		Project State: <input checked="" type="checkbox"/> NH <input type="checkbox"/> MA <input type="checkbox"/> ME <input type="checkbox"/> VT			
Invoice to: cathyd@absoluteresourceassociates.com		Portsmouth, NH 03801		Protocol: RCRA XSWA NFDIS MCP NHDES Other					
PO#: 57016 Quote #:									
Lab Number (assigned by laboratory)	Field ID (must agree with container)	Date Sampled	Time Sampled	Sampled By	Container Size (mL)	Container Type (PVS/1)	Field Preservation	Matrix S/Soil W/water	Analyses Requested (Special Instructions)
	RCMW 5, 8-9 by S Sewer Drain	4/20/21 5/17/21	8:30 9:25	-	250 1	P L	none ↓	S I	PFAS ↓
19-May-21 12:38									
Lori Dufour									
CID5176									
ATP EN101254									
Subcontract Laboratory: BV Labs									
Relinquished by:	Date: 5/18/21	Time: 14:16	Received by: Forest Parker	Date: 25/10/19	Time: 12:38				
Relinquished by:	Date:	Time:	Received by:	Date:	Time:				
Relinquished by:	Date:	Time:	Received by:	Date:	Time:				
Reporting instructions: PDF (Email Address: aaron@absoluteresourceassociates.com, charles@absoluteresourceassociates.com)							Received on ice? Y N		
Excel File: Y / N							Temp: 38/37/4.8		
TAT Requested: Priority (24hr)		Expedited (48hr)		10 Business days		Date needed:			
Comments:									



# Laboratory Report



**Absolute Resource** *associates*

124 Heritage Avenue Portsmouth NH 03801

Mark Henderson  
StoneHill Environmental  
600 State St  
Suite 2  
Portsmouth, NH 03801

PO Number: None  
Job ID: 57264  
Date Received: 6/3/21

Project: North Hampton Municipal Complex 2021003

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below. The reported results apply to the sample(s) in the condition as received at the time the laboratory took custody. This report shall not be reproduced except in full, without written approval of the laboratory. The liability of ARA is limited to the cost of the requested analyses, unless otherwise agreed upon in writing.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,  
Absolute Resource Associates

A handwritten signature in black ink, appearing to read 'Willie Stone', written in a cursive style.

Willie Stone  
Authorized Signature

Date of Approval: 6/17/2021  
Total number of pages: 17

## Absolute Resource Associates Certifications

New Hampshire 1732  
Maine NH902

Massachusetts M-NH902

Sample#: 57264-001

Sample ID: SW-1

Matrix: Water

Sampled: 6/3/21 11:45

Method Reference: SOP-5317r0

Parameter	Result	Reporting	Units	Instr Dil'n	Prep	Batch	Analysis	
		Limit		Factor			Analyst	Date
perfluorotetradecanoic acid (PFTEA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorotridecanoic acid (PFTRIA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorododecanoic acid (PFDOA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluoroundecanoic acid (PFUNA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorodecanoic acid (PFDA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorononanoic acid (PFNA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorooctanoic acid (PFOA)	<b>34</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluoroheptanoic acid (PFHPA)	<b>7.5</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorohexanoic acid (PFHXA)	<b>17</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluoropentanoic acid (PFPA)	<b>6.3</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorobutanoic acid (PFBA)	<b>5.6</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorodecane sulfonic acid (PFDS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorononanesulfonic acid (PFNS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorooctane sulfonic acid (PFOS)	<b>71</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluoroheptane sulfonic acid (PFHPS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorohexane sulfonic acid (PFHXS)	<b>82</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluoropentane sulfonic acid (PFPEs)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorobutane sulfonic acid (PFBS)	<b>5.9</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
8:2 fluorotelomer sulfonic acid (82FTS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
6:2 fluorotelomer sulfonic acid (62FTS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
4:2 fluorotelomer sulfonic acid (42FTS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
perfluorooctane sulfonamide (PFOSA) (FOSA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
n-methyl perfluorooctane sulfonamide (NMEFOSA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:30
<b>Surrogate Recovery</b>		<b>Limits</b>						
13C2-PFTeA SUR	<b>53</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C-PFDoA SUR	<b>77</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C7-PFUnA SUR	<b>71</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C6-PFDA SUR	<b>84</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C9-PFNA SUR	<b>86</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30

Project ID: North Hampton Municipal Complex 2021003

Job ID: 57264

Sample#: 57264-001

Sample ID: SW-1

Matrix: Water

Sampled: 6/3/21 11:45

Method Reference: SOP-5317r0

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Prep Analyst Date	Batch	Analysis Date	Time
<b>Surrogate Recovery</b>		<b>Limits</b>						
13C8-PFOA SUR	91	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C4-PFHpA SUR	86	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C5-PFHxA SUR	71	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C5-PFPeA SUR	209 *	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C-PFBA SUR	99	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C8-PFOS SUR	93	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C3-PFHxS SUR	91	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C3-PFBS SUR	74	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C2-8:2FTSA SUR	156	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C2-6:2FTSA SUR	176	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C2-4:2FTSA SUR	180	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C8-FOSA SUR	52	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
D3-NMeFOSA SUR	12	10-100	%	1	WAS 6/7/21	13942	6/7/21	14:30
D5-NEtFOSAA SUR	93	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
D3-NMeFOSAA SUR	103	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30
13C3-HFPO-DA SUR	67	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:30

**Note: The response of IS13C4-PFBA was below the acceptance criteria. Re-analysis produced similar results. Matrix interference suspected.**

**\* This analogue showed recovery outside of the acceptance criteria. Matrix interference suspected.**

Sample#: 57264-002

Sample ID: SW-2

Matrix: Water

Sampled: 6/3/21 11:10

Method Reference: SOP-5317r0

Parameter	Result	Reporting	Units	Instr Dil'n	Prep	Batch	Analysis	
		Limit		Factor			Analyst	Date
perfluorotetradecanoic acid (PFTEA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorotridecanoic acid (PFTRIA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorododecanoic acid (PFDOA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluoroundecanoic acid (PFUNA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorodecanoic acid (PFDA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorononanoic acid (PFNA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorooctanoic acid (PFOA)	<b>6.7</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluoroheptanoic acid (PFHPA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorohexanoic acid (PFHXA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluoropentanoic acid (PFPA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorobutanoic acid (PFBA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorodecane sulfonic acid (PFDS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorononanesulfonic acid (PFNS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorooctane sulfonic acid (PFOS)	<b>2.1</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluoroheptane sulfonic acid (PFHPS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorohexane sulfonic acid (PFHXS)	<b>8.1</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluoropentane sulfonic acid (PFPEs)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorobutane sulfonic acid (PFBS)	<b>2.0</b>	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
8:2 fluorotelomer sulfonic acid (82FTS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
6:2 fluorotelomer sulfonic acid (62FTS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
4:2 fluorotelomer sulfonic acid (42FTS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
perfluorooctane sulfonamide (PFOSA) (FOSA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
n-methyl perfluorooctane sulfonamide (NMEFOSA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	< 1.9	1.9	ng/L	1	WAS 6/7/21	13942	6/7/21	14:46
<b>Surrogate Recovery</b>		<b>Limits</b>						
13C2-PFTeA SUR	<b>39</b> *	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C-PFDoA SUR	<b>83</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C7-PFUnA SUR	<b>98</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C6-PFDA SUR	<b>103</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C9-PFNA SUR	<b>97</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46



Project ID: North Hampton Municipal Complex 2021003

Job ID: 57264

Sample#: 57264-002

Sample ID: SW-2

Matrix: Water

Sampled: 6/3/21 11:10

Method Reference: SOP-5317r0

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Prep Analyst Date	Batch	Analysis Date	Time
<b>Surrogate Recovery</b>		<b>Limits</b>						
13C8-PFOA SUR	95	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C4-PFHpA SUR	87	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C5-PFHxA SUR	63	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C5-PFPeA SUR	238 *	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C-PFBA SUR	99	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C8-PFOS SUR	94	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C3-PFHxS SUR	89	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C3-PFBS SUR	66	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C2-8:2FTSA SUR	200	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C2-6:2FTSA SUR	207 *	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C2-4:2FTSA SUR	158	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C8-FOSA SUR	50	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
D3-NMeFOSA SUR	11	10-100	%	1	WAS 6/7/21	13942	6/7/21	14:46
D5-NEtFOSAA SUR	143	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
D3-NMeFOSAA SUR	140	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46
13C3-HFPO-DA SUR	56	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:46

**Note: The response of IS13C4-PFBA was below the acceptance criteria. Re-analysis produced similar results. Matrix interference suspected.**

**\* This analogue showed recovery outside of the acceptance criteria. Matrix interference suspected.**

Project ID: North Hampton Municipal Complex 2021003

Job ID: 57264

Sample#: 57264-003

Sample ID: SW-3

Matrix: Water

Sampled: 6/3/21 12:30

Method Reference: SOP-5317r0

Parameter	Result	Reporting	Units	Instr Dil'n	Prep	Analysis			
		Limit		Factor	Analyst	Date	Batch	Date	Time
perfluorotetradecanoic acid (PFTEA)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorotridecanoic acid (PFTRIA)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorododecanoic acid (PFDOA)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluoroundecanoic acid (PFUNA)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorodecanoic acid (PFDA)	<b>4.4</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorononanoic acid (PFNA)	<b>9.5</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorooctanoic acid (PFOA)	<b>73</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluoroheptanoic acid (PFHPA)	<b>24</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorohexanoic acid (PFHXA)	<b>85</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluoropentanoic acid (PFPA)	<b>120</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorobutanoic acid (PFBA)	<b>31</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorodecane sulfonic acid (PFDS)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorononanesulfonic acid (PFNS)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorooctane sulfonic acid (PFOS)	<b>1100</b>	10	ng/L	1	ACA	6/7/21	13942	6/15/21	16:57
perfluoroheptane sulfonic acid (PFHPS)	<b>44</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorohexane sulfonic acid (PFHXS)	<b>890</b>	10	ng/L	1	ACA	6/7/21	13942	6/15/21	16:57
perfluoropentane sulfonic acid (PFPEs)	<b>95</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorobutane sulfonic acid (PFBS)	<b>45</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
8:2 fluorotelomer sulfonic acid (82FTS)	<b>2.2</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
6:2 fluorotelomer sulfonic acid (62FTS)	<b>8.4</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
4:2 fluorotelomer sulfonic acid (42FTS)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
perfluorooctane sulfonamide (PFOSA) (FOSA)	<b>21</b>	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
n-methyl perfluorooctane sulfonamide (NMEFOSA)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	< 1.9	1.9	ng/L	1	WAS	6/7/21	13942	6/7/21	15:02
<b>Surrogate Recovery</b>		<b>Limits</b>							
13C2-PFTeA SUR	<b>94</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C-PFDoA SUR	<b>129</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C7-PFUnA SUR	<b>126</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C6-PFDA SUR	<b>123</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C9-PFNA SUR	<b>64</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02

**Project ID:** North Hampton Municipal Complex 2021003

**Job ID:** 57264

**Sample#:** 57264-003

**Sample ID:** SW-3

**Matrix:** Water

**Sampled:** 6/3/21 12:30

**Method Reference:** SOP-5317r0

Parameter	Result	Reporting	Units	Instr	Dil'n	Prep	Batch	Analysis	
		Limit		Factor	Analyst	Date		Date	Time
<b>Surrogate Recovery</b>		<b>Limits</b>							
13C8-PFOA SUR	<b>100</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C4-PFHpA SUR	<b>80</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C5-PFHxA SUR	<b>73</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C5-PFPeA SUR	<b>203</b> *	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C-PFBA SUR	<b>103</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C8-PFOS SUR	<b>106</b>	50-200	%	1	ACA	6/7/21	13942	6/15/21	16:57
13C3-PFHxS SUR	<b>109</b>	50-200	%	1	ACA	6/7/21	13942	6/15/21	16:57
13C3-PFBS SUR	<b>116</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C2-8:2FTSA SUR	<b>438</b> *	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C2-6:2FTSA SUR	<b>354</b> *	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C2-4:2FTSA SUR	<b>297</b> *	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C8-FOSA SUR	<b>122</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
D3-NMeFOSA SUR	<b>27</b>	10-100	%	1	WAS	6/7/21	13942	6/7/21	15:02
D5-NEtFOSAA SUR	<b>213</b> *	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
D3-NMeFOSAA SUR	<b>228</b> *	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02
13C3-HFPO-DA SUR	<b>60</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	15:02

*\* This analogue showed recovery outside of the acceptance criteria. Matrix interference suspected.*

Sample#: 57264-004

Sample ID: 7/149

Matrix: Water

Sampled: 6/3/21 11:30

Method Reference: SOP-5317r0

Parameter	Result	Reporting	Units	Instr Dil'n	Prep	Batch	Analysis	
		Limit		Factor			Analyst	Date
perfluorotetradecanoic acid (PFTEA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorotridecanoic acid (PFTRIA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorododecanoic acid (PFDOA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluoroundecanoic acid (PFUNA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorodecanoic acid (PFDA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorononanoic acid (PFNA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorooctanoic acid (PFOA)	<b>44</b>	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluoroheptanoic acid (PFHPA)	<b>3.8</b>	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorohexanoic acid (PFHXA)	<b>14</b>	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluoropentanoic acid (PFPA)	<b>5.9</b>	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorobutanoic acid (PFBA)	<b>2.1</b>	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorodecane sulfonic acid (PFDS)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorononanesulfonic acid (PFNS)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorooctane sulfonic acid (PFOS)	<b>16</b>	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluoroheptane sulfonic acid (PFHPS)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorohexane sulfonic acid (PFHXS)	<b>44</b>	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluoropentane sulfonic acid (PFPEs)	<b>4.5</b>	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorobutane sulfonic acid (PFBS)	<b>5.6</b>	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
8:2 fluorotelomer sulfonic acid (82FTS)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
6:2 fluorotelomer sulfonic acid (62FTS)	<b>2.0</b>	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
4:2 fluorotelomer sulfonic acid (42FTS)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
perfluorooctane sulfonamide (PFOSA) (FOSA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
n-methyl perfluorooctane sulfonamide (NMEFOSA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	< 1.7	1.7	ng/L	1	WAS 6/7/21	13942	6/7/21	14:14
<b>Surrogate Recovery</b>		<b>Limits</b>						
13C2-PFTeA SUR	<b>82</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C-PFDoA SUR	<b>95</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C7-PFUnA SUR	<b>88</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C6-PFDA SUR	<b>110</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C9-PFNA SUR	<b>95</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14

Project ID: North Hampton Municipal Complex 2021003

Job ID: 57264

Sample#: 57264-004

Sample ID: 7/149

Matrix: Water

Sampled: 6/3/21 11:30

Method Reference: SOP-5317r0

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Prep Analyst Date	Batch	Analysis Date	Time
<b>Surrogate Recovery</b>		<b>Limits</b>						
13C8-PFOA SUR	<b>102</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C4-PFHpA SUR	<b>114</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C5-PFHxA SUR	<b>114</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C5-PFPeA SUR	<b>114</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C-PFBA SUR	<b>103</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C8-PFOS SUR	<b>100</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C3-PFHxS SUR	<b>103</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C3-PFBS SUR	<b>97</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C2-8:2FTSA SUR	<b>111</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C2-6:2FTSA SUR	<b>98</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C2-4:2FTSA SUR	<b>111</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C8-FOSA SUR	<b>60</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
D3-NMeFOSA SUR	<b>8 *</b>	10-100	%	1	WAS 6/7/21	13942	6/7/21	14:14
D5-NEtFOSAA SUR	<b>100</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
D3-NMeFOSAA SUR	<b>118</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14
13C3-HFPO-DA SUR	<b>105</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	14:14

\* This analogue showed recovery outside of the acceptance criteria. No impact to the data is expected.

Project ID: North Hampton Municipal Complex 2021003

Job ID: 57264

Sample#: 57264-005

Sample ID: 7/77

Matrix: Water

Sampled: 6/3/21 13:00

Method Reference: SOP-5317r0

Parameter	Result	Reporting	Units	Instr Dil'n	Prep	Analysis			
		Limit		Factor	Analyst	Date	Batch	Date	Time
perfluorotetradecanoic acid (PFTEA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorotridecanoic acid (PFTRIA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorododecanoic acid (PFDOA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluoroundecanoic acid (PFUNA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorodecanoic acid (PFDA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorononanoic acid (PFNA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorooctanoic acid (PFOA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluoroheptanoic acid (PFHPA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorohexanoic acid (PFHXA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluoropentanoic acid (PFPA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorobutanoic acid (PFBA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorodecane sulfonic acid (PFDS)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorononanesulfonic acid (PFNS)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorooctane sulfonic acid (PFOS)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluoroheptane sulfonic acid (PFHPS)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorohexane sulfonic acid (PFHXS)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluoropentane sulfonic acid (PFPEs)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorobutane sulfonic acid (PFBS)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
8:2 fluorotelomer sulfonic acid (82FTS)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
6:2 fluorotelomer sulfonic acid (62FTS)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
4:2 fluorotelomer sulfonic acid (42FTS)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
perfluorooctane sulfonamide (PFOSA) (FOSA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
n-methyl perfluorooctane sulfonamide (NMEFOSA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	< 1.8	1.8	ng/L	1	WAS	6/7/21	13942	6/7/21	13:58
<b>Surrogate Recovery</b>		<b>Limits</b>							
13C2-PFTeA SUR	<b>87</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	13:58
13C-PFDoA SUR	<b>102</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	13:58
13C7-PFUnA SUR	<b>86</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	13:58
13C6-PFDA SUR	<b>106</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	13:58
13C9-PFNA SUR	<b>104</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	13:58



**Project ID:** North Hampton Municipal Complex 2021003

**Job ID:** 57264

**Sample#:** 57264-005

**Sample ID:** 7177

**Matrix:** Water

**Sampled:** 6/3/21 13:00

**Method Reference:** SOP-5317r0

<b>Parameter</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Instr Dil'n Factor</b>	<b>Prep Analyst Date</b>	<b>Batch</b>	<b>Analysis Date</b>	<b>Time</b>
<b>Surrogate Recovery</b>		<b>Limits</b>						
13C8-PFOA SUR	<b>111</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C4-PFHpA SUR	<b>111</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C5-PFHxA SUR	<b>109</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C5-PFPeA SUR	<b>115</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C-PFBA SUR	<b>105</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C8-PFOS SUR	<b>99</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C3-PFHxS SUR	<b>105</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C3-PFBS SUR	<b>97</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C2-8:2FTSA SUR	<b>114</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C2-6:2FTSA SUR	<b>102</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C2-4:2FTSA SUR	<b>103</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C8-FOSA SUR	<b>59</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
D3-NMeFOSA SUR	<b>11</b>	10-100	%	1	WAS 6/7/21	13942	6/7/21	13:58
D5-NEtFOSAA SUR	<b>104</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
D3-NMeFOSAA SUR	<b>120</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58
13C3-HFPO-DA SUR	<b>104</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:58

Project ID: North Hampton Municipal Complex 2021003

Job ID: 57264

Sample#: 57264-006

Sample ID: Trip Blank

Matrix: Water

Sampled: 6/3/21 0:00

Method Reference: SOP-5317r0

Parameter	Result	Reporting	Units	Instr Dil'n	Prep	Analysis			
		Limit		Factor	Analyst	Date	Batch	Date	Time
perfluorotetradecanoic acid (PFTEA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorotridecanoic acid (PFTRIA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorododecanoic acid (PFDOA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluoroundecanoic acid (PFUNA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorodecanoic acid (PFDA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorononanoic acid (PFNA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorooctanoic acid (PFOA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluoroheptanoic acid (PFHPA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorohexanoic acid (PFHXA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluoropentanoic acid (PFPA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorobutanoic acid (PFBA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorodecane sulfonic acid (PFDS)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorononanesulfonic acid (PFNS)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorooctane sulfonic acid (PFOS)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluoroheptane sulfonic acid (PFHPS)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorohexane sulfonic acid (PFHXS)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluoropentane sulfonic acid (PFPEs)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorobutane sulfonic acid (PFBS)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
8:2 fluorotelomer sulfonic acid (82FTS)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
6:2 fluorotelomer sulfonic acid (62FTS)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
4:2 fluorotelomer sulfonic acid (42FTS)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
perfluorooctane sulfonamide (PFOSA) (FOSA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
n-methyl perfluorooctane sulfonamide (NMEFOSA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
n-ethyl perfluorooctanesulfonamido acetic acid (NETFOSAA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
n-methylperfluorooctane sulfonamido acetic acid (NMEFOSAA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX acid) (HFPODA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
4,8-dioxa-3h-perfluorononanoic acid (ADONA acid) (ADONA)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CLPF3OUDS)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CLPF3ONS)	< 1.7	1.7	ng/L	1	WAS	6/7/21	13942	6/7/21	13:26
<b>Surrogate Recovery</b>		<b>Limits</b>							
13C2-PFTeA SUR	<b>97</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	13:26
13C-PFDoA SUR	<b>94</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	13:26
13C7-PFUnA SUR	<b>88</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	13:26
13C6-PFDA SUR	<b>98</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	13:26
13C9-PFNA SUR	<b>93</b>	50-200	%	1	WAS	6/7/21	13942	6/7/21	13:26

Project ID: North Hampton Municipal Complex 2021003

Job ID: 57264

Sample#: 57264-006

Sample ID: Trip Blank

Matrix: Water

Sampled: 6/3/21 0:00

Method Reference: SOP-5317r0

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Prep Analyst Date	Batch	Analysis Date	Time
<b>Surrogate Recovery</b>		<b>Limits</b>						
13C8-PFOA SUR	<b>104</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C4-PFHpA SUR	<b>107</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C5-PFHxA SUR	<b>103</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C5-PFPeA SUR	<b>110</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C-PFBA SUR	<b>103</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C8-PFOS SUR	<b>96</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C3-PFHxS SUR	<b>104</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C3-PFBS SUR	<b>94</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C2-8:2FTSA SUR	<b>97</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C2-6:2FTSA SUR	<b>90</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C2-4:2FTSA SUR	<b>98</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C8-FOSA SUR	<b>50</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
D3-NMeFOSA SUR	<b>7 *</b>	10-100	%	1	WAS 6/7/21	13942	6/7/21	13:26
D5-NEtFOSAA SUR	<b>104</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
D3-NMeFOSAA SUR	<b>135</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26
13C3-HFPO-DA SUR	<b>92</b>	50-200	%	1	WAS 6/7/21	13942	6/7/21	13:26

\* This analogue showed recovery outside of the acceptance criteria. No impact to the data is expected.

## Isotope Dilution

SOP-5317r0 is an isotope dilution method. As such, isotopically labelled analogues and performance standards are used to account for variability that may arise from the extraction process or analytical instrumentation. Compounds labelled as “SUR” are utilized as extracted internal standards, meaning that they are subject to all steps of the extraction process. Compounds labelled as “IS” are used as performance standards and are added to samples following extraction. Isotope dilution analogue concentrations are calculated based upon the response of internal standards. In turn, the concentration of a target analyte is calculated in relation to the recovery of its associated analogue.

Direct analogues are used whenever possible, as they will behave identically to their analogous target analyte during the extraction process. However, not all the reported analytes have direct analogues commercially available. In instances where no direct analogue is available, an analogue with similar structure and chemistry to the target analyte is employed.

Refer to the included “Isotope Dilution Association Table” for the specific analogue (SS) and performance standard (IS) associated with each target compound.



124 Heritage Avenue Unit 16  
Portsmouth, NH 03801

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## Isotope Dilution Association Table

<b>Analyte</b>	<b>Analogue (SS)</b>	<b>Performance Standard (IS)</b>
PFTEA	13C2-PFTeA SUR	13C2-PFOA IS
PFTRIA	13C2-PFTeA SUR	13C2-PFOA IS
PFDOA	13C-PFDoA SUR	13C2-PFOA IS
PFUNA	13C7-PFUnA SUR	13C2-PFOA IS
PFDA	13C6-PFDA SUR	13C2-PFOA IS
PFNA	13C9-PFNA SUR	13C2-PFOA IS
PFOA	13C8-PFOA SUR	13C2-PFOA IS
PFHPA	13C4-PFHpA SUR	13C2-PFOA IS
PFHXA	13C5-PFHxA SUR	13C2-PFOA IS
PFPA	13C5-PFPeA SUR	13C3-PFBA IS
PFBA	13C-PFBA SUR	13C3-PFBA IS
PFDS	13C8-PFOS SUR	13C4-PFOS IS
PFNS	13C8-PFOS SUR	13C4-PFOS IS
PFOS	13C8-PFOS SUR	13C4-PFOS IS
PFHPS	13C8-PFOS SUR	13C4-PFOS IS
PFHXS	13C3-PFHxS SUR	13C4-PFOS IS
PFPEs	13C3-PFHxS SUR	13C4-PFOS IS
PFBS	13C3-PFBS SUR	13C4-PFOS IS
82FTS	13C2-8:2FTSA SUR	13C4-PFOS IS
62FTS	13C2-6:2FTSA SUR	13C4-PFOS IS
42FTS	13C2-4:2FTSA SUR	13C4-PFOS IS
FOSA	13C8-FOSA SUR	13C4-PFOS IS
NMEFOSA	D3-NMeFOSA SUR	13C4-PFOS IS
NETFOSAA	D5-NEtFOSAA SUR	13C2-PFOA IS
NMEFOSAA	D3-NMeFOSAA SUR	13C2-PFOA IS
HFPODA	13C3-HFPO-DA SUR	13C2-PFOA IS
ADONA	13C4-PFHpA SUR	13C2-PFOA IS
11CLPF3OUDS	13C8-PFOS SUR	13C4-PFOS IS
9CLPF3ONS	13C8-PFOS SUR	13C4-PFOS IS



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 603-436-2001  
 absoluteresourceassociates.com

**CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST**

**57264**

**ANALYSIS REQUEST**

Company Name: Stone Hill Environmental  
 Company Address: 600 State St., Suite 2, Portsmouth, NH  
 Report To: Mark Henderson  
 Phone #: 603-812-7071  
 Invoice to: Halcyon Mole + CCA - inc. com  
 Email: \_\_\_\_\_  
 PO #: \_\_\_\_\_

Project Name: North Hampton Municipal Complex  
 Project #: 2021003  
 Project Location: NH MA ME VT  
 Accreditation Required? N/Y  
 Protocol: RCRA SDWA NPDES  
 MCP NHDES DOD  
 Reporting QAPP GW1 S-1  
 Limits: EPA DW Other  
 Quote # \_\_\_\_\_  
 NH Reimbursement Pricing

<input type="checkbox"/> VOC 8260	<input type="checkbox"/> VOC 8260 NHDES	<input type="checkbox"/> VOC 8260 MADEP	<input type="checkbox"/> VOC 8260 MIBE only	<input type="checkbox"/> VOC 8021VT	<input type="checkbox"/> VPH MADEP	<input type="checkbox"/> GRO 8015	<input type="checkbox"/> 1,4-Dioxane	<input type="checkbox"/> VOC 524.2	<input type="checkbox"/> VOC 524.2 NH List	<input type="checkbox"/> Gases-List	<input type="checkbox"/> TPH 8100	<input type="checkbox"/> DR0 8015	<input type="checkbox"/> EPH MADEP	<input type="checkbox"/> TPH Fingerprint	<input type="checkbox"/> 8270PAH	<input type="checkbox"/> 8270MGN	<input type="checkbox"/> 625.1	<input type="checkbox"/> EDB	<input type="checkbox"/> 8082 PCB	<input type="checkbox"/> 8081 Pesticides	<input type="checkbox"/> 608.3 Pest/PCB	<input checked="" type="checkbox"/> PFAS isobore dilution	<input type="checkbox"/> PFAS 533	<input type="checkbox"/> PFAS 537.1	<input type="checkbox"/> Mineral O&G 1664	<input type="checkbox"/> O&G 1664	<input type="checkbox"/> pH	<input type="checkbox"/> BOD	<input type="checkbox"/> Conductivity	<input type="checkbox"/> Turbidity	<input type="checkbox"/> Apparent Color	<input type="checkbox"/> TSS	<input type="checkbox"/> TDS	<input type="checkbox"/> TS	<input type="checkbox"/> TVS	<input type="checkbox"/> Alkalinity	<input type="checkbox"/> Acidity	<input type="checkbox"/> RCRA Metals	<input type="checkbox"/> Priority Pollutant Metals	<input type="checkbox"/> TML Metals	<input type="checkbox"/> Hardness	<input type="checkbox"/> Total Metals-ist	<input type="checkbox"/> Dissolved Metals-ist	<input type="checkbox"/> Ammonia	<input type="checkbox"/> COD	<input type="checkbox"/> TKN	<input type="checkbox"/> TN	<input type="checkbox"/> TOC	<input type="checkbox"/> Ferrous Iron	<input type="checkbox"/> T-Phosphorus	<input type="checkbox"/> Bacteria P/A	<input type="checkbox"/> Bacteria MPN	<input type="checkbox"/> Enterococci	<input type="checkbox"/> Cyanide	<input type="checkbox"/> Sulfide	<input type="checkbox"/> Nitrate + Nitrite	<input type="checkbox"/> Orho P	<input type="checkbox"/> Phenols	<input type="checkbox"/> Nitrate	<input type="checkbox"/> Nitrite	<input type="checkbox"/> Chloride	<input type="checkbox"/> Sulfate	<input type="checkbox"/> Bromide	<input type="checkbox"/> Fluoride	<input type="checkbox"/> Corrosivity	<input type="checkbox"/> Ignitibility/FP	<input type="checkbox"/> TCLP Metals	<input type="checkbox"/> TCLP VOC	<input type="checkbox"/> TCLP SVOC	<input type="checkbox"/> TCLP Pesticide	<input type="checkbox"/> Subcontract:	<input type="checkbox"/> Grain Size	<input type="checkbox"/> Herbicides	<input type="checkbox"/> Asbestos	<input type="checkbox"/> Grab (G) or Composite (C)
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Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix			Preservation Method					Sampling		
			WATER	SOLID	OTHER	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	DATE	TIME	SAMPLER
57264-01	SW-1	2	X								6-3-21	1145	MF
02	SW-2	2	X								6-3-21	1110	MF
03	SW-3	2	X								6-3-21	1230	MF
04	7/149	2	X								6-3-21	1130	MF
05	7/77	2	X								6-3-21	1300	ME
06	Trip blank	1	X										

**TAT REQUESTED**  
 Priority (24 hr)\*   
 Expedited (48 hr)\*   
 Standard (10 Business Days)   
 \*Date Needed \_\_\_\_\_

See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

**SPECIAL INSTRUCTIONS**  
 preservative: ammonium acetate

**REPORTING INSTRUCTIONS**  
 PDF (e-mail address) mark.henderson@stonehillenvironmental.com  
 HARD COPY REQUIRED  EDD

**RECEIVED ON ICE**  YES  NO  
 TEMPERATURE 5 °C

<b>CUSTODY RECORD</b> QSD-01 Revision 03/09/2020	Relinquished by Sampler: <u>Mark Henderson</u>	Date: <u>6-3-21</u> Time: <u>1340</u>	Received by:	Date: _____ Time: _____
	Relinquished by:	Date: _____ Time: _____	Received by:	Date: _____ Time: _____
	Relinquished by:	Date: _____ Time: _____	Received by Laboratory: <u>[Signature]</u>	Date: <u>6/3/21</u> Time: <u>113.40</u>



Sample Receipt Condition Report

57264

Absolute Resource Associates

Job Number:

Samples Received from: -UPS -FedEx -USPS -Lab Courier -Client Drop-off -  
 Custody Seals - present & intact: -Yes -No -N/A CoC signed: -Yes -No  
 Receipt Temp: 5 °C Samples on ice? -Yes -No -N/A Sampled < 24 hrs ago? -Yes -No  
 PFAS-only real ice? -Yes -No -N/A Any signs of freezing? -Yes -No

Comments:

Preservation / Analysis	Bottle Size/Type & Quantity						Check pH for ALL applicable* samples and document:
HCl	40mL(G)	250mL(P)	500mL(P)	1L(G)			*pH ✓by analyst:VOC, PFAS, TOC,O&G Residual Cl not present: ABN625 Pest608 Bacteria ResCl ✓by analyst PC Dry applicable? Y N 1L(G) 1L(P)
HNO <sub>3</sub>	125mL(P)	250mL(P)	500mL(P)				
H <sub>2</sub> SO <sub>4</sub>	40mL(G)	60mL(P)	125mL(P)	250mL(P)	500mL(P)		
NaOH	125mL(P)	250mL(P)					
(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	60mL(P)	125mL(P)	250mL(P)				
ZnAc-NaOH	125mL(P)	250mL(P)					
Trizma	125mL(P)	250mL(P)					
NH <sub>4</sub> Ac	125mL(P)	250mL(P)	il				
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	40mL(G)	120mL(P)					
MeOH	20mL(G)	40mL(G)					
None (solid)	2oz(G)	4oz(G)	8oz(G)	Syringe			
None (water)	40ml (G)	60mL(P)	125mL(P)	250mL(P)	500mL(P)		
Mold	Cassette	Bulk	Plate	Tape Lift			
Asbestos	Cassette	Bulk					
Lead	Cassette	Bulk	Wipe				

Login Review	Yes	No	N/A	Comments
Proper lab sample containers/enough volume/correct preservative?	X			
Analyses marked on COC match bottles received?	Y			
VOC & TOC Water-no headspace?			X	
VOC Solid-MeOH covers solid, no leaks, Prep Expiration OK?				
PFAS: Lab specific bottles? QC received, if required?	X			
Bacteria bottles provided by ARA?			X	
Samples within holding time?	Y			
Immediate tests communicated in writing: NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , pH, BOD, Coliform/E. coli (P/A or MPN), Enterococci, Color Surfactants, Turbidity, Odor, CrVI, Ferrous Iron, Dissolved Oxygen, Unpres 624			X	
Date, time & ID on samples match CoC?	Y			
Rushes communicated to analyst in writing?			X	
Subcontract note on login board?				
Pesticides EPA 608 pH5-9?				
Compliance samples have no discrepancies/require no flags?				(Or must be rejected)
Log-in Supervisor notified immediately of following items:				Discrepancies, compliance samples (NHDES, MADEP, DoD etc.) or uncommon requests.

Inspected and Received By: SEM

Date/Time: 6/3/21 14:33

Peer Review Checklist			
<input type="checkbox"/> Client ID/Project Manager	<input type="checkbox"/> On Ice, Temperature OK?	<input type="checkbox"/> Sample IDs	<input type="checkbox"/> Analyses in Correctly
<input type="checkbox"/> Project Name	<input type="checkbox"/> PO# (if provided)	<input type="checkbox"/> Matrix	-references
<input type="checkbox"/> TAT/rushes communicated	<input type="checkbox"/> Sub samples sent? Shipping Charge?	<input type="checkbox"/> Date/Time collected	-wastewater methods
<input type="checkbox"/> Received Date/Time	<input type="checkbox"/> Issues noted above communicated?	<input type="checkbox"/> Short HTs communicated	<input type="checkbox"/> Notes from CoC in LIMS
Reviewed By: _____		Date: _____	

Notes: (continue on back as needed)

Initials	Date	What was sent?
Uploaded / PDF	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	Report / Data / EDD / Invoice