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Privileged and Confidential

January 24, 2024 VIA EMAIL

Mr. Robert Balkind, PE, Commissioner
Dutchess County Department of Public Works.
626 Dutchess Turnpike
Poughkeepsie, New York 12603
Email: rbalkind@dutchessny.gov

Re: Summary Report – PFAS Test Pit Investigation, Proposed Sky Harbour Hanger, South Side Expansion; Hudson Valley Regional Airport Site - 18 Griffith Way, Wappingers Falls, Dutchess County, NY - NYSDEC Site 314129 - C.T. Male Project No. 18.8090

Dear Mr. Balkind:

This summary letter report has been prepared to present the findings of a limited soils investigation performed at the Hudson Valley Regional Airport. Soils in the area of the proposed Sky Harbour South Side Hangar (the "Site") were investigated for the presence of Per- and Polyfluoroalkyl Substances (collectively referred to as PFAS) through the excavation of test pits. A summary of field activities, analytical results, and recommendations are detailed below.

Introduction

The Hudson Valley Regional Airport is located at 18 Griffith Way in the Town of Wappinger, Dutchess County, New York. The airport property is approximately 510.8 acres in size and is identified with tax number 135689-6259-03-225301-0000 on the Town of Wappinger tax maps. A Site Location Map is included as Figure 1. The proposed Sky Harbour Terminal Site is located in the southwestern portion of the facility, along New Hackensack Road. This report describes the field sampling procedures and analytical results.

The current Site use is as a regional airport known as Hudson Valley Regional Airport (POU). It is a publicly owned, public-use, General Aviation facility, servicing the aviation needs of Dutchess County, metropolitan New York City area, and the southeastern region of New York State. The airport property has several tenants that lease hangars and utilize the airport for helicopter and airplane flights for private clients or personal use. The airport operates by criteria that is outlined and regulated by the FAA pertaining to the following areas: facility requirements for airfield, terminal and

general aviation areas, runways and taxiways, land use, instrumentation and lighting, general aviation requirements, fuel storage, and Aircraft Rescue and Fire Fighting (ARFF).

As stated in the Airport's Master Plan, the Federal Aviation Regulation Part 139.315 establishes a system of indexing airports that are regularly served by scheduled commuter aircraft. The overall length of the aircraft having five or more daily departures determines the airports ARFF index. The Hudson Valley Regional Airport operates as an Index A facility. The minimum rescue and firefighting equipment and agents required for Index A are as follows:

- The airport must have one vehicle carrying at least 500 pounds of sodium-based dry chemical or halon 1211;

- Or alternatively, one vehicle carrying 450 pounds of potassium-based dry chemical and water with a commensurate quantity of Aqueous Fire Fighting Foam (AFFF) agent to total 100 gallons, for simultaneous dry chemical and AFFF application.

The ARFF vehicle at the airport currently meets the Federal Aviation Regulation Part 139 requirements and has the capability of AFFF application.

The Federal Aviation Regulations also state that ARFF vehicles must be tested annually to ensure that the vehicle is working properly. Additionally, the quantity and the chemical composition of the AFFF must be held to the required standards. Interviews with the Airport Director and the fire fighters at the airport indicated that the testing area for AFFF application is the North or South end of runway 15-33. Typically, one to two 5-gallon buckets of AFFF were applied during the testing. In 2009-2010, the airport switched the type of AFFF used in the ARFF. The AFFF products now used are Ansulite 3% (AFC-3A) and Chemguard C301MS, and may not contain PFAS compounds based on a review of the material safety data sheets; however, there are proprietary compounds listed, which may contain the PFAS compounds of concern.

Site History

The New York State Department of Environmental Conservation (NYSDEC) has classified the airport property as a potential inactive hazardous waste disposal site (P-Site #314129) due to the presence of combined perfluorooctanoic acid (PFOA) and perfluororooctanesulfonic acid (PFOS) detected in May 2016 at concentrations in a potable drinking water supply well then located at the airport property above the Health Advisory Level (HAL) value of 70 parts per trillion set by the United States Environmental Protection Agency (USEPA). PFOS and PFOA are members of the class

of substances called per- and polyfluoroalkyl substances known as PFAS. Concentrations of PFAS were also detected in nearby off-Site private water supply wells. Initial private well water samples were collected by the New York State Department of Health (NYSDOH) in September 2017. The NYSDEC informed Dutchess County by letter (dated September 15, 2017) of the P-Site classification based on these detections. The NYSDEC also mandated an investigation in accordance with NYSDEC's technical requirements for a site characterization investigation (SC). Initial site characterization activities, a records review, and a draft SC report were submitted to the NYSDEC in December of 2019. Subsequently, additional field activities were conducted, and multiple revised draft SC reports were submitted to the NYSDEC in October 2021, August 2022, May 2023, June 2023, and October 2023. The SC report was finally approved by the NYSDEC on November 16, 2023.

Based on the records search, inspections and interviews, nine areas of concern (AOCs) were identified and investigated during the SC investigation: the firefighting AFFF testing area (AOC-1), the former Balefill Landfill (AOC-2), the former Dutchess County Landfill (AOC-3), the former Jackson Road petroleum spill (AOC-4), several stormwater outfalls that may have received AFFF during routine testing(AOC-5), the AAG hangars (former IBM Hanger, NYSDEC Site No. 314078 and Flagship Hanger, NYSDEC Site No. 314101) (AOC-6), the Aircraft Rescue and Firefighting Facilities (ARFF)[1] / maintenance building (AOC-7), the fire pond (AOC-8), and the North/South runway where AFFF was tested annually as required by the Federal Aviation Administration (FAA) (AOC-9). It should be noted that the south side area where the proposed Sky Harbour Hangar building is proposed to be constructed, is not located within any of the identified AOCs. Refer to Figure 2 *Site Characterization Areas of Concern Locations & Sky Harbour Hanger Location*.

The airport property is generally flat across the maintained areas immediately surrounding the airport runways, associated hangars, and airport terminal. Airport ground elevations range between approximately 100 feet above mean sea level (amsl) at the southwestern property boundary to approximately 170 feet amsl at the northeastern property boundary. The land was presumably filled and built up using local, repositioned soils to flatten the grade for the runways, especially in the southwestern, western, and northwestern portions of the property where grade slopes sharply toward the Wappinger Creek immediately beyond the areas that buffer the runways. Additionally, the Balefill and Dutchess County Landfill, to the northwest and northeast

[1] A new Aircraft Rescue and Firefighting Facilities (ARFF) building, situated in the southwest corner of the property, was constructed after a significant portion of the subject Site Characterization was completed. All references to the ARFF building in this report refer to the former ARFF building, which remains situated in the southeast corner of the property.

of the airport property, respectively, are artificially mounded from landfilling. The grade of both landfills generally slopes downward radially, but more predominantly to the north in both instances, in the direction of the Wappinger Creek. The natural topography surrounding the airport property also slopes to the northwest in the direction of the Wappinger Creek. The location of the proposed Sky Harbour Hanger Site is a generally flat, grassy area situated south of runway 6-24, west of the US Aviation Academy, and north of the chain link fence installed along the property boundary at New Hackensack Road. Immediately west of the proposed hanger site, across the chain link perimeter fence, the topography slopes to the southeast.

Overburden soils at the airport property consist primarily of silts and sands. Gravelly sections of overburden also exist but are less extensive, based on review of the soil borings for previous site investigations. Deeper sections of soil consist of glacial till with a silty-clay matrix and highly variable grain size. Till was observed or reported to be somewhat weathered, saturated, and only moderately dense in most instances. Additionally, like most overburden units encountered at the airport property, the till was not found extensively, likely having been eroded away entirely in some locations. Overburden soils generally reflect fluvial deposits expected given the airport property's proximity to the Wappinger Creek. Large portions of the airport were cut and filled to create flat ground for building and runway construction. Fill material was likely sourced (and processed) from other areas on the airport parcel, but it is unknown if off-site fill sources were also utilized.

Soils at the airport property are mapped by the United States Department of Agriculture (USDA) Web Soil Survey primarily as udorthents, or gravelly loam, likely derived from glacial outwash and kame deposits. Udorthents are described by the USDA as well drained soils that have often been disturbed or reworked by cuffing or filling in areas that are covered by buildings or pavement. The Wappinger loam and Pawling Silt loam are both mapped by the USDA in the western portions of the airport property, and are siltier, fine-grained loams that are likely derived from lake and stream sediments.

This Report was prepared in accordance with NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation (May 2010) (DER-10) and 6 NYCRR 375 Environmental Remediation Programs (December 14, 2006).

Summary of Field Activities

On December 13, 2023, twenty (20) test pits, identified as TP-01 through TP-20, were excavated by Dutchess County Personnel within the area of the proposed Sky Harbour hangar building. The test pits were observed by a geologist from C.T. Male. The test

pit/sample locations are depicted on the attached Figure 3 – *Test Pit Soil Sample Locations and Results at Proposed Sky Harbour Hangar*. Test pits TP-01 to TP-20 were excavated using a CAT excavator. Generally, test pits were excavated to depths ranging from approximately six (6) to eight (8) feet below ground surface (bgs.). TP-17 was excavated to a greater depth terminating at 9.5 feet due to hole collapse. Groundwater was encountered in TP-17 at a depth of 8 feet and 4 inches. Groundwater was not encountered at any other test pit location. Soils generally consisted of topsoil in the upper four (4) to six (6) inches, followed by a brown, fine to coarse sand with some gravel, little rocks, and trace cobbles. Field test pit logs are included as Appendix A. Shallow soil samples were collected for analysis of PFAS at depths ranging from 0-2" bgs, just below the organic root layer. Deeper test pit samples were collected for analysis of PFAS from test pits TP-02 (6-7' bgs), TP-07 (5-6' bgs), TP-16 (5-6' bgs), TP-17 (6-7' bgs), TP-17D (9.5' bgs), TP-18 (6-7' bgs), and TP-20 (4-5' bgs). The deeper samples were intended to evaluate the distribution of PFAS vertically.

Analytical Sampling Results

All samples were collected and analyzed in accordance with the NYSDEC's *SAMPLING, ANALYSIS, AND ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) Under NYSDEC's Part 375 Remedial Programs,* April 2023 and DER-10, *Technical Guidance for Site Investigation and Remediation*, May 2010. Soil sample analytical results for this investigation were assessed in comparison to NYSDEC 6 NYCRR Part 375-6 Unrestricted Use, Commercial use Soil Cleanup Objectives (UUSCOs), and Protection of Groundwater SCOs (PGSCOs); and equipment rise blank water sample data was compared to NYSDEC Division of Water Technical and Operational Guidance Series (TOGS 1.1.1); *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* dated October 1993; Revised June 1998; errata sheet dated January 1999; and Addendum dated 2023 (NYSDEC Class GA).

Twenty-seven (27) soil grab samples were collected for PFAS sampling across the proposed Sky Harbour hangar site. Eight (8) quality assurance/quality control (QA/QC) samples including two (2) matrix spike samples, two (2) matrix spike duplicate samples, two (2) field duplicates, and two (2) equipment rinsate blank samples were submitted for analysis. No PFAS were detected in equipment rinsate blank samples.

No PFAS concentrations exceeded Part 375-6 CUSCOs. PFAS soil concentrations in sixteen (16) of the twenty (20) test pits exceed PGSCOs. Soil laboratory analytical results are summarized in attached Table 1 – *PFAS Investigation Test Pit Soil Sampling, Sky Harbour Hanger Building, Hudson Valley Regional Airport, Dutchess County, NY*. Laboratory analytical results are included as Appendix B. The intended future use of

the proposed Sky Harbour Site is commercial, and the airport is a commercial enterprise, so the CUSCOs are the conditions that apply.

Soil results exceeding PGSCOs are depicted on Figure 3 – *Test Pit Soil Sample Locations and Results at Proposed Sky Harbour Hangar* and are summarized as follows:

- PFOA and PFOS were detected in soil sampled from all twenty (20) test pits.

- PFAS concentrations in soil at sixteen (16) of the twenty (20) test pits exceed PGSCOs. Only test pits TP-01, TP-04, TP-07 and TP-20 did not exhibit PFAS concentrations exceeding PGSCOs.

- PFOA was detected in five (5) shallow grab soil samples above PGSCOs. PFOA concentrations above PGSCOs ranged from 0.81 ppb (TP-17S) to 7.32 ppb (TP-13S). PFOA concentrations across the site are relatively low, with only one (1) of the five (5) samples exhibiting a PFOA concentrations at almost ten (10) times greater than the PGSCO. None of the seven (7) deep soil samples exhibited a PFOA concentrations exceeding PGSCOs.

- PFOS was detected in soil grab samples at sixteen (16) of the twenty (20) test pits above PGSCOs. PFOS concentrations above PGSCOs ranged from 1.07 ppb (TP-02) to 74.4 ppb (TP-09S). PFOS concentrations across the site exceed PGSCOs, with six (6) of the ten (10) PFOS concentrations greater than ten (10) times the PGSCO. The six (6) samples exhibiting the highest PFOS concentrations (concentrations ten (10) times greater than the PGSCO) were shallow soil samples. PFOS concentrations exceeding PGGSOs in deep samples were comparably lower. Three (3) of the seven (7) deep soil samples exhibited a PFOS concentration above PGSCOs, ranging from 1.07 ppb (TP-02) to 3.38 (TP-17D).

Refer to Table A on the following page for a summary of soil grab sample results exceeding SCOs.

Table A
Soil Grab Sample PFOA and PFOS Concentrations Exceeding Unrestricted Use SCOs and/or Protection of Groundwater SCOs

Analyte	SCOs for protection of GW ppb (ug/kg)	SCOs for Unrestricted Use ppb (ug/kg)	SCOs for Restricted Commercial Use ppb (ug/kg)	Concentration Exceeding SCOs ppb (ng/g)
PFOA	***0.8***	***0.66***	***500***	
TP-03S				0.895
TP-09S				2.35
TP-11S				1.04
TP-13S				7.32
TP-17S				0.81
PFOS	***1.0***	***0.88***	***440***	
TP-02				1.07
TP-02S				11.1
TP-03S				64.9
TP-05S				33.1
TP-06S				3.2
TP-08S				5.31
TP-09S				74.4
TP-10S				13.0
TP-11S				1.65
TP-12S				23.0
TP-13S				6.35
TP-14S				1.07
TP-15S				1.28
TP-16S				7.91
TP-17S				3.94
TP-17D				3.38
TP-18				1.84
TP-18S				4.24
TP-19S				2.26
FD01-20231213				1.08

Laboratory data has not been validated. Yellow highlighted concentrations exceed yellow highlighted soil cleanup objective.

Conclusions and Recommendations

PFAS impacted soil has been identified throughout the majority of the proposed Sky Harbour Hangar South Side building site. Soil PFAS concentrations from the surface to at least seven (7) feet bgs exceed PGSCOs at sixteen (16) of the twenty (20) test pits excavated. Only test pits TP-01, TP04, TP-07 and TP-20 did not exhibit soil PFAS concentrations exceeding PGSCOS. The highest concentrations of PFAS were observed in surficial soil and was primarily PFOS, which is a major component of AFFF. This suggests the possibility that the source of the impacts may have been surficial in nature. There are no reports that AFFF was used in this location. The source could include overland flow of PFAS-contaminated surface water, surficial deposition of sprayed PFAS containing material (e.g. AFFF), aerial dispersion of PFAS (area industrial/commercial air discharge), and/or placement of PFAS-contaminated fill material in this area derived from other parts of the site or from off-site sources.

Soil sample TP-17D was collected at 9.5 feet bgs, below the elevation of groundwater, which was observed at 8'-4" bgs within this test pit. The PFOS concentration observed in this same was 3.38 ppb, over three times the PGSCO. Based on this observation at TP-17D, PFAS concentrations in Soil samples obtained from the saturated soil zone contain PFAS above Guidance Values.

The results of this limited investigation indicate that soil located within the proposed Sky Harbour Hanger construction area contains PFAS at concentrations below the CUSCOs, but above the PGSCO. Groundwater in this area is expected to exhibit PFAS concentrations as well, based on PFAS concentrations detected above guidance values in saturated soil sampled from test pit TP-17. If future construction activities for the Sky Harbour Hanger will include dewatering activities, that water may require treatment prior to discharge to the ground surface.

Although the soils do not exceed the commercial use criteria, future construction activities may require soil management and worker/community protection procedures during soil disturbance due to PFAS content. Excavated soil may be re-used on-Site as backfill only in areas that are beneath an impermeable or semipermeable cover such as asphalt or concrete paved areas, beneath building structures, etc. Any excess soil resulting from construction activities that cannot be re-used on-Site may be transported to an New York Codes Rules and Regulations (NYCRR) Section 6 Part 360 permitted solid waste management facility, or may be re-used off-site under a Beneficial Use Determination (BUD) by the NYSDEC in accordance with 6 NYCRR Part 360.12(c) due to the PFAS content.

If you have any questions or comments, please contact Jim McIver at (845) 454-4400.

Sincerely,

C.T. MALE ASSOCIATES

James D. McIver, Jr., P.G.,
Managing Geologist/Regional Office Manager

ATTACHMENTS:

Figures:

Figure 1 – Site Location Map

Figure 2 - Site Characterization Areas of Concern Locations & Sky Harbour Hanger Location

Figure 3 – Test Pit Soil Sample Locations and Results at Proposed Sky Harbour Hangar

Tables:

Table 1 - PFAS Analytical Results Summary, Test Pit Soil Sampling at the proposed Sky Harbour Hangar Location

Appendix A: Test Pit Logs
Appendix B: Laboratory Analytical Reports

ec: Eric White, Environmental Scientist IV, C.T. Male

FIGURE 1

Site Location Map

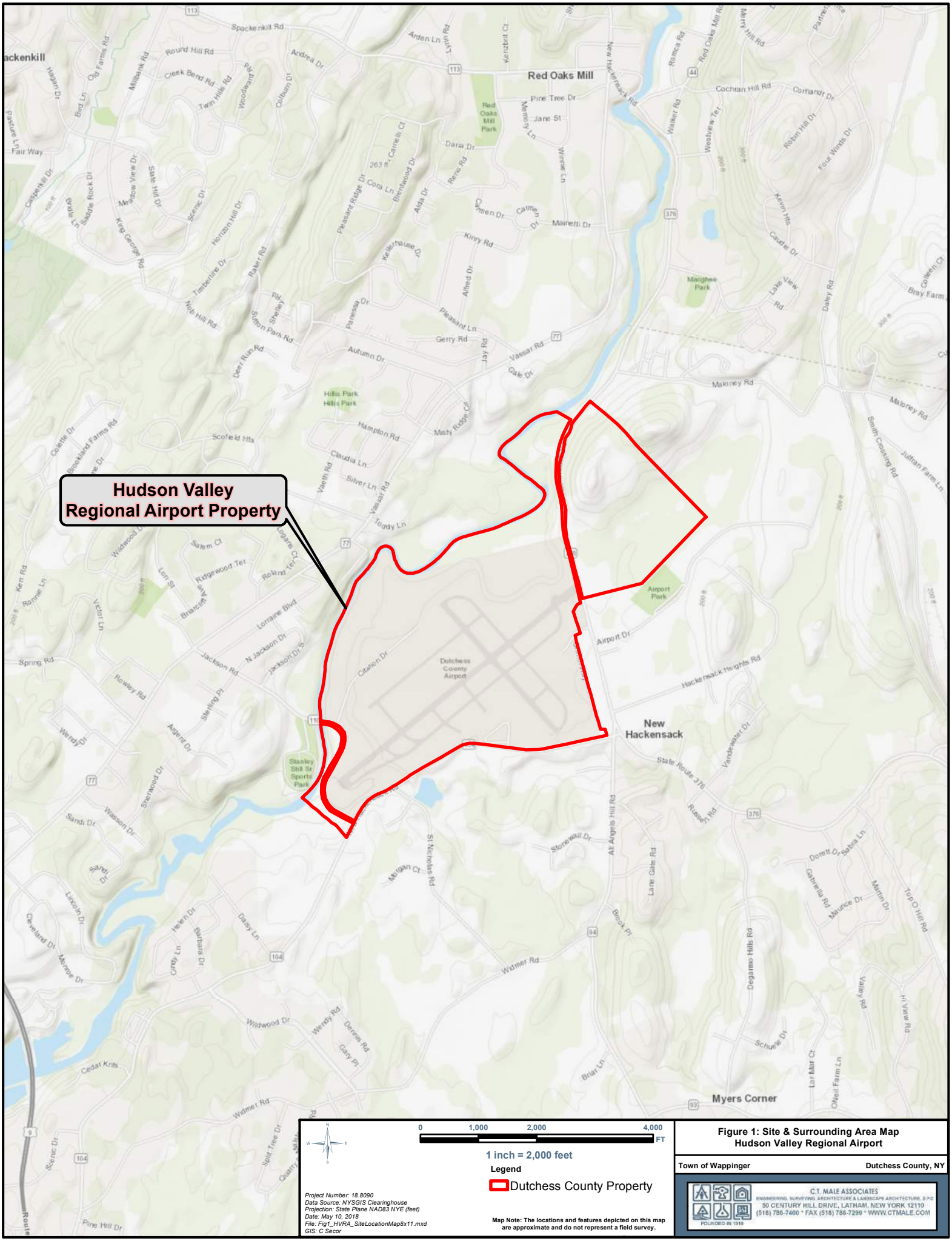

Figure 1: Site & Surrounding Area Map
Hudson Valley Regional Airport

Town of Wappinger — Dutchess County, NY

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FIGURE 2

Site Characterization Areas of Concern Locations & Sky Harbour Hangar Location

AOC-3
Dutchess County Landfill

314022 Dutchess County Landfill

MW 20

MW 15

MW 29

AOC-5
Outfall 003

Outfall-003

AOC-1
AFFF Testing Area

AOC-2
Balefill Landfill

MW 2S

MW 3S

MW 104

314023 Balefill

AOC-5 - Outfall 004

AOC-5 - Outfall 007

CB

Outfall-007

Outfall-006

MW 103

AOC-5
Outfall 006

AOC-9
North Runway

Future Proposed
Maintenance and
Storage Buildings

AOC-5 - Outfall 005

Outfall-004

Outfall-005

Outfall-002

AOC-5 - Outfall 002

AOC-8 – Fire Pond

FIrePond-01

Fire Pond-02

314078 Former IBM Hangar (AAG)

UP

A-21G

A-21S

A-21R

Well

MW 4

MW 18 ME

MW 6

UP

MW 3

314101 Flagship Hangar

AOC-6
AAG Hangars

Runway 7-25

Runway 6-24

Runway 15-33

AOC-4
Jackson Road Gas Spill

MW 101

MW 100

Well

AOC-7 - ARFF Building

Outfall-001

MW 105

New Hackensack
Road

AOC-5 - Outfall 001

AOC-1
AFFF Testing Area

AOC-9
South Runway

MW 102

Future Proposed
Sky Harbour Hangar
Building

Toddy Lane
Logans Court
Unnamed Street
Alexander Boulevard
Willowbrook Heights
Roland Terrace
Vassar Road
Lorraine Boulevard
Artesa Drive
Jackson Drive
North Jackson Drive
South Jackson Drive
Citation Drive
Parking Lot
Airport Drive
Don Bosco Boulevard
Hackensack Heights Road
South Court
Van Voorhis Drive
Germaine Lane
Jackson Road

Figure 2 - Site Characterization Investigation Areas of Concern Locations & Proposed Sky Harbour Hanger Location

Town of Wappinger — **Dutchess County, NY**

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N W E S

0 250 500 1,000 FT

1 inch = 500 feet

Map Note: The locations and features depicted on this map are approximate and do not represent a field survey.

Project Number: 18.8090
Data Source: NYSGIS Clearinghouse
Projection: State Plane NAD83 NYE (Feet)
Date: July 14, 2022
File: Fig14_AreaofConcernMap_11x17_2022Edits.mxd
GIS: C Secor / D Landreville

Legend

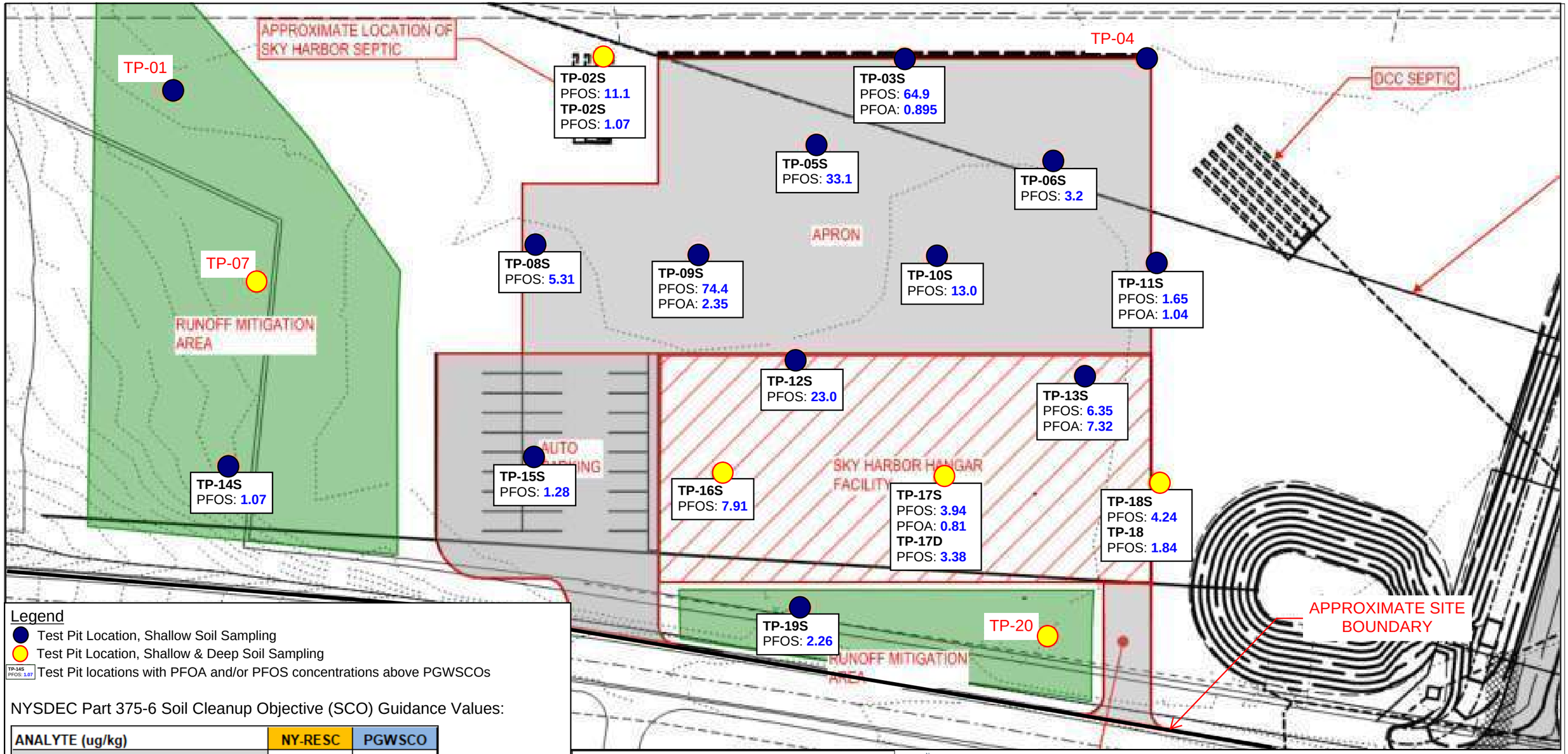
- Septic Tank Manhole

Points

- Potable Well
- Monitoring Well
- Outfall
- Utility Pole
- Areas of Interest
- Leech Feild
- Area of Concern
- Dutchess County Property
- Roads

FIGURE 3

Test Pit Soil Sample Locations and Results at Proposed Sky Harbour Hangar



Legend

- Test Pit Location, Shallow Soil Sampling
- Test Pit Location, Shallow & Deep Soil Sampling
- TP-14S PFOS: 1.07 — Test Pit locations with PFOA and/or PFOS concentrations above PGWSCOs

NYSDEC Part 375-6 Soil Cleanup Objective (SCO) Guidance Values:

ANALYTE (ug/kg)	NY-RESC	PGWSCO
Perfluorooctanesulfonic Acid (PFOS)	440	1.0
Perfluorooctanoic Acid (PFOA)	500	0.8

NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria

PGWSCO: New York NYCRR Part 375 Protection of Groundwater Soil Cleanup Objective

BLUE, bolded text indicate PFOS and/or PFOA concentrations above NYSDEC Part 375-6 Protection of Groundwater and Unrestricted Use Soil Cleanup Objectives (SCO) guidance values.

Figure 3: Test Pit Soil Sample Locations and Results at Proposed Sky Harbour Hangar
HVRA South Side Expansion, Wappingers Falls, NY
January 18, 2023

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0 250 500 1,000 FT

1 inch = 500 feet

Map Note: The locations and features depicted on this map are approximate and do not represent a field survey.

TABLE 1

PFAS Analytical Results Summary, Test Pit Soil Sampling at the Proposed Sky Harbour Hangar Location

Table 1: PFAS Analytical Results Summary
Test Pit Soil Sampling at the proposed Sky Harbour Hangar Location
Hudson Valley Regional Airport
Dutchess County, New York

	SAMPLE ID:		FD01-20231213				FD02-20231213				TP-01S				TP-02				TP-02S			
	COLLECTION DATE:		12/13/2023				12/13/2023				12/13/2023				12/13/2023				12/13/2023			
	SAMPLE DEPTH:		6-7'				5-6'				0-2"				6-7'				0-2"			
	SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESC	NY-PGW																				
ANALYTE	(ug/kg)		Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
PERFLUORINATED ALKYL ACIDS BY EPA 1633																						
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS	NS	NS	ND		0.77	0.161	ND		0.795	0.166	ND		0.791	0.165	ND		0.791	0.165	ND		0.781	0.163
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	NS	NS	ND		0.77	0.373	ND		0.795	0.385	ND		0.791	0.383	ND		0.791	0.383	ND		0.781	0.378
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	NS	NS	ND		0.77	0.078	ND		0.795	0.08	ND		0.791	0.08	ND		0.791	0.08	ND		0.781	0.079
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NS	NS	ND		0.77	0.27	ND		0.795	0.278	ND		0.791	0.277	ND		0.791	0.277	ND		0.781	0.273
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	NS	NS	ND		4.81	0.486	ND		4.97	0.502	ND		4.95	0.499	ND		4.95	0.499	ND		4.88	0.493
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NS	NS	ND		4.81	1.69	ND		4.97	1.75	ND		4.95	1.74	ND		4.95	1.74	ND		4.88	1.72
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NS	NS	ND		0.963	0.139	ND		0.994	0.143	ND		0.989	0.142	ND		0.989	0.142	ND		0.976	0.141
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	NS	ND		0.77	0.141	ND		0.795	0.146	ND		0.791	0.145	ND		0.791	0.145	ND		0.781	0.143
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	NS	ND		0.77	0.189	ND		0.795	0.195	ND		0.791	0.194	ND		0.791	0.194	ND		0.781	0.191
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	NS	ND		0.77	0.095	ND		0.795	0.098	ND		0.791	0.097	ND		0.791	0.097	ND		0.781	0.096
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	NS	NS	ND		0.192	0.108	ND		0.199	0.111	ND		0.198	0.111	ND		0.198	0.111	ND		0.195	0.109
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	NS	NS	ND		1.92	0.491	ND		1.99	0.507	ND		1.98	0.505	ND		1.98	0.505	ND		1.95	0.498
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	NS	ND		0.192	0.079	ND		0.199	0.082	ND		0.198	0.082	ND		0.198	0.082	ND		0.195	0.08
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	NS	NS	ND		0.192	0.096	ND		0.199	0.099	ND		0.198	0.099	ND		0.198	0.099	ND		0.195	0.098
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	NS	NS	ND		1.92	0.241	ND		1.99	0.249	ND		1.98	0.248	ND		1.98	0.248	ND		1.95	0.244
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	NS	ND		0.192	0.096	ND		0.199	0.099	ND		0.198	0.099	ND		0.198	0.099	ND		0.195	0.098
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NS	NS	ND		0.385	0.092	ND		0.398	0.095	ND		0.396	0.094	ND		0.396	0.094	ND		0.39	0.093
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	NS	NS	ND		0.385	0.08	ND		0.398	0.083	ND		0.396	0.082	ND		0.396	0.082	ND		0.39	0.081
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NS	NS	ND		0.385	0.039	ND		0.398	0.041	ND		0.396	0.04	ND		0.396	0.04	ND		0.39	0.04
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NS	NS	ND		0.385	0.03	ND		0.398	0.031	ND		0.396	0.031	ND		0.396	0.031	ND		0.39	0.031
Perfluorobutanesulfonic Acid (PFBS)	NS	NS	ND		0.192	0.042	ND		0.199	0.043	ND		0.198	0.043	ND		0.198	0.043	ND		0.195	0.042
Perfluorobutanoic Acid (PFBA)	NS	NS	ND		0.77	0.049	ND		0.795	0.05	ND		0.791	0.05	ND		0.791	0.05	0.236	J	0.781	0.049
Perfluorodecanesulfonic Acid (PFDS)	NS	NS	ND		0.192	0.031	ND		0.199	0.032	ND		0.198	0.032	ND		0.198	0.032	ND		0.195	0.031
Perfluorodecanoic Acid (PFDA)	NS	NS	ND		0.192	0.072	ND		0.199	0.075	ND		0.198	0.074	ND		0.198	0.074	0.098	J	0.195	0.073
Perfluorododecanesulfonic Acid (PFDoS)	NS	NS	ND		0.192	0.037	ND		0.199	0.038	ND		0.198	0.038	ND		0.198	0.038	ND		0.195	0.038
Perfluorododecanoic Acid (PFDoA)	NS	NS	ND		0.192	0.039	ND		0.199	0.041	ND		0.198	0.04	ND		0.198	0.04	ND		0.195	0.04
Perfluoroheptanesulfonic Acid (PFHpS)	NS	NS	ND		0.192	0.035	ND		0.199	0.037	ND		0.198	0.036	ND		0.198	0.036	ND		0.195	0.036
Perfluoroheptanoic Acid (PFHpA)	NS	NS	0.04	J	0.192	0.022	ND		0.199	0.023	0.05	J	0.198	0.023	ND		0.198	0.023	0.078	J	0.195	0.023
Perfluorohexanesulfonic Acid (PFHxS)	NS	NS	0.095	J	0.192	0.057	ND		0.199	0.059	ND		0.198	0.059	0.076	J	0.198	0.059	0.293		0.195	0.058
Perfluorohexanoic Acid (PFHxA)	NS	NS	0.093	J	0.192	0.045	ND		0.199	0.046	0.052	J	0.198	0.046	0.084	J	0.198	0.046	0.14	J	0.195	0.045
Perfluorononanesulfonic Acid (PFNS)	NS	NS	ND		0.192	0.041	ND		0.199	0.042	ND		0.198	0.042	ND		0.198	0.042	0.048	J	0.195	0.041
Perfluorononanoic Acid (PFNA)	NS	NS	ND		0.192	0.076	ND		0.199	0.078	0.086	J	0.198	0.078	ND		0.198	0.078	0.116	J	0.195	0.077
Perfluorooctanesulfonamide (PFOSA)	NS	NS	ND		0.192	0.042	ND		0.199	0.043	ND		0.198	0.043	ND		0.198	0.043	ND		0.195	0.042
Perfluorooctanesulfonic Acid (PFOS)	**440**	**1.0**	**1.08**		**0.192**	**0.076**	**0.082**	**J**	**0.199**	**0.079**	**0.419**		**0.198**	**0.078**	**1.07**		**0.198**	**0.078**	**11.1**		**0.195**	**0.077**
Perfluorooctanoic Acid (PFOA)	**500**	**0.8**	**0.1**	**J**	**0.192**	**0.05**	**ND**		**0.199**	**0.052**	**0.069**	**J**	**0.198**	**0.051**	**0.096**	**J**	**0.198**	**0.051**	**0.123**	**J**	**0.195**	**0.051**
Perfluoropentanesulfonic Acid (PFPeS)	NS	NS	ND		0.192	0.022	ND		0.199	0.023	ND		0.198	0.023	ND		0.198	0.023	ND		0.195	0.023
Perfluoropentanoic Acid (PFPeA)	NS	NS	ND		0.385	0.054	ND		0.398	0.056	0.083	J	0.396	0.055	ND		0.396	0.055	0.146	J	0.39	0.055
Perfluorotetradecanoic Acid (PFTeDA)	NS	NS	ND		0.192	0.102	ND		0.199	0.106	ND		0.198	0.105	ND		0.198	0.105	ND		0.195	0.104
Perfluorotridecanoic Acid (PFTrDA)	NS	NS	ND		0.192	0.051	ND		0.199	0.053	ND		0.198	0.052	ND		0.198	0.052	ND		0.195	0.052
Perfluoroundecanoic Acid (PFUnA)	NS	NS	ND		0.192	0.049	ND		0.199	0.051	ND		0.198	0.051	ND		0.198	0.051	0.055	J	0.195	0.05
GENERAL CHEMISTRY																						
Solids, Total	NS	NS	91.9		0.1	0.1	91.1		0.1	0.1	66.5		0.1	0.1	90.9		0.1	0.1	83.4		0.1	0.1

* Comparison is not performed on parameters with non-numeric criteria.
NS denotes No Standard
Blue shaded boxes and **bolded** text indicate PFOS and/or PFOA concentrations above NYSDEC Part 375-6 Protection of Groundwater Soil Cleanup Objectives (SCO) guidance values.

NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria
NY-PGW: New York NYCRR Part 375 Protection of Groundwater Criteria
J - Estimated Value ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL).
E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
F: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
JF: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria, where Estimated Value > the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL). Results are considered to be an estimated maximum concentration.

Table 1: PFAS Analytical Results Summary
Test Pit Soil Sampling at the proposed Sky Harbour Hangar Location
Hudson Valley Regional Airport
Dutchess County, New York

	SAMPLE ID:		TP-03S				TP-03S				TP-04S				TP-05S				TP-06S			
	COLLECTION DATE:		12/13/2023				12/13/2023				12/13/2023				12/13/2023				12/13/2023			
	SAMPLE DEPTH:		0-2"				0-2"				0-2"				0-2"				0-2"			
	SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESC	NY-PGW																				
ANALYTE	(ug/kg)		Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
PERFLUORINATED ALKYL ACIDS BY EPA 1633																						
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS	NS	NS	ND		0.797	0.166	-		-	-	ND		0.787	0.164	ND		0.79	0.165	ND		0.792	0.166
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	NS	NS	ND		0.797	0.386	-		-	-	ND		0.787	0.381	ND		0.79	0.382	ND		0.792	0.383
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	NS	NS	ND		0.797	0.081	-		-	-	ND		0.787	0.08	ND		0.79	0.08	ND		0.792	0.08
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NS	NS	ND		0.797	0.279	-		-	-	ND		0.787	0.276	ND		0.79	0.276	ND		0.792	0.277
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	NS	NS	ND		4.98	0.503	-		-	-	ND		4.92	0.497	ND		4.94	0.498	ND		4.95	0.5
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NS	NS	ND		4.98	1.75	-		-	-	ND		4.92	1.73	ND		4.94	1.74	ND		4.95	1.74
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NS	NS	ND		0.996	0.143	-		-	-	ND		0.984	0.142	ND		0.988	0.142	ND		0.99	0.142
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	NS	ND		0.797	0.146	-		-	-	ND		0.787	0.144	ND		0.79	0.144	ND		0.792	0.145
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	NS	ND		0.797	0.195	-		-	-	ND		0.787	0.193	ND		0.79	0.194	ND		0.792	0.194
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	NS	ND		0.797	0.098	-		-	-	ND		0.787	0.097	ND		0.79	0.097	ND		0.792	0.097
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	NS	NS	ND		0.199	0.112	-		-	-	ND		0.197	0.11	ND		0.198	0.111	ND		0.198	0.111
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	NS	NS	ND		1.99	0.508	-		-	-	ND		1.97	0.502	ND		1.98	0.504	ND		1.98	0.505
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	NS	ND		0.199	0.082	-		-	-	ND		0.197	0.081	ND		0.198	0.081	ND		0.198	0.082
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	NS	NS	ND		0.199	0.1	-		-	-	ND		0.197	0.098	ND		0.198	0.099	ND		0.198	0.099
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	NS	NS	ND		1.99	0.249	-		-	-	ND		1.97	0.246	ND		1.98	0.247	ND		1.98	0.248
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	NS	ND		0.199	0.1	-		-	-	ND		0.197	0.098	ND		0.198	0.099	ND		0.198	0.099
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NS	NS	ND		0.398	0.095	-		-	-	ND		0.394	0.094	ND		0.395	0.094	ND		0.396	0.094
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	NS	NS	ND		0.398	0.083	-		-	-	ND		0.394	0.082	ND		0.395	0.082	ND		0.396	0.082
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NS	NS	ND		0.398	0.041	-		-	-	ND		0.394	0.04	ND		0.395	0.04	ND		0.396	0.04
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NS	NS	ND		0.398	0.031	-		-	-	ND		0.394	0.031	ND		0.395	0.031	ND		0.396	0.031
Perfluorobutanesulfonic Acid (PFBS)	NS	NS	ND		0.199	0.043	-		-	-	ND		0.197	0.043	ND		0.198	0.043	ND		0.198	0.043
Perfluorobutanoic Acid (PFBA)	NS	NS	0.705	J	0.797	0.05	-		-	-	ND		0.787	0.05	0.574	J	0.79	0.05	ND		0.792	0.05
Perfluorodecanesulfonic Acid (PFDS)	NS	NS	1.46		0.199	0.032	-		-	-	ND		0.197	0.032	0.604		0.198	0.032	0.102	J	0.198	0.032
Perfluorodecanoic Acid (PFDA)	NS	NS	0.132	JF	0.199	0.075	-		-	-	0.108	J	0.197	0.074	ND		0.198	0.074	0.15	J	0.198	0.074
Perfluorododecanesulfonic Acid (PFDoS)	NS	NS	0.577		0.199	0.038	-		-	-	ND		0.197	0.038	0.242		0.198	0.038	ND		0.198	0.038
Perfluorododecanoic Acid (PFDoA)	NS	NS	0.054	J	0.199	0.041	-		-	-	ND		0.197	0.04	ND		0.198	0.04	ND		0.198	0.04
Perfluoroheptanesulfonic Acid (PFHpS)	NS	NS	0.249		0.199	0.037	-		-	-	ND		0.197	0.036	0.119	J	0.198	0.036	ND		0.198	0.036
Perfluoroheptanoic Acid (PFHpA)	NS	NS	0.155	J	0.199	0.023	-		-	-	0.054	J	0.197	0.023	0.12	J	0.198	0.023	0.127	J	0.198	0.023
Perfluorohexanesulfonic Acid (PFHxS)	NS	NS	9.16		0.199	0.059	-		-	-	ND		0.197	0.058	6.2		0.198	0.059	0.188	J	0.198	0.059
Perfluorohexanoic Acid (PFHxA)	NS	NS	1.72		0.199	0.046	-		-	-	ND		0.197	0.046	1.82		0.198	0.046	0.114	J	0.198	0.046
Perfluorononanesulfonic Acid (PFNS)	NS	NS	2.36		0.199	0.042	-		-	-	ND		0.197	0.042	0.775		0.198	0.042	ND		0.198	0.042
Perfluorononanoic Acid (PFNA)	NS	NS	0.163	J	0.199	0.078	-		-	-	0.253		0.197	0.077	0.077	J	0.198	0.077	0.218		0.198	0.078
Perfluorooctanesulfonamide (PFOSA)	NS	NS	3.06	F	0.199	0.043	-		-	-	ND		0.197	0.043	1.63	F	0.198	0.043	ND		0.198	0.043
Perfluorooctanesulfonic Acid (PFOS)	**440**	**1.0**	**80.4**	**E**	**0.199**	**0.079**	**64.9**		**0.996**	**0.394**	**0.451**		**0.197**	**0.078**	**33.1**		**0.198**	**0.078**	**3.2**		**0.198**	**0.078**
Perfluorooctanoic Acid (PFOA)	**500**	**0.8**	**0.895**		**0.199**	**0.052**	**-**		**-**	**-**	**0.097**	**J**	**0.197**	**0.051**	**0.602**		**0.198**	**0.051**	**0.258**		**0.198**	**0.052**
Perfluoropentanesulfonic Acid (PFPeS)	NS	NS	ND		0.199	0.023	-		-	-	ND		0.197	0.023	ND		0.198	0.023	ND		0.198	0.023
Perfluoropentanoic Acid (PFPeA)	NS	NS	0.674		0.398	0.056	-		-	-	0.081	J	0.394	0.055	0.728		0.395	0.055	0.14	J	0.396	0.055
Perfluorotetradecanoic Acid (PFTeDA)	NS	NS	ND		0.199	0.106	-		-	-	ND		0.197	0.105	ND		0.198	0.105	ND		0.198	0.105
Perfluorotridecanoic Acid (PFTrDA)	NS	NS	ND		0.199	0.053	-		-	-	ND		0.197	0.052	ND		0.198	0.052	0.053	J	0.198	0.052
Perfluoroundecanoic Acid (PFUnA)	NS	NS	0.142	J	0.199	0.051	-		-	-	0.07	J	0.197	0.05	0.077	J	0.198	0.051	0.111	JF	0.198	0.051
GENERAL CHEMISTRY																						
Solids, Total	NS	NS	81.6		0.1	0.1	-		-	-	91.7		0.1	0.1	61		0.1	0.1	82.4		0.1	0.1

* Comparison is not performed on parameters with non-numeric criteria.
NS denotes No Standard
Blue shaded boxes and **bolded** text indicate PFOS and/or PFOA concentrations above NYSDEC Part 375-6 Protection of Groundwater Soil Cleanup Objectives (SCO) guidance values.

NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria
NY-PGW: New York NYCRR Part 375 Protection of Groundwater Criteria
J - Estimated Value ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL).
E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
F: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
JF: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria, where Estimated Value > the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL). Results are considered to be an estimated maximum concentration.

Table 1: PFAS Analytical Results Summary
Test Pit Soil Sampling at the proposed Sky Harbour Hangar Location
Hudson Valley Regional Airport
Dutchess County, New York

	SAMPLE ID:		TP-07				TP-07S				TP-08S				TP-09S				TP-09S			
	COLLECTION DATE:		12/13/2023				12/13/2023				12/13/2023				12/13/2023				12/13/2023			
	SAMPLE DEPTH:		5-6'				0-2"				0-2"				0-2"				0-2"			
	SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESC	NY-PGW																				
ANALYTE	**(ug/kg)**		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
PERFLUORINATED ALKYL ACIDS BY EPA 1633																						
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS	NS	NS	ND		0.783	0.164	ND		0.774	0.162	ND		0.796	0.166	ND		0.773	0.162	-		-	-
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	NS	NS	ND		0.783	0.379	ND		0.774	0.375	ND		0.796	0.385	ND		0.773	0.374	-		-	-
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	NS	NS	ND		0.783	0.079	ND		0.774	0.078	ND		0.796	0.08	ND		0.773	0.078	-		-	-
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NS	NS	ND		0.783	0.274	ND		0.774	0.271	0.423	J	0.796	0.278	ND		0.773	0.271	-		-	-
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	NS	NS	ND		4.89	0.494	ND		4.84	0.488	ND		4.97	0.502	ND		4.83	0.488	-		-	-
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NS	NS	ND		4.89	1.72	ND		4.84	1.7	ND		4.97	1.75	ND		4.83	1.7	-		-	-
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NS	NS	ND		0.978	0.141	ND		0.968	0.139	ND		0.995	0.143	ND		0.967	0.139	-		-	-
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	NS	ND		0.783	0.143	ND		0.774	0.142	ND		0.796	0.146	ND		0.773	0.142	-		-	-
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	NS	ND		0.783	0.192	ND		0.774	0.19	ND		0.796	0.195	ND		0.773	0.189	-		-	-
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	NS	ND		0.783	0.096	ND		0.774	0.095	ND		0.796	0.098	ND		0.773	0.095	-		-	-
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	NS	NS	ND		0.196	0.11	ND		0.194	0.108	ND		0.199	0.111	ND		0.193	0.108	-		-	-
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	NS	NS	ND		1.96	0.499	ND		1.94	0.494	ND		1.99	0.508	ND		1.93	0.493	-		-	-
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	NS	ND		0.196	0.081	ND		0.194	0.08	ND		0.199	0.082	ND		0.193	0.08	-		-	-
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	NS	NS	ND		0.196	0.098	ND		0.194	0.097	ND		0.199	0.1	0.196		0.193	0.097	-		-	-
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	NS	NS	ND		1.96	0.245	ND		1.94	0.242	ND		1.99	0.249	ND		1.93	0.242	-		-	-
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	NS	ND		0.196	0.098	ND		0.194	0.097	ND		0.199	0.1	ND		0.193	0.097	-		-	-
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NS	NS	ND		0.391	0.093	ND		0.387	0.092	ND		0.398	0.095	ND		0.387	0.092	-		-	-
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	NS	NS	ND		0.391	0.081	ND		0.387	0.081	ND		0.398	0.083	ND		0.387	0.08	-		-	-
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NS	NS	ND		0.391	0.04	ND		0.387	0.04	ND		0.398	0.041	ND		0.387	0.039	-		-	-
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NS	NS	ND		0.391	0.031	ND		0.387	0.03	ND		0.398	0.031	ND		0.387	0.03	-		-	-
Perfluorobutanesulfonic Acid (PFBS)	NS	NS	ND		0.196	0.042	ND		0.194	0.042	ND		0.199	0.043	ND		0.193	0.042	-		-	-
Perfluorobutanoic Acid (PFBA)	NS	NS	ND		0.783	0.049	ND		0.774	0.049	ND		0.796	0.05	1.03		0.773	0.049	-		-	-
Perfluorodecanesulfonic Acid (PFDS)	NS	NS	ND		0.196	0.031	ND		0.194	0.031	ND		0.199	0.032	3.35		0.193	0.031	-		-	-
Perfluorodecanoic Acid (PFDA)	NS	NS	ND		0.196	0.074	ND		0.194	0.073	ND		0.199	0.075	0.159	J	0.193	0.073	-		-	-
Perfluorododecanesulfonic Acid (PFDoS)	NS	NS	ND		0.196	0.038	ND		0.194	0.037	ND		0.199	0.038	1.15		0.193	0.037	-		-	-
Perfluorododecanoic Acid (PFDoA)	NS	NS	ND		0.196	0.04	ND		0.194	0.04	ND		0.199	0.041	0.098	J	0.193	0.039	-		-	-
Perfluoroheptanesulfonic Acid (PFHpS)	NS	NS	ND		0.196	0.036	ND		0.194	0.036	ND		0.199	0.037	0.355		0.193	0.036	-		-	-
Perfluoroheptanoic Acid (PFHpA)	NS	NS	ND		0.196	0.023	0.042	J	0.194	0.022	0.099	J	0.199	0.023	0.353		0.193	0.022	-		-	-
Perfluorohexanesulfonic Acid (PFHxS)	NS	NS	ND		0.196	0.058	ND		0.194	0.057	0.334		0.199	0.059	14.8		0.193	0.057	-		-	-
Perfluorohexanoic Acid (PFHxA)	NS	NS	0.06	J	0.196	0.045	0.05	J	0.194	0.045	0.149	J	0.199	0.046	2.56		0.193	0.045	-		-	-
Perfluorononanesulfonic Acid (PFNS)	NS	NS	ND		0.196	0.042	ND		0.194	0.041	ND		0.199	0.042	3.16		0.193	0.041	-		-	-
Perfluorononanoic Acid (PFNA)	NS	NS	ND		0.196	0.077	0.088	J	0.194	0.076	0.146	J	0.199	0.078	0.243		0.193	0.076	-		-	-
Perfluorooctanesulfonamide (PFOSA)	NS	NS	ND		0.196	0.042	ND		0.194	0.042	ND		0.199	0.043	8.66	F	0.193	0.042	-		-	-
Perfluorooctanesulfonic Acid (PFOS)	**440**	**1.0**	**0.09**	**J**	**0.196**	**0.078**	**0.236**		**0.194**	**0.077**	**5.31**		**0.199**	**0.079**	**64.9**	**E**	**0.193**	**0.077**	**74.4**		**0.967**	**0.383**
Perfluorooctanoic Acid (PFOA)	**500**	**0.8**	**0.102**	**J**	**0.196**	**0.051**	**0.098**	**J**	**0.194**	**0.05**	**0.259**		**0.199**	**0.052**	**2.35**		**0.193**	**0.05**	**-**		**-**	**-**
Perfluoropentanesulfonic Acid (PFPeS)	NS	NS	ND		0.196	0.023	ND		0.194	0.022	ND		0.199	0.023	ND		0.193	0.022	-		-	-
Perfluoropentanoic Acid (PFPeA)	NS	NS	ND		0.391	0.055	0.06	J	0.387	0.054	0.107	J	0.398	0.056	0.942		0.387	0.054	-		-	-
Perfluorotetradecanoic Acid (PFTeDA)	NS	NS	ND		0.196	0.104	ND		0.194	0.103	ND		0.199	0.106	ND		0.193	0.103	-		-	-
Perfluorotridecanoic Acid (PFTrDA)	NS	NS	ND		0.196	0.052	ND		0.194	0.051	ND		0.199	0.053	ND		0.193	0.051	-		-	-
Perfluoroundecanoic Acid (PFUnA)	NS	NS	ND		0.196	0.05	ND		0.194	0.05	0.097	J	0.199	0.051	0.22		0.193	0.05	-		-	-
GENERAL CHEMISTRY																						
Solids, Total	NS	NS	87.2		0.1	0.1	92.1		0.1	0.1	80.3		0.1	0.1	84.1		0.1	0.1	-		-	-

* Comparison is not performed on parameters with non-numeric criteria.
NS denotes No Standard
Blue shaded boxes and **bolded** text indicate PFOS and/or PFOA concentrations above NYSDEC Part 375-6 Protection of Groundwater Soil Cleanup Objectives (SCO) guidance values.

NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria
NY-PGW: New York NYCRR Part 375 Protection of Groundwater Criteria
J - Estimated Value ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL).
E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
F: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
JF: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria, where Estimated Value > the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL). Results are considered to be an estimated maximum concentration.

Table 1: PFAS Analytical Results Summary
Test Pit Soil Sampling at the proposed Sky Harbour Hangar Location
Hudson Valley Regional Airport
Dutchess County, New York

	SAMPLE ID:		TP-10S				TP-11S				TP-12S				TP-13S				TP-14S			
	COLLECTION DATE:		12/13/2023				12/13/2023				12/13/2023				12/13/2023				12/13/2023			
	SAMPLE DEPTH:		0-2"				0-2"				0-2"				0-2"				0-2"			
	SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESC	NY-PGW																				
ANALYTE	**(ug/kg)**		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
PERFLUORINATED ALKYL ACIDS BY EPA 1633																						
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS	NS	NS	ND		0.774	0.162	ND		0.782	0.163	ND		0.762	0.159	ND		0.771	0.161	ND		0.783	0.164
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	NS	NS	ND		0.774	0.374	ND		0.782	0.378	ND		0.762	0.369	ND		0.771	0.373	ND		0.783	0.379
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	NS	NS	ND		0.774	0.078	ND		0.782	0.079	ND		0.762	0.077	ND		0.771	0.078	ND		0.783	0.079
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NS	NS	0.746	J	0.774	0.271	ND		0.782	0.274	ND		0.762	0.267	0.413	J	0.771	0.27	ND		0.783	0.274
2H,2H,3H-Perfluorooctanoic Acid (5:3FTCA)	NS	NS	ND		4.84	0.488	ND		4.88	0.493	ND		4.76	0.481	ND		4.82	0.486	ND		4.89	0.494
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NS	NS	ND		4.84	1.7	ND		4.88	1.72	ND		4.76	1.68	ND		4.82	1.7	ND		4.89	1.72
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NS	NS	ND		0.967	0.139	ND		0.977	0.141	ND		0.952	0.137	ND		0.964	0.139	ND		0.978	0.141
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	NS	ND		0.774	0.142	ND		0.782	0.143	ND		0.762	0.139	ND		0.771	0.141	ND		0.783	0.143
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	NS	ND		0.774	0.19	ND		0.782	0.192	ND		0.762	0.187	ND		0.771	0.189	ND		0.783	0.192
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	NS	ND		0.774	0.095	ND		0.782	0.096	ND		0.762	0.094	ND		0.771	0.095	ND		0.783	0.096
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	NS	NS	ND		0.193	0.108	ND		0.195	0.109	ND		0.19	0.107	ND		0.193	0.108	ND		0.196	0.11
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	NS	NS	ND		1.93	0.494	ND		1.95	0.499	ND		1.9	0.486	ND		1.93	0.492	ND		1.96	0.499
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	NS	ND		0.193	0.08	ND		0.195	0.081	ND		0.19	0.079	ND		0.193	0.079	ND		0.196	0.081
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	NS	NS	ND		0.193	0.097	ND		0.195	0.098	ND		0.19	0.095	ND		0.193	0.096	ND		0.196	0.098
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	NS	NS	ND		1.93	0.242	ND		1.95	0.245	ND		1.9	0.238	ND		1.93	0.241	ND		1.96	0.245
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	NS	ND		0.193	0.097	ND		0.195	0.098	ND		0.19	0.095	ND		0.193	0.096	ND		0.196	0.098
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NS	NS	ND		0.387	0.092	ND		0.391	0.093	ND		0.381	0.091	ND		0.385	0.092	ND		0.391	0.093
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	NS	NS	ND		0.387	0.08	ND		0.391	0.081	ND		0.381	0.079	ND		0.385	0.08	ND		0.391	0.081
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NS	NS	ND		0.387	0.039	ND		0.391	0.04	ND		0.381	0.039	ND		0.385	0.039	ND		0.391	0.04
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NS	NS	ND		0.387	0.03	ND		0.391	0.031	ND		0.381	0.03	ND		0.385	0.03	ND		0.391	0.031
Perfluorobutanesulfonic Acid (PFBS)	NS	NS	ND		0.193	0.042	ND		0.195	0.042	ND		0.19	0.041	ND		0.193	0.042	ND		0.196	0.042
Perfluorobutanoic Acid (PFBA)	NS	NS	0.346	J	0.774	0.049	0.388	J	0.782	0.049	0.37	J	0.762	0.048	1.92		0.771	0.049	ND		0.783	0.049
Perfluorodecanesulfonic Acid (PFDS)	NS	NS	ND		0.193	0.031	ND		0.195	0.031	ND		0.19	0.031	ND		0.193	0.031	ND		0.196	0.031
Perfluorodecanoic Acid (PFDA)	NS	NS	0.089	J	0.193	0.073	0.331		0.195	0.074	ND		0.19	0.072	0.417		0.193	0.073	0.088	J	0.196	0.074
Perfluorododecanesulfonic Acid (PFDoS)	NS	NS	ND		0.193	0.037	ND		0.195	0.038	ND		0.19	0.037	ND		0.193	0.037	ND		0.196	0.038
Perfluorododecanoic Acid (PFDoA)	NS	NS	ND		0.193	0.039	ND		0.195	0.04	ND		0.19	0.039	0.064	J	0.193	0.039	ND		0.196	0.04
Perfluoroheptanesulfonic Acid (PFHpS)	NS	NS	ND		0.193	0.036	ND		0.195	0.036	ND		0.19	0.035	ND		0.193	0.036	ND		0.196	0.036
Perfluoroheptanoic Acid (PFHpA)	NS	NS	0.248		0.193	0.022	0.413		0.195	0.023	0.171	J	0.19	0.022	3.54		0.193	0.022	0.05	J	0.196	0.023
Perfluorohexanesulfonic Acid (PFHxS)	NS	NS	0.364		0.193	0.057	ND		0.195	0.058	0.672		0.19	0.056	0.318		0.193	0.057	ND		0.196	0.058
Perfluorohexanoic Acid (PFHxA)	NS	NS	0.32		0.193	0.045	0.3		0.195	0.045	0.366		0.19	0.044	2.72		0.193	0.045	0.069	J	0.196	0.045
Perfluorononanesulfonic Acid (PFNS)	NS	NS	ND		0.193	0.041	ND		0.195	0.041	ND		0.19	0.04	ND		0.193	0.041	ND		0.196	0.042
Perfluorononanoic Acid (PFNA)	NS	NS	0.312		0.193	0.076	1.95		0.195	0.077	0.201		0.19	0.075	7.21		0.193	0.076	0.135	J	0.196	0.077
Perfluorooctanesulfonamide (PFOSA)	NS	NS	ND		0.193	0.042	ND		0.195	0.042	ND		0.19	0.041	ND		0.193	0.042	ND		0.196	0.042
Perfluorooctanesulfonic Acid (PFOS)	**440**	**1.0**	**13**		**0.193**	**0.077**	**1.65**		**0.195**	**0.077**	**23**		**0.19**	**0.075**	**6.35**		**0.193**	**0.076**	**1.07**		**0.196**	**0.078**
Perfluorooctanoic Acid (PFOA)	**500**	**0.8**	**0.454**		**0.193**	**0.05**	**1.04**		**0.195**	**0.051**	**0.403**		**0.19**	**0.05**	**7.32**		**0.193**	**0.05**	**0.092**	**J**	**0.196**	**0.051**
Perfluoropentanesulfonic Acid (PFPeS)	NS	NS	ND		0.193	0.022	ND		0.195	0.023	ND		0.19	0.022	ND		0.193	0.022	ND		0.196	0.023
Perfluoropentanoic Acid (PFPeA)	NS	NS	0.365	J	0.387	0.054	0.622		0.391	0.055	0.242	J	0.381	0.053	4.3		0.385	0.054	0.07	J	0.391	0.055
Perfluorotetradecanoic Acid (PFTeDA)	NS	NS	ND		0.193	0.103	ND		0.195	0.104	ND		0.19	0.101	ND		0.193	0.102	ND		0.196	0.104
Perfluorotridecanoic Acid (PFTrDA)	NS	NS	ND		0.193	0.051	ND		0.195	0.052	ND		0.19	0.05	ND		0.193	0.051	ND		0.196	0.052
Perfluoroundecanoic Acid (PFUnA)	NS	NS	0.071	J	0.193	0.05	0.248		0.195	0.05	ND		0.19	0.049	0.271		0.193	0.049	0.072	J	0.196	0.05
GENERAL CHEMISTRY																						
Solids, Total	NS	NS	84.9		0.1	0.1	77.3		0.1	0.1	72.4		0.1	0.1	80.2		0.1	0.1	88.1		0.1	0.1

* Comparison is not performed on parameters with non-numeric criteria.
NS denotes No Standard
Blue shaded boxes and **bolded** text indicate PFOS and/or PFOA concentrations above NYSDEC Part 375-6 Protection of Groundwater Soil Cleanup Objectives (SCO) guidance values.

NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria
NY-PGW: New York NYCRR Part 375 Protection of Groundwater Criteria
J - Estimated Value ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL).
E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
F: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
JF: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria, where Estimated Value > the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL). Results are considered to be an estimated maximum concentration.

Table 1: PFAS Analytical Results Summary
Test Pit Soil Sampling at the proposed Sky Harbour Hangar Location
Hudson Valley Regional Airport
Dutchess County, New York

	SAMPLE ID:		TP-15S				TP-16				TP-16S				TP-17				TP-17D			
	COLLECTION DATE:		12/13/2023				12/13/2023				12/13/2023				12/13/2023				12/13/2023			
	SAMPLE DEPTH:		0-2"				5-6'				0-2"				6-7'				9.5'			
	SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESC	NY-PGW																				
ANALYTE	**(ug/kg)**		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
PERFLUORINATED ALKYL ACIDS BY EPA 1633																						
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS	NS	NS	ND		0.68	0.142	ND		0.78	0.163	ND		0.787	0.164	ND		0.777	0.162	ND		0.795	0.166
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	NS	NS	ND		0.68	0.329	ND		0.78	0.378	ND		0.787	0.381	ND		0.777	0.376	ND		0.795	0.385
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	NS	NS	ND		0.68	0.069	ND		0.78	0.079	ND		0.787	0.08	ND		0.777	0.078	ND		0.795	0.08
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NS	NS	ND		0.68	0.238	ND		0.78	0.273	0.31	J	0.787	0.276	ND		0.777	0.272	0.321	J	0.795	0.278
2H,2H,3H-Perfluorooctanoic Acid (5:3FTCA)	NS	NS	ND		4.25	0.429	ND		4.88	0.492	ND		4.92	0.497	ND		4.85	0.49	ND		4.97	0.502
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NS	NS	ND		4.25	1.5	ND		4.88	1.72	ND		4.92	1.73	ND		4.85	1.71	ND		4.97	1.75
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NS	NS	ND		0.85	0.122	ND		0.975	0.14	ND		0.984	0.142	ND		0.971	0.14	ND		0.994	0.143
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	NS	ND		0.68	0.124	ND		0.78	0.143	ND		0.787	0.144	ND		0.777	0.142	ND		0.795	0.146
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	NS	ND		0.68	0.167	ND		0.78	0.191	ND		0.787	0.193	ND		0.777	0.19	ND		0.795	0.195
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	NS	ND		0.68	0.084	ND		0.78	0.096	ND		0.787	0.097	ND		0.777	0.096	ND		0.795	0.098
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	NS	NS	ND		0.17	0.095	ND		0.195	0.109	ND		0.197	0.11	ND		0.194	0.109	ND		0.199	0.111
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	NS	NS	ND		1.7	0.434	ND		1.95	0.498	ND		1.97	0.502	ND		1.94	0.496	ND		1.99	0.508
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	NS	ND		0.17	0.07	ND		0.195	0.08	ND		0.197	0.081	ND		0.194	0.08	ND		0.199	0.082
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	NS	NS	ND		0.17	0.085	ND		0.195	0.098	ND		0.197	0.098	ND		0.194	0.097	ND		0.199	0.099
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	NS	NS	ND		1.7	0.213	ND		1.95	0.244	ND		1.97	0.246	ND		1.94	0.243	ND		1.99	0.249
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	NS	ND		0.17	0.085	ND		0.195	0.098	ND		0.197	0.098	ND		0.194	0.097	ND		0.199	0.099
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NS	NS	ND		0.34	0.081	ND		0.39	0.093	ND		0.394	0.094	ND		0.388	0.092	ND		0.398	0.095
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	NS	NS	ND		0.34	0.071	ND		0.39	0.081	ND		0.394	0.082	ND		0.388	0.081	ND		0.398	0.083
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NS	NS	ND		0.34	0.035	ND		0.39	0.04	ND		0.394	0.04	ND		0.388	0.04	ND		0.398	0.041
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NS	NS	ND		0.34	0.027	ND		0.39	0.03	ND		0.394	0.031	ND		0.388	0.03	ND		0.398	0.031
Perfluorobutanesulfonic Acid (PFBS)	NS	NS	ND		0.17	0.037	ND		0.195	0.042	ND		0.197	0.043	ND		0.194	0.042	ND		0.199	0.043
Perfluorobutanoic Acid (PFBA)	NS	NS	ND		0.68	0.043	ND		0.78	0.049	0.194	J	0.787	0.05	ND		0.777	0.049	ND		0.795	0.05
Perfluorodecanesulfonic Acid (PFDS)	NS	NS	ND		0.17	0.027	ND		0.195	0.031	ND		0.197	0.032	ND		0.194	0.031	ND		0.199	0.032
Perfluorodecanoic Acid (PFDA)	NS	NS	0.069	J	0.17	0.064	ND		0.195	0.073	ND		0.197	0.074	ND		0.194	0.073	ND		0.199	0.075
Perfluorododecanesulfonic Acid (PFDoS)	NS	NS	ND		0.17	0.033	ND		0.195	0.037	ND		0.197	0.038	ND		0.194	0.037	ND		0.199	0.038
Perfluorododecanoic Acid (PFDoA)	NS	NS	ND		0.17	0.035	ND		0.195	0.04	ND		0.197	0.04	ND		0.194	0.04	ND		0.199	0.041
Perfluoroheptanesulfonic Acid (PFHpS)	NS	NS	ND		0.17	0.031	ND		0.195	0.036	ND		0.197	0.036	ND		0.194	0.036	ND		0.199	0.037
Perfluoroheptanoic Acid (PFHpA)	NS	NS	0.076	J	0.17	0.02	ND		0.195	0.023	0.091	J	0.197	0.023	0.063	J	0.194	0.023	0.089	J	0.199	0.023
Perfluorohexanesulfonic Acid (PFHxS)	NS	NS	0.069	J	0.17	0.05	ND		0.195	0.058	0.266		0.197	0.058	ND		0.194	0.058	0.126	J	0.199	0.059
Perfluorohexanoic Acid (PFHxA)	NS	NS	0.069	J	0.17	0.039	ND		0.195	0.045	0.197		0.197	0.046	0.106	J	0.194	0.045	0.119	J	0.199	0.046
Perfluorononanesulfonic Acid (PFNS)	NS	NS	ND		0.17	0.036	ND		0.195	0.041	ND		0.197	0.042	ND		0.194	0.041	ND		0.199	0.042
Perfluorononanoic Acid (PFNA)	NS	NS	0.169	J	0.17	0.067	ND		0.195	0.076	0.147	J	0.197	0.077	ND		0.194	0.076	0.131	J	0.199	0.078
Perfluorooctanesulfonamide (PFOSA)	NS	NS	ND		0.17	0.037	ND		0.195	0.042	ND		0.197	0.043	ND		0.194	0.042	ND		0.199	0.043
Perfluorooctanesulfonic Acid (PFOS)	**440**	**1.0**	**1.28**		**0.17**	**0.067**	**0.119**	**J**	**0.195**	**0.077**	**7.91**		**0.197**	**0.078**	**0.694**		**0.194**	**0.077**	**3.38**		**0.199**	**0.079**
Perfluorooctanoic Acid (PFOA)	**500**	**0.8**	**0.269**		**0.17**	**0.044**	**ND**		**0.195**	**0.051**	**0.207**		**0.197**	**0.051**	**0.071**	**J**	**0.194**	**0.051**	**0.254**		**0.199**	**0.052**
Perfluoropentanesulfonic Acid (PFPeS)	NS	NS	ND		0.17	0.02	ND		0.195	0.023	ND		0.197	0.023	ND		0.194	0.023	ND		0.199	0.023
Perfluoropentanoic Acid (PFPeA)	NS	NS	0.076	J	0.34	0.048	ND		0.39	0.055	0.176	J	0.394	0.055	0.08	J	0.388	0.054	0.119	J	0.398	0.056
Perfluorotetradecanoic Acid (PFTeDA)	NS	NS	ND		0.17	0.09	ND		0.195	0.104	ND		0.197	0.105	ND		0.194	0.103	ND		0.199	0.106
Perfluorotridecanoic Acid (PFTrDA)	NS	NS	ND		0.17	0.045	ND		0.195	0.052	ND		0.197	0.052	ND		0.194	0.051	ND		0.199	0.053
Perfluoroundecanoic Acid (PFUnA)	NS	NS	0.071	J	0.17	0.044	ND		0.195	0.05	ND		0.197	0.05	ND		0.194	0.05	ND		0.199	0.051
GENERAL CHEMISTRY																						
Solids, Total	NS	NS	85		0.1	0.1	92.4		0.1	0.1	83		0.1	0.1	92.3		0.1	0.1	89		0.1	0.1

* Comparison is not performed on parameters with non-numeric criteria.
NS denotes No Standard
Blue shaded boxes and **bolded** text indicate PFOS and/or PFOA concentrations above NYSDEC Part 375-6 Protection of Groundwater Soil Cleanup Objectives (SCO) guidance values.

NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria
NY-PGW: New York NYCRR Part 375 Protection of Groundwater Criteria
J - Estimated Value ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL).
E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
F: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
JF: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria, where Estimated Value > the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL). Results are considered to be an estimated maximum concentration.

Table 1: PFAS Analytical Results Summary
Test Pit Soil Sampling at the proposed Sky Harbour Hangar Location
Hudson Valley Regional Airport
Dutchess County, New York

	SAMPLE ID:		TP-17S				TP-18				TP-18S				TP-19S				TP-20				TP-20S			
	COLLECTION DATE:		12/13/2023				12/13/2023				12/13/2023				12/13/2023				12/13/2023				12/13/2023			
	SAMPLE DEPTH:		0-2"				6-7'				0-2"				0-2"				4-5'				0-2"			
	SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESC	NY-PGW																								
ANALYTE	**(ug/kg)**		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
PERFLUORINATED ALKYL ACIDS BY EPA 1633																										
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS	NS	NS	ND		0.779	0.163	ND		0.76	0.159	ND		0.786	0.164	ND		0.787	0.164	ND		0.774	0.162	ND		0.799	0.167
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	NS	NS	0.532	J	0.779	0.377	ND		0.76	0.368	ND		0.786	0.381	ND		0.787	0.381	ND		0.774	0.374	ND		0.799	0.387
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	NS	NS	ND		0.779	0.079	ND		0.76	0.077	ND		0.786	0.079	ND		0.787	0.079	ND		0.774	0.078	ND		0.799	0.081
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NS	NS	ND		0.779	0.273	ND		0.76	0.266	ND		0.786	0.275	0.282	J	0.787	0.275	ND		0.774	0.271	ND		0.799	0.28
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	NS	NS	ND		4.87	0.492	ND		4.75	0.479	ND		4.92	0.496	ND		4.92	0.496	ND		4.83	0.488	ND		4.99	0.504
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NS	NS	ND		4.87	1.71	ND		4.75	1.67	ND		4.92	1.73	ND		4.92	1.73	ND		4.83	1.7	ND		4.99	1.76
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NS	NS	ND		0.974	0.14	ND		0.95	0.137	ND		0.983	0.142	ND		0.983	0.142	ND		0.967	0.139	ND		0.999	0.144
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	NS	ND		0.779	0.143	ND		0.76	0.139	ND		0.786	0.144	ND		0.787	0.144	ND		0.774	0.142	ND		0.799	0.146
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	NS	ND		0.779	0.191	ND		0.76	0.186	ND		0.786	0.193	ND		0.787	0.193	ND		0.774	0.19	ND		0.799	0.196
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	NS	ND		0.779	0.096	ND		0.76	0.093	ND		0.786	0.097	ND		0.787	0.097	ND		0.774	0.095	ND		0.799	0.098
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	NS	NS	ND		0.195	0.109	ND		0.19	0.106	ND		0.197	0.11	ND		0.197	0.11	ND		0.193	0.108	ND		0.2	0.112
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	NS	NS	ND		1.95	0.497	ND		1.9	0.485	ND		1.97	0.502	ND		1.97	0.502	ND		1.93	0.494	ND		2	0.51
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	NS	ND		0.195	0.08	ND		0.19	0.078	ND		0.197	0.081	ND		0.197	0.081	ND		0.193	0.08	ND		0.2	0.082
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	NS	NS	ND		0.195	0.097	ND		0.19	0.095	ND		0.197	0.098	ND		0.197	0.098	ND		0.193	0.097	ND		0.2	0.1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	NS	NS	ND		1.95	0.244	ND		1.9	0.238	ND		1.97	0.246	ND		1.97	0.246	ND		1.93	0.242	ND		2	0.25
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	NS	ND		0.195	0.097	ND		0.19	0.095	ND		0.197	0.098	ND		0.197	0.098	ND		0.193	0.097	ND		0.2	0.1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NS	NS	ND		0.39	0.093	ND		0.38	0.09	ND		0.393	0.094	ND		0.393	0.094	ND		0.387	0.092	ND		0.399	0.095
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	NS	NS	ND		0.39	0.081	ND		0.38	0.079	ND		0.393	0.082	ND		0.393	0.082	ND		0.387	0.08	ND		0.399	0.083
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NS	NS	ND		0.39	0.04	ND		0.38	0.039	ND		0.393	0.04	ND		0.393	0.04	ND		0.387	0.039	ND		0.399	0.041
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NS	NS	ND		0.39	0.03	ND		0.38	0.03	ND		0.393	0.031	ND		0.393	0.031	ND		0.387	0.03	ND		0.399	0.031
Perfluorobutanesulfonic Acid (PFBS)	NS	NS	ND		0.195	0.042	ND		0.19	0.041	ND		0.197	0.043	ND		0.197	0.043	ND		0.193	0.042	ND		0.2	0.043
Perfluorobutanoic Acid (PFBA)	NS	NS	0.279	J	0.779	0.049	ND		0.76	0.048	0.433	J	0.786	0.05	ND		0.787	0.05	ND		0.774	0.049	0.199	J	0.799	0.05
Perfluorodecanesulfonic Acid (PFDS)	NS	NS	ND		0.195	0.031	ND		0.19	0.03	ND		0.197	0.031	ND		0.197	0.032	ND		0.193	0.031	ND		0.2	0.032
Perfluorodecanoic Acid (PFDA)	NS	NS	0.563		0.195	0.073	0.274		0.19	0.071	0.115	J	0.197	0.074	ND		0.197	0.074	ND		0.193	0.073	0.082	J	0.2	0.075
Perfluorododecanesulfonic Acid (PFDoS)	NS	NS	ND		0.195	0.037	ND		0.19	0.037	ND		0.197	0.038	ND		0.197	0.038	ND		0.193	0.037	ND		0.2	0.038
Perfluorododecanoic Acid (PFDoA)	NS	NS	0.07	J	0.195	0.04	ND		0.19	0.039	ND		0.197	0.04	ND		0.197	0.04	ND		0.193	0.039	ND		0.2	0.041
Perfluoroheptanesulfonic Acid (PFHpS)	NS	NS	ND		0.195	0.036	ND		0.19	0.035	ND		0.197	0.036	ND		0.197	0.036	ND		0.193	0.036	ND		0.2	0.037
Perfluoroheptanoic Acid (PFHpA)	NS	NS	0.245		0.195	0.023	0.069	J	0.19	0.022	0.447		0.197	0.023	0.098	J	0.197	0.023	0.037	J	0.193	0.022	0.105	J	0.2	0.023
Perfluorohexanesulfonic Acid (PFHxS)	NS	NS	ND		0.195	0.058	ND		0.19	0.056	0.117	J	0.197	0.058	0.058	J	0.197	0.058	0.071	J	0.193	0.057	0.078	J	0.2	0.059
Perfluorohexanoic Acid (PFHxA)	NS	NS	0.178	J	0.195	0.045	0.085	J	0.19	0.044	0.543		0.197	0.046	0.12	J	0.197	0.046	ND		0.193	0.045	0.098	J	0.2	0.046
Perfluorononanesulfonic Acid (PFNS)	NS	NS	ND		0.195	0.041	ND		0.19	0.04	ND		0.197	0.042	ND		0.197	0.042	ND		0.193	0.041	ND		0.2	0.042
Perfluorononanoic Acid (PFNA)	NS	NS	2.28		0.195	0.076	0.698		0.19	0.074	0.598		0.197	0.077	0.146	J	0.197	0.077	ND		0.193	0.076	0.173	J	0.2	0.078
Perfluorooctanesulfonamide (PFOSA)	NS	NS	ND		0.195	0.042	ND		0.19	0.041	ND		0.197	0.043	ND		0.197	0.043	ND		0.193	0.042	ND		0.2	0.043
Perfluorooctanesulfonic Acid (PFOS)	**440**	**1.0**	**3.94**		**0.195**	**0.077**	**1.84**		**0.19**	**0.075**	**4.24**		**0.197**	**0.078**	**2.26**		**0.197**	**0.078**	**ND**		**0.193**	**0.077**	**0.612**		**0.2**	**0.079**
Perfluorooctanoic Acid (PFOA)	**500**	**0.8**	**0.81**		**0.195**	**0.051**	**0.332**		**0.19**	**0.049**	**0.6**		**0.197**	**0.051**	**0.199**		**0.197**	**0.051**	**0.089**	**J**	**0.193**	**0.05**	**0.292**		**0.2**	**0.052**
Perfluoropentanesulfonic Acid (PFPeS)	NS	NS	ND		0.195	0.023	ND		0.19	0.022	ND		0.197	0.023	ND		0.197	0.023	ND		0.193	0.022	ND		0.2	0.023
Perfluoropentanoic Acid (PFPeA)	NS	NS	0.43		0.39	0.055	0.122	J	0.38	0.053	0.783		0.393	0.055	0.119	J	0.393	0.055	ND		0.387	0.054	0.108	J	0.399	0.056
Perfluorotetradecanoic Acid (PFTeDA)	NS	NS	ND		0.195	0.104	ND		0.19	0.101	ND		0.197	0.104	ND		0.197	0.105	ND		0.193	0.103	ND		0.2	0.106
Perfluorotridecanoic Acid (PFTrDA)	NS	NS	ND		0.195	0.051	ND		0.19	0.05	ND		0.197	0.052	ND		0.197	0.052	ND		0.193	0.051	ND		0.2	0.053
Perfluoroundecanoic Acid (PFUnA)	NS	NS	0.437		0.195	0.05	0.235		0.19	0.049	0.1	J	0.197	0.05	0.068	J	0.197	0.05	ND		0.193	0.05	0.081	J	0.2	0.051
GENERAL CHEMISTRY																										
Solids, Total	NS	NS	76.5		0.1	0.1	89.7		0.1	0.1	79.1		0.1	0.1	85.6		0.1	0.1	91.2		0.1	0.1	83.3		0.1	0.1

* Comparison is not performed on parameters with non-numeric criteria.
NS denotes No Standard
Blue shaded boxes and **bolded** text indicate PFOS and/or PFOA concentrations above NYSDEC Part 375-6 Protection of Groundwater Soil Cleanup Objectives (SCO) guidance values.

NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria
NY-PGW: New York NYCRR Part 375 Protection of Groundwater Criteria
J - Estimated Value ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL).
E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
F: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
JF: The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria, where Estimated Value > the Method Detection Limit (MDL) and < the Limit of Quantitation or Reporting Limit (LOQ or RL). Results are considered to be an estimated maximum concentration.

APPENDIX A
Test Pit Logs

TEST PIT LOG

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.
50 Century Hill Drive
Latham, NY 12110
(518) 786-7400 • FAX (581) 786-7299

PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _01___

0'

0-4" Dark brown topsoil, grass, roots

4" - 6' 4" Brown coarse to fine SAND, some gravel, trace cobbles

5'

End of test pit +/- 6' 4"

10'

15'

TOTAL DEPTH: 6' 4"

WATER AT: Not encountered

NOTES: Sample collected at 0-2" bgs

TEST PIT LOG

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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _02__

0'

0-6" Dark brown topsoil, grass, roots

6" - 7' 4" Brown coarse to fine SAND, some gravel, trace cobbles

5'

End of test pit +/- 7' 4"

10'

15'

TOTAL DEPTH: 7' 4"

WATER AT: Not encountered

NOTES: Sample TP-02S collected at 0-2" and sample TP-02 collected 5.0' bgs off of sidewall

TEST PIT LOG

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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _03___

0'

0-8" Dark brown topsoil, grass, roots

6" - 7' 5" Brown coarse to fine SAND, some gravel, trace cobbles

Dark brown 4" seam of coarse to fine SAND at +/- 2' 5"

5'

End of test pit +/- 7' 5"

10'

15'

TOTAL DEPTH: 7' 5"

WATER AT: 7' 3"

NOTES: Sample TP-03S collected at 0-2"

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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _04__

0'

0-4" Dark brown topsoil, grass, roots

4" - 6' 3" Brown coarse to fine SAND, some gravel, trace cobbles, moist.

5'

End of test pit +/- 6' 3"

10'

15'

TOTAL DEPTH: 6' 3"

WATER AT: 6' 0"

NOTES: Sample TP-04S collected at 0-2"

TEST PIT LOG

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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _05__

0'

0-6" Dark brown topsoil, grass, roots

6" - 7' 3" Brown coarse to fine SAND, some gravel, trace cobbles, moist.

3" seam of dark brown coarse to fine SAND at +/- 3.0' bgs

5'

End of test pit +/- 7' 3"

10'

15'

TOTAL DEPTH: 7' 3"

WATER AT: Not encountered

NOTES: Sample TP-05S collected at 0-2"

TEST PIT LOG

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Latham, NY 12110
(518) 786-7400 • FAX (581) 786-7299

PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _06___

0'

0-6" Dark brown topsoil, grass, roots

6" - 6' 2" Brown coarse to fine SAND, some gravel, trace cobbles, moist.

5'

End of test pit +/- 6' 2"

10'

15'

TOTAL DEPTH: 6' 2"

WATER AT: 6.0'

NOTES: Sample TP-06S collected at 0-2"

TEST PIT LOG

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.
50 Century Hill Drive
Latham, NY 12110
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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _07__

0'

0-6" Dark brown topsoil, grass, roots

6" - 7' 5" Brown coarse to fine SAND, some gravel, trace cobbles, moist.

5'

End of test pit +/- 7' 5"

10'

15'

TOTAL DEPTH: 7' 5"

WATER AT: Not encountered

NOTES: Sample TP-07S collected at 0-2";

Sample TP-07 collected at 5-6';

MS/MSD and FD-02 collected at TP-07

TEST PIT LOG

C.T. MALE ASSOCIATES
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50 Century Hill Drive
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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _08__

0'

0-6" Dark brown topsoil, grass, roots

6" - 7' 8" Brown coarse to fine SAND, some gravel, trace cobbles, moist.

Wet soil at 3'8"

5'

End of test pit +/- 7' 8"

10'

15'

TOTAL DEPTH: 7' 8"

WATER AT: 3' 8"

NOTES: Sample TP-08S collected at 0-2";

TEST PIT LOG

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.
50 Century Hill Drive
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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _09___

0'

0-6" Dark brown topsoil, grass, roots

6" - 7' 4" Brown coarse to fine SAND and GRAVEL, little cobbles, moist.

Wet soil at 3' 6"

5'

End of test pit +/- 7' 4"

10'

15'

TOTAL DEPTH: 7' 4"

WATER AT: 3' 6"

NOTES: Sample TP-09S collected at 0-2";

TEST PIT LOG

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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _10___

0'

0-4" Dark brown topsoil, grass, roots

4" - 7' 4" Brown coarse to fine SAND and GRAVEL, little cobbles, moist.

Wet soil at 4.0'

5'

End of test pit +/- 7' 4"

10'

15'

TOTAL DEPTH: 7' 4"

WATER AT: Wet at 4.0'

NOTES: Sample TP-10S collected at 0-2";

TEST PIT LOG

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.
50 Century Hill Drive
Latham, NY 12110
(518) 786-7400 • FAX (581) 786-7299

PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _11___

0'

0-4" Dark brown topsoil, grass, roots

4" - 5' 10" Brown coarse to fine SAND, some gravel, little cobbles, moist.

Wet soil at 3.5'

5'

End of test pit +/- 5' 10"

10'

15'

TOTAL DEPTH: 5' 10"

WATER AT: Wet soil at 3.5'

NOTES: Sample TP-11S collected at 0-2";

TEST PIT LOG

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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _12___

0'

0-4" Dark brown topsoil, grass, roots

4" - 7.0' Brown coarse to fine SAND, some gravel, little cobbles, moist.

Wet soil at 2.5'

5'

End of test pit +/- 7.0'

10'

15'

TOTAL DEPTH: 7.0'

WATER AT: wet soil at 2.5'

NOTES: Sample TP-12S collected at 0-2";

TEST PIT LOG

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Latham, NY 12110
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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _13___

0'

0-6" Dark brown topsoil, grass, roots

6" - 7' 9" Brown coarse to fine SAND, some gravel, little cobbles, moist.

Wet soil at 5.5'

5'

End of test pit +/- 7' 9"

10'

15'

TOTAL DEPTH: 7' 9"

WATER AT: 5.5'

NOTES: Sample TP-13S collected at 0-2";

TEST PIT LOG

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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _14___

0'

0-6" Dark brown topsoil, grass, roots

6" - 6' 8" Brown coarse to fine SAND, some gravel, little cobbles, moist.

Wet soil at 3.5'

5'

End of test pit +/- 6' 8"

10'

15'

TOTAL DEPTH: 6' 8"

WATER AT: wet at 3.5'

NOTES: Sample TP-14S collected at 0-2";

TEST PIT LOG

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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _15___

0'

0-6" Dark brown topsoil, grass, roots

6" - 8' 2" Brown coarse to fine SAND, some gravel, little cobbles, moist.

Wet soil at 2.5'

5'

End of test pit +/- 8' 2"

10'

15'

TOTAL DEPTH: 8' 2"

WATER AT: wet soil at 2.5'

NOTES: Sample TP-15S collected at 0-2"

TEST PIT LOG

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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _16__

0'

0-6" Dark brown topsoil, grass, roots

6" - 7' 2" Brown coarse to fine SAND, some gravel, little cobbles, moist.

Wet soil at 3.0'

5'

End of test pit +/- 7' 2"

10'

15'

TOTAL DEPTH: 7' 2"

WATER AT: wet soil at 3.0'

NOTES: Sample TP-16S collected at 0-2";

Sample TP-16 collected at 5-6'

TEST PIT LOG

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Latham, NY 12110
(518) 786-7400 • FAX (581) 786-7299

PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _17__

0'

0-8" Dark brown topsoil, grass, roots

8" - 9' 6" Brown coarse to fine SAND, some gravel, little cobbles, moist.

Wet soil at 3.5'

5'

Water at 8'4"

10'

End of test pit +/- 9' 6"

15'

TOTAL DEPTH: 9' 6"

WATER AT: 8'4"

NOTES: Sample TP-17S collected at 0-2";

Sample TP-17 collected at 6-7' off sidewall;

Sample TP-17D collected at 9.5' from bottom, wet;

Hole collapse at 9.5'.

TEST PIT LOG

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Latham, NY 12110
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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _18___

0'

0-4" Dark brown topsoil, grass, roots

4" - 4.0' Brown coarse to fine SAND, some gravel, little cobbles, moist.

Wet soil at 4.0'

4.0' - 7' 1" Brown coarse to fine SAND and GRAVEL, little cobbles, moist

5'

End of test pit +/- 7' 1"

10'

15'

TOTAL DEPTH: 7' 1"

WATER AT: 4.0'

NOTES: Sample TP-18S collected at 0-2";

Sample TP-18 collected at 6-7' off sidewall;

TEST PIT LOG

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Latham, NY 12110
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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _19___

0'

0-8" Dark brown topsoil, grass, roots

8" - 6' 10" Brown coarse to fine SAND, some gravel, trace cobbles, moist.

Wet soil at 6.0'

5'

End of test pit +/- 6' 10"

10'

15'

TOTAL DEPTH: 6' 10"

WATER AT: wet soils at 6.0'

NOTES: Sample TP-19S collected at 0-2";

TEST PIT LOG

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PROJECT NAME:	HVRA - Sky Harbour South Side	CONTRACTOR	Dutchess County - Highway Dept.
PROJECT NUMBER:	18.8090	EQUIPMENT:	CAT excavator
LOGGED BY:	ML	DATE:	12/13/2023

TEST PIT NO. _20___

0'

0-8" Dark brown topsoil, grass, roots

8" - 6' 3" Brown coarse to fine SAND, some gravel, trace cobbles, moist.

Wet soil at 3.5'

5'

End of test pit +/- 6' 3"

10'

15'

TOTAL DEPTH: 6' 3"

WATER AT: wet soil at 3.5'

NOTES: Sample TP-20S collected at 0-2";

Sample TP-20S collected at 4-5';

Non-active electrical condiut pipe encountered at 2.0' bgs

APPENDIX B

Laboratory Analytical Report

ANALYTICAL REPORT

Lab Number:	L2373991
Client:	C.T. Male Associates 50 Century Hill Drive Latham, NY 12210
ATTN:	Jim Mciver
Phone:	(518) 786-7400
Project Name:	HVRA
Project Number:	18.8090
Report Date:	01/10/24

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (99110) , NJ (MA015), NY (11627), NC (685), OH (CL106), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2373991-01	TP-01S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 08:45	12/14/23
L2373991-02	TP-02S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 09:00	12/14/23
L2373991-03	TP-02	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 08:58	12/14/23
L2373991-04	TP-03S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 09:35	12/14/23
L2373991-05	TP-04S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 10:05	12/14/23
L2373991-06	TP-05S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 09:25	12/14/23
L2373991-07	TP-06S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 09:50	12/14/23
L2373991-08	TP-07S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 14:20	12/14/23
L2373991-09	TP-07	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 14:15	12/14/23
L2373991-10	TP-08S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 13:20	12/14/23
L2373991-11	TP-09S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 13:10	12/14/23
L2373991-12	TP-10S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 12:15	12/14/23
L2373991-13	TP-11S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 10:25	12/14/23
L2373991-14	TP-12S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 12:30	12/14/23
L2373991-15	TP-13S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 11:20	12/14/23
L2373991-16	TP-14S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 14:00	12/14/23
L2373991-17	TP-15S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 13:32	12/14/23
L2373991-18	TP-16	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 12:45	12/14/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2373991-19	TP-16S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 12:50	12/14/23
L2373991-20	TP-17	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 11:40	12/14/23
L2373991-21	TP-17S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 11:50	12/14/23
L2373991-22	TP-17D	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 11:45	12/14/23
L2373991-23	TP-18S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 10:40	12/14/23
L2373991-24	TP-18	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 10:45	12/14/23
L2373991-25	TP-19S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 13:45	12/14/23
L2373991-26	TP-20S	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 10:50	12/14/23
L2373991-27	TP-20	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 10:55	12/14/23
L2373991-28	FD01-20231213	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 00:00	12/14/23
L2373991-29	FD02-20231213	SOIL	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 00:00	12/14/23
L2373991-30	EQUIPMENT RINSE BLANK 01	WATER	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 14:30	12/14/23
L2373991-31	EQUIPMENT RINSE BLANK 02	WATER	18 GRIFFITH WAY, WAPPINGERS FALLS, NY	12/13/23 14:35	12/14/23

Project Name:	HVRA	**Lab Number:**	L2373991
Project Number:	18.8090	**Report Date:**	01/10/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: HVRA **Lab Number:** L2373991
Project Number: 18.8090 **Report Date:** 01/10/24

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Perfluorinated Alkyl Acids by 1633

L2373991-04 and -11: The sample was re-analyzed on dilution in order to quantitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

L2373991-18R, -19R, -20R, -22R, -23R, -24R, -25R, WG1866693-1, and WG1868208-6/-7: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

L2373991-21RE: The sample was re-extracted within holding time due to QC failures in the original extraction. The results of the re-extraction are reported.

L2373991-26 and WG1872083-4: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

The WG1867982-2 LCS recovery, associated with L2373991-01 through -09, is above the acceptance criteria for 1h,1h,2h,2h-perfluorodecanesulfonic acid (8:2fts) (154%); however, the associated samples are non-detect to the RL for this target analyte. The results of the original analysis are reported.

The WG1868208-6/-7 MS/MSD recoveries, performed on L2373991-18, are outside the acceptance criteria for perfluorooctanesulfonic acid (pfos) (MSD 172%) and 3-perfluoroheptyl propanoic acid (7:3ftca) (MS 39%).

The WG1868208-6/-7 MS/MSD RPDs, performed on L2373991-18, are outside the acceptance criteria for perfluorooctanesulfonic acid (pfos) (48%) and perfluorononanesulfonic acid (pfns) (36%).

The WG1868271-4 MS recovery, performed on L2373991-26, is outside the acceptance criteria for 1h,1h,2h,2h-perfluorodecanesulfonic acid (8:2fts) (172%).

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 01/10/24

ORGANICS

SEMIVOLATILES

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-01
Client ID: TP-01S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 08:45
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/31/23 20:35
Analyst: ANH
Percent Solids: 67%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.791	0.050	1
Perfluoropentanoic Acid (PFPeA)	0.083	J	ng/g	0.396	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.198	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.791	0.080	1
Perfluorohexanoic Acid (PFHxA)	0.052	J	ng/g	0.198	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.198	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.050	J	ng/g	0.198	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.198	0.059	1
Perfluorooctanoic Acid (PFOA)	0.069	J	ng/g	0.198	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.791	0.277	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.198	0.036	1
Perfluorononanoic Acid (PFNA)	0.086	J	ng/g	0.198	0.078	1
Perfluorooctanesulfonic Acid (PFOS)	0.419		ng/g	0.198	0.078	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.198	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.791	0.383	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.198	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.198	0.099	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.198	0.051	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.198	0.032	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.198	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.198	0.082	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.198	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.198	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.198	0.105	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.791	0.097	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.791	0.145	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.198	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-01 Date Collected: 12/13/23 08:45

Client ID: TP-01S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.791	0.194	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.791	0.165	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.198	0.099	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.198	0.111	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.98	0.248	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.98	0.505	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.396	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.396	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.396	0.082	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.396	0.094	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.989	0.142	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.95	0.499	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.95	1.74	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-01 Date Collected: 12/13/23 08:45

Client ID: TP-01S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	85		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	99		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	85		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	99		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	91		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	93		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	87		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	83		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	78		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	83		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	99		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	78		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	118		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	119		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	68		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	54		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	87		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	56		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	55		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	50		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	49		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	85		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	77		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-02
Client ID: TP-02S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 09:00
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/31/23 21:14
Analyst: ANH
Percent Solids: 83%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.236	J	ng/g	0.781	0.049	1
Perfluoropentanoic Acid (PFPeA)	0.146	J	ng/g	0.390	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.195	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.781	0.079	1
Perfluorohexanoic Acid (PFHxA)	0.140	J	ng/g	0.195	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.195	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.078	J	ng/g	0.195	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	0.293		ng/g	0.195	0.058	1
Perfluorooctanoic Acid (PFOA)	0.123	J	ng/g	0.195	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.781	0.273	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.195	0.036	1
Perfluorononanoic Acid (PFNA)	0.116	J	ng/g	0.195	0.077	1
Perfluorooctanesulfonic Acid (PFOS)	11.1		ng/g	0.195	0.077	1
Perfluorodecanoic Acid (PFDA)	0.098	J	ng/g	0.195	0.073	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.781	0.378	1
Perfluorononanesulfonic Acid (PFNS)	0.048	J	ng/g	0.195	0.041	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.195	0.098	1
Perfluoroundecanoic Acid (PFUnA)	0.055	J	ng/g	0.195	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.195	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.195	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.195	0.080	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.195	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.195	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.195	0.104	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.781	0.096	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.781	0.143	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.195	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-02 Date Collected: 12/13/23 09:00

Client ID: TP-02S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.781	0.191	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.781	0.163	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.195	0.098	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.195	0.109	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.95	0.244	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.95	0.498	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.390	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.390	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.390	0.081	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.390	0.093	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.976	0.141	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.88	0.493	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.88	1.72	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-02 Date Collected: 12/13/23 09:00

Client ID: TP-02S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	81		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	94		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	78		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	81		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	90		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	82		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	81		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	78		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	75		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	103		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	76		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	101		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	87		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	92		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	59		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	85		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	75		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	67		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	74		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	54		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	56		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	80		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	86		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-03
Client ID: TP-02
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 08:58
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/31/23 21:27
Analyst: ANH
Percent Solids: 91%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.791	0.050	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.396	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.198	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.791	0.080	1
Perfluorohexanoic Acid (PFHxA)	0.084	J	ng/g	0.198	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.198	0.023	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.198	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	0.076	J	ng/g	0.198	0.059	1
Perfluorooctanoic Acid (PFOA)	0.096	J	ng/g	0.198	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.791	0.277	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.198	0.036	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.198	0.078	1
Perfluorooctanesulfonic Acid (PFOS)	1.07		ng/g	0.198	0.078	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.198	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.791	0.383	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.198	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.198	0.099	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.198	0.051	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.198	0.032	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.198	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.198	0.082	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.198	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.198	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.198	0.105	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.791	0.097	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.791	0.145	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.198	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-03 Date Collected: 12/13/23 08:58

Client ID: TP-02 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.791	0.194	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.791	0.165	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.198	0.099	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.198	0.111	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.98	0.248	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.98	0.505	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.396	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.396	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.396	0.082	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.396	0.094	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.989	0.142	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.95	0.499	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.95	1.74	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-03 Date Collected: 12/13/23 08:58

Client ID: TP-02 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	84		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	100		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	91		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	80		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	92		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	83		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	77		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	84		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	85		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	62		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	84		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	77		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	58		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	84		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	48		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	62		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	72		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	64		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	77		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	41		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	41		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	67		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	79		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-04
Client ID: TP-03S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 09:35
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/31/23 22:05
Analyst: ANH
Percent Solids: 82%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.705	J	ng/g	0.797	0.050	1
Perfluoropentanoic Acid (PFPeA)	0.674		ng/g	0.398	0.056	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.199	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.797	0.081	1
Perfluorohexanoic Acid (PFHxA)	1.72		ng/g	0.199	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.199	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.155	J	ng/g	0.199	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	9.16		ng/g	0.199	0.059	1
Perfluorooctanoic Acid (PFOA)	0.895		ng/g	0.199	0.052	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.797	0.279	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.249		ng/g	0.199	0.037	1
Perfluorononanoic Acid (PFNA)	0.163	J	ng/g	0.199	0.078	1
Perfluorooctanesulfonic Acid (PFOS)	80.4	E	ng/g	0.199	0.079	1
Perfluorodecanoic Acid (PFDA)	0.132	JF	ng/g	0.199	0.075	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.797	0.386	1
Perfluorononanesulfonic Acid (PFNS)	2.36		ng/g	0.199	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.199	0.100	1
Perfluoroundecanoic Acid (PFUnA)	0.142	J	ng/g	0.199	0.051	1
Perfluorodecanesulfonic Acid (PFDS)	1.46		ng/g	0.199	0.032	1
Perfluorooctanesulfonamide (PFOSA)	3.06	F	ng/g	0.199	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.199	0.082	1
Perfluorododecanoic Acid (PFDoA)	0.054	J	ng/g	0.199	0.041	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.199	0.053	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.199	0.106	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.797	0.098	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.797	0.146	1
Perfluorododecanesulfonic Acid (PFDoS)	0.577		ng/g	0.199	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-04 Date Collected: 12/13/23 09:35

Client ID: TP-03S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.797	0.195	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.797	0.166	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.199	0.100	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.199	0.112	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.99	0.249	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.99	0.508	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.398	0.041	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.398	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.398	0.083	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.398	0.095	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.996	0.143	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.98	0.503	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.98	1.75	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-04 Date Collected: 12/13/23 09:35

Client ID: TP-03S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	82		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	107		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	103		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	109		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	83		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	87		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	93		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	77		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	91		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	77		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	76		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	73		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	128		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	87		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	71		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	53		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	77		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	65		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	56		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	83		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	54		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	50		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	76		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	78		20-150

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-04 D
Client ID: TP-03S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 09:35
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 01/03/24 00:22
Analyst: ANH
Percent Solids: 82%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorooctanesulfonic Acid (PFOS)	64.9		ng/g	0.996	0.394	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	61		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-05
Client ID: TP-04S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:05
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/31/23 22:18
Analyst: ANH
Percent Solids: 92%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.787	0.050	1
Perfluoropentanoic Acid (PFPeA)	0.081	J	ng/g	0.394	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.197	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.787	0.080	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.197	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.197	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.054	J	ng/g	0.197	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.197	0.058	1
Perfluorooctanoic Acid (PFOA)	0.097	J	ng/g	0.197	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.787	0.276	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.197	0.036	1
Perfluorononanoic Acid (PFNA)	0.253		ng/g	0.197	0.077	1
Perfluorooctanesulfonic Acid (PFOS)	0.451		ng/g	0.197	0.078	1
Perfluorodecanoic Acid (PFDA)	0.108	J	ng/g	0.197	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.787	0.381	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.197	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.197	0.098	1
Perfluoroundecanoic Acid (PFUnA)	0.070	J	ng/g	0.197	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.197	0.032	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.197	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.197	0.081	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.197	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.197	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.197	0.105	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.787	0.097	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.787	0.144	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.197	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-05 Date Collected: 12/13/23 10:05

Client ID: TP-04S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.787	0.193	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.787	0.164	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.197	0.098	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.197	0.110	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.97	0.246	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.97	0.502	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.394	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.394	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.394	0.082	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.394	0.094	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.984	0.142	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.92	0.497	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.92	1.73	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-05 Date Collected: 12/13/23 10:05

Client ID: TP-04S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	82		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	96		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	104		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	97		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	92		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	81		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	84		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	78		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	83		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	84		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	79		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	85		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	80		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	101		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	78		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	67		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	81		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	74		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	68		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	78		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	60		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	63		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	95		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	98		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-06
Client ID: TP-05S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 09:25
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/31/23 22:31
Analyst: ANH
Percent Solids: 61%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.574	J	ng/g	0.790	0.050	1
Perfluoropentanoic Acid (PFPeA)	0.728		ng/g	0.395	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.198	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.790	0.080	1
Perfluorohexanoic Acid (PFHxA)	1.82		ng/g	0.198	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.198	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.120	J	ng/g	0.198	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	6.20		ng/g	0.198	0.059	1
Perfluorooctanoic Acid (PFOA)	0.602		ng/g	0.198	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.790	0.276	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.119	J	ng/g	0.198	0.036	1
Perfluorononanoic Acid (PFNA)	0.077	J	ng/g	0.198	0.077	1
Perfluorooctanesulfonic Acid (PFOS)	33.1		ng/g	0.198	0.078	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.198	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.790	0.382	1
Perfluorononanesulfonic Acid (PFNS)	0.775		ng/g	0.198	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.198	0.099	1
Perfluoroundecanoic Acid (PFUnA)	0.077	J	ng/g	0.198	0.051	1
Perfluorodecanesulfonic Acid (PFDS)	0.604		ng/g	0.198	0.032	1
Perfluorooctanesulfonamide (PFOSA)	1.63	F	ng/g	0.198	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.198	0.081	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.198	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.198	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.198	0.105	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.790	0.097	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.790	0.144	1
Perfluorododecanesulfonic Acid (PFDoS)	0.242		ng/g	0.198	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-06 Date Collected: 12/13/23 09:25

Client ID: TP-05S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.790	0.194	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.790	0.165	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.198	0.099	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.198	0.111	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.98	0.247	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.98	0.504	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.395	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.395	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.395	0.082	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.395	0.094	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.988	0.142	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.94	0.498	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.94	1.74	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-06 Date Collected: 12/13/23 09:25

Client ID: TP-05S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	86		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	95		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	86		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	98		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	84		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	92		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	86		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	79		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	88		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	82		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	95		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	95		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	93		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	94		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	83		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	67		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	93		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	79		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	74		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	78		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	69		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	65		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	94		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	108		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-07
Client ID: TP-06S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 09:50
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/31/23 22:44
Analyst: ANH
Percent Solids: 82%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.792	0.050	1
Perfluoropentanoic Acid (PFPeA)	0.140	J	ng/g	0.396	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.198	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.792	0.080	1
Perfluorohexanoic Acid (PFHxA)	0.114	J	ng/g	0.198	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.198	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.127	J	ng/g	0.198	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	0.188	J	ng/g	0.198	0.059	1
Perfluorooctanoic Acid (PFOA)	0.258		ng/g	0.198	0.052	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.792	0.277	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.198	0.036	1
Perfluorononanoic Acid (PFNA)	0.218		ng/g	0.198	0.078	1
Perfluorooctanesulfonic Acid (PFOS)	3.20		ng/g	0.198	0.078	1
Perfluorodecanoic Acid (PFDA)	0.150	J	ng/g	0.198	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.792	0.383	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.198	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.198	0.099	1
Perfluoroundecanoic Acid (PFUnA)	0.111	JF	ng/g	0.198	0.051	1
Perfluorodecanesulfonic Acid (PFDS)	0.102	J	ng/g	0.198	0.032	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.198	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.198	0.082	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.198	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	0.053	J	ng/g	0.198	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.198	0.105	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.792	0.097	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.792	0.145	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.198	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-07 Date Collected: 12/13/23 09:50

Client ID: TP-06S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.792	0.194	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.792	0.166	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.198	0.099	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.198	0.111	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.98	0.248	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.98	0.505	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.396	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.396	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.396	0.082	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.396	0.094	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.990	0.142	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.95	0.500	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.95	1.74	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-07 Date Collected: 12/13/23 09:50

Client ID: TP-06S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	80		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	116		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	87		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	110		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	85		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	87		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	86		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	84		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	79		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	99		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	75		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	73		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	80		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	86		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	70		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	53		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	71		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	67		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	63		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	78		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	58		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	56		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	78		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	87		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-08
Client ID: TP-07S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 14:20
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/31/23 22:57
Analyst: ANH
Percent Solids: 92%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.774	0.049	1
Perfluoropentanoic Acid (PFPeA)	0.060	J	ng/g	0.387	0.054	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.194	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.774	0.078	1
Perfluorohexanoic Acid (PFHxA)	0.050	J	ng/g	0.194	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.194	0.022	1
Perfluoroheptanoic Acid (PFHpA)	0.042	J	ng/g	0.194	0.022	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.194	0.057	1
Perfluorooctanoic Acid (PFOA)	0.098	J	ng/g	0.194	0.050	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.774	0.271	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.194	0.036	1
Perfluorononanoic Acid (PFNA)	0.088	J	ng/g	0.194	0.076	1
Perfluorooctanesulfonic Acid (PFOS)	0.236		ng/g	0.194	0.077	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.194	0.073	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.774	0.375	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.194	0.041	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.194	0.097	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.194	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.194	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.194	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.194	0.080	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.194	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.194	0.051	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.194	0.103	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.774	0.095	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.774	0.142	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.194	0.037	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-08 Date Collected: 12/13/23 14:20

Client ID: TP-07S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.774	0.190	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.774	0.162	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.194	0.097	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.194	0.108	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.94	0.242	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.94	0.494	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.387	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.387	0.030	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.387	0.081	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.387	0.092	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.968	0.139	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.84	0.488	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.84	1.70	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-08 Date Collected: 12/13/23 14:20

Client ID: TP-07S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	85		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	99		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	90		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	95		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	81		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	91		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	92		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	88		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	84		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	98		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	90		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	97		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	84		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	88		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	86		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	55		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	81		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	83		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	75		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	73		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	56		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	50		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	86		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	86		20-150

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-09
Client ID: TP-07
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 14:15
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/31/23 23:09
Analyst: ANH
Percent Solids: 87%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.783	0.049	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.391	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.196	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.783	0.079	1
Perfluorohexanoic Acid (PFHxA)	0.060	J	ng/g	0.196	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.196	0.023	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.196	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.196	0.058	1
Perfluorooctanoic Acid (PFOA)	0.102	J	ng/g	0.196	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.783	0.274	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.196	0.036	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.196	0.077	1
Perfluorooctanesulfonic Acid (PFOS)	0.090	J	ng/g	0.196	0.078	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.196	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.783	0.379	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.196	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.196	0.098	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.196	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.196	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.196	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.196	0.081	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.196	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.196	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.196	0.104	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.783	0.096	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.783	0.143	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.196	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-09 Date Collected: 12/13/23 14:15

Client ID: TP-07 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.783	0.192	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.783	0.164	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.196	0.098	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.196	0.110	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.96	0.245	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.96	0.499	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.391	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.391	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.391	0.081	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.391	0.093	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.978	0.141	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.89	0.494	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.89	1.72	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-09 Date Collected: 12/13/23 14:15

Client ID: TP-07 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	91		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	122		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	92		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	106		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	105		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	114		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	99		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	86		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	91		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	96		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	97		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	93		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	88		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	81		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	91		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	56		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	65		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	72		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	64		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	95		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	49		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	48		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	83		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	88		20-150

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-10
Client ID: TP-08S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 13:20
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/27/23 13:47
Analyst: CAP
Percent Solids: 80%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.796	0.050	1
Perfluoropentanoic Acid (PFPeA)	0.107	J	ng/g	0.398	0.056	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.199	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.796	0.080	1
Perfluorohexanoic Acid (PFHxA)	0.149	J	ng/g	0.199	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.199	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.099	J	ng/g	0.199	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	0.334		ng/g	0.199	0.059	1
Perfluorooctanoic Acid (PFOA)	0.259		ng/g	0.199	0.052	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.423	J	ng/g	0.796	0.278	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.199	0.037	1
Perfluorononanoic Acid (PFNA)	0.146	J	ng/g	0.199	0.078	1
Perfluorooctanesulfonic Acid (PFOS)	5.31		ng/g	0.199	0.079	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.199	0.075	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.796	0.385	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.199	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.199	0.100	1
Perfluoroundecanoic Acid (PFUnA)	0.097	J	ng/g	0.199	0.051	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.199	0.032	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.199	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.199	0.082	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.199	0.041	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.199	0.053	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.199	0.106	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.796	0.098	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.796	0.146	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.199	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-10 Date Collected: 12/13/23 13:20

Client ID: TP-08S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.796	0.195	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.796	0.166	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.199	0.100	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.199	0.111	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.99	0.249	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.99	0.508	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.398	0.041	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.398	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.398	0.083	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.398	0.095	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.995	0.143	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.97	0.502	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.97	1.75	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-10 Date Collected: 12/13/23 13:20

Client ID: TP-08S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	84		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	98		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	88		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	81		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	93		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	84		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	78		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	68		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	89		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	81		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	90		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	110		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	119		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	84		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	74		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	134		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	74		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	58		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	83		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	42		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	47		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	70		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	78		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-11
Client ID: TP-09S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 13:10
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/27/23 14:00
Analyst: CAP
Percent Solids: 84%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	1.03		ng/g	0.773	0.049	1
Perfluoropentanoic Acid (PFPeA)	0.942		ng/g	0.387	0.054	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.193	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.773	0.078	1
Perfluorohexanoic Acid (PFHxA)	2.56		ng/g	0.193	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.193	0.022	1
Perfluoroheptanoic Acid (PFHpA)	0.353		ng/g	0.193	0.022	1
Perfluorohexanesulfonic Acid (PFHxS)	14.8		ng/g	0.193	0.057	1
Perfluorooctanoic Acid (PFOA)	2.35		ng/g	0.193	0.050	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.773	0.271	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.355		ng/g	0.193	0.036	1
Perfluorononanoic Acid (PFNA)	0.243		ng/g	0.193	0.076	1
Perfluorooctanesulfonic Acid (PFOS)	64.9	E	ng/g	0.193	0.077	1
Perfluorodecanoic Acid (PFDA)	0.159	J	ng/g	0.193	0.073	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.773	0.374	1
Perfluorononanesulfonic Acid (PFNS)	3.16		ng/g	0.193	0.041	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.193	0.097	1
Perfluoroundecanoic Acid (PFUnA)	0.220		ng/g	0.193	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	3.35		ng/g	0.193	0.031	1
Perfluorooctanesulfonamide (PFOSA)	8.66	F	ng/g	0.193	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.193	0.080	1
Perfluorododecanoic Acid (PFDoA)	0.098	J	ng/g	0.193	0.039	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.193	0.051	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.193	0.103	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.773	0.095	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.773	0.142	1
Perfluorododecanesulfonic Acid (PFDoS)	1.15		ng/g	0.193	0.037	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-11 Date Collected: 12/13/23 13:10

Client ID: TP-09S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.773	0.189	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.773	0.162	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	0.196		ng/g	0.193	0.097	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.193	0.108	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.93	0.242	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.93	0.493	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.387	0.039	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.387	0.030	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.387	0.080	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.387	0.092	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.967	0.139	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.83	0.488	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.83	1.70	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-11 Date Collected: 12/13/23 13:10

Client ID: TP-09S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	86		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	111		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	89		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	83		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	91		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	98		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	91		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	79		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	76		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	79		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	97		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	80		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	101		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	103		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	85		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	72		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	89		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	68		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	61		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	59		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	63		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	87		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	92		20-150

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-11 D
Client ID: TP-09S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 13:10
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/29/23 13:54
Analyst: LMV
Percent Solids: 84%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorooctanesulfonic Acid (PFOS)	74.4		ng/g	0.967	0.383	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	81		20-150

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-12
Client ID: TP-10S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 12:15
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/27/23 14:13
Analyst: CAP
Percent Solids: 85%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.346	J	ng/g	0.774	0.049	1
Perfluoropentanoic Acid (PFPeA)	0.365	J	ng/g	0.387	0.054	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.193	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.774	0.078	1
Perfluorohexanoic Acid (PFHxA)	0.320		ng/g	0.193	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.193	0.022	1
Perfluoroheptanoic Acid (PFHpA)	0.248		ng/g	0.193	0.022	1
Perfluorohexanesulfonic Acid (PFHxS)	0.364		ng/g	0.193	0.057	1
Perfluorooctanoic Acid (PFOA)	0.454		ng/g	0.193	0.050	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.746	J	ng/g	0.774	0.271	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.193	0.036	1
Perfluorononanoic Acid (PFNA)	0.312		ng/g	0.193	0.076	1
Perfluorooctanesulfonic Acid (PFOS)	13.0		ng/g	0.193	0.077	1
Perfluorodecanoic Acid (PFDA)	0.089	J	ng/g	0.193	0.073	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.774	0.374	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.193	0.041	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.193	0.097	1
Perfluoroundecanoic Acid (PFUnA)	0.071	J	ng/g	0.193	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.193	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.193	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.193	0.080	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.193	0.039	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.193	0.051	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.193	0.103	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.774	0.095	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.774	0.142	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.193	0.037	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-12 Date Collected: 12/13/23 12:15

Client ID: TP-10S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.774	0.190	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.774	0.162	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.193	0.097	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.193	0.108	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.93	0.242	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.93	0.494	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.387	0.039	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.387	0.030	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.387	0.080	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.387	0.092	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.967	0.139	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.84	0.488	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.84	1.70	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-12 Date Collected: 12/13/23 12:15

Client ID: TP-10S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	82		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	96		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	87		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	72		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	93		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	88		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	81		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	80		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	69		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	100		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	82		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	73		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	81		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	76		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	83		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	54		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	66		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	67		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	52		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	89		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	48		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	50		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	71		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-13
Client ID: TP-11S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:25
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/27/23 14:26
Analyst: CAP
Percent Solids: 77%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.388	J	ng/g	0.782	0.049	1
Perfluoropentanoic Acid (PFPeA)	0.622		ng/g	0.391	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.195	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.782	0.079	1
Perfluorohexanoic Acid (PFHxA)	0.300		ng/g	0.195	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.195	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.413		ng/g	0.195	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.195	0.058	1
Perfluorooctanoic Acid (PFOA)	1.04		ng/g	0.195	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.782	0.274	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.195	0.036	1
Perfluorononanoic Acid (PFNA)	1.95		ng/g	0.195	0.077	1
Perfluorooctanesulfonic Acid (PFOS)	1.65		ng/g	0.195	0.077	1
Perfluorodecanoic Acid (PFDA)	0.331		ng/g	0.195	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.782	0.378	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.195	0.041	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.195	0.098	1
Perfluoroundecanoic Acid (PFUnA)	0.248		ng/g	0.195	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.195	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.195	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.195	0.081	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.195	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.195	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.195	0.104	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.782	0.096	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.782	0.143	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.195	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-13 Date Collected: 12/13/23 10:25

Client ID: TP-11S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.782	0.192	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.782	0.163	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.195	0.098	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.195	0.109	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.95	0.245	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.95	0.499	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.391	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.391	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.391	0.081	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.391	0.093	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.977	0.141	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.88	0.493	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.88	1.72	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-13 Date Collected: 12/13/23 10:25

Client ID: TP-11S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	89		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	117		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	85		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	97		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	110		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	90		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	87		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	69		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	95		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	70		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	90		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	96		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	78		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	86		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	59		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	83		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	80		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	66		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	101		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	46		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	51		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	65		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	76		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-14
Client ID: TP-12S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 12:30
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/27/23 14:39
Analyst: CAP
Percent Solids: 72%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.370	J	ng/g	0.762	0.048	1
Perfluoropentanoic Acid (PFPeA)	0.242	J	ng/g	0.381	0.053	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.190	0.041	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.762	0.077	1
Perfluorohexanoic Acid (PFHxA)	0.366		ng/g	0.190	0.044	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.190	0.022	1
Perfluoroheptanoic Acid (PFHpA)	0.171	J	ng/g	0.190	0.022	1
Perfluorohexanesulfonic Acid (PFHxS)	0.672		ng/g	0.190	0.056	1
Perfluorooctanoic Acid (PFOA)	0.403		ng/g	0.190	0.050	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.762	0.267	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.190	0.035	1
Perfluorononanoic Acid (PFNA)	0.201		ng/g	0.190	0.075	1
Perfluorooctanesulfonic Acid (PFOS)	23.0		ng/g	0.190	0.075	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.190	0.072	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.762	0.369	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.190	0.040	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.190	0.095	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.190	0.049	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.190	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.190	0.041	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.190	0.079	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.190	0.039	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.190	0.050	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.190	0.101	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.762	0.094	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.762	0.139	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.190	0.037	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-14 Date Collected: 12/13/23 12:30

Client ID: TP-12S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.762	0.187	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.762	0.159	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.190	0.095	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.190	0.107	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.90	0.238	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.90	0.486	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.381	0.039	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.381	0.030	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.381	0.079	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.381	0.091	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.952	0.137	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.76	0.481	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.76	1.68	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-14 Date Collected: 12/13/23 12:30

Client ID: TP-12S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	92		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	106		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	93		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	81		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	90		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	99		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	93		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	82		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	70		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	90		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	96		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	111		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	92		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	98		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	86		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	63		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	87		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	80		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	70		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	46		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	47		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	68		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	70		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-15
Client ID: TP-13S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 11:20
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/27/23 14:52
Analyst: CAP
Percent Solids: 80%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	1.92		ng/g	0.771	0.049	1
Perfluoropentanoic Acid (PFPeA)	4.30		ng/g	0.385	0.054	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.193	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.771	0.078	1
Perfluorohexanoic Acid (PFHxA)	2.72		ng/g	0.193	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.193	0.022	1
Perfluoroheptanoic Acid (PFHpA)	3.54		ng/g	0.193	0.022	1
Perfluorohexanesulfonic Acid (PFHxS)	0.318		ng/g	0.193	0.057	1
Perfluorooctanoic Acid (PFOA)	7.32		ng/g	0.193	0.050	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.413	J	ng/g	0.771	0.270	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.193	0.036	1
Perfluorononanoic Acid (PFNA)	7.21		ng/g	0.193	0.076	1
Perfluorooctanesulfonic Acid (PFOS)	6.35		ng/g	0.193	0.076	1
Perfluorodecanoic Acid (PFDA)	0.417		ng/g	0.193	0.073	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.771	0.373	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.193	0.041	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.193	0.096	1
Perfluoroundecanoic Acid (PFUnA)	0.271		ng/g	0.193	0.049	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.193	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.193	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.193	0.079	1
Perfluorododecanoic Acid (PFDoA)	0.064	J	ng/g	0.193	0.039	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.193	0.051	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.193	0.102	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.771	0.095	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.771	0.141	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.193	0.037	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-15 Date Collected: 12/13/23 11:20

Client ID: TP-13S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.771	0.189	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.771	0.161	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.193	0.096	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.193	0.108	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.93	0.241	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.93	0.492	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.385	0.039	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.385	0.030	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.385	0.080	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.385	0.092	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.964	0.139	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.82	0.486	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.82	1.70	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-15 Date Collected: 12/13/23 11:20

Client ID: TP-13S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	88		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	96		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	82		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	85		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	87		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	86		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	88		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	76		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	74		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	85		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	80		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	95		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	137		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	96		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	85		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	63		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	97		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	70		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	74		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	77		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	54		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	58		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	79		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	76		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-16
Client ID: TP-14S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 14:00
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/27/23 15:04
Analyst: CAP
Percent Solids: 88%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.783	0.049	1
Perfluoropentanoic Acid (PFPeA)	0.070	J	ng/g	0.391	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.196	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.783	0.079	1
Perfluorohexanoic Acid (PFHxA)	0.069	J	ng/g	0.196	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.196	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.050	J	ng/g	0.196	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.196	0.058	1
Perfluorooctanoic Acid (PFOA)	0.092	J	ng/g	0.196	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.783	0.274	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.196	0.036	1
Perfluorononanoic Acid (PFNA)	0.135	J	ng/g	0.196	0.077	1
Perfluorooctanesulfonic Acid (PFOS)	1.07		ng/g	0.196	0.078	1
Perfluorodecanoic Acid (PFDA)	0.088	J	ng/g	0.196	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.783	0.379	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.196	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.196	0.098	1
Perfluoroundecanoic Acid (PFUnA)	0.072	J	ng/g	0.196	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.196	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.196	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.196	0.081	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.196	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.196	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.196	0.104	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.783	0.096	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.783	0.143	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.196	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-16 Date Collected: 12/13/23 14:00

Client ID: TP-14S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.783	0.192	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.783	0.164	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.196	0.098	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.196	0.110	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.96	0.245	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.96	0.499	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.391	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.391	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.391	0.081	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.391	0.093	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.978	0.141	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.89	0.494	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.89	1.72	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-16 Date Collected: 12/13/23 14:00

Client ID: TP-14S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	91		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	98		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	87		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	81		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	92		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	88		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	85		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	70		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	96		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	80		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	88		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	109		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	102		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	94		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	66		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	88		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	75		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	73		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	56		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	56		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	88		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	85		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-17
Client ID: TP-15S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 13:32
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/27/23 15:17
Analyst: CAP
Percent Solids: 85%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.680	0.043	1
Perfluoropentanoic Acid (PFPeA)	0.076	J	ng/g	0.340	0.048	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.170	0.037	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.680	0.069	1
Perfluorohexanoic Acid (PFHxA)	0.069	J	ng/g	0.170	0.039	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.170	0.020	1
Perfluoroheptanoic Acid (PFHpA)	0.076	J	ng/g	0.170	0.020	1
Perfluorohexanesulfonic Acid (PFHxS)	0.069	J	ng/g	0.170	0.050	1
Perfluorooctanoic Acid (PFOA)	0.269		ng/g	0.170	0.044	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.680	0.238	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.170	0.031	1
Perfluorononanoic Acid (PFNA)	0.169	J	ng/g	0.170	0.067	1
Perfluorooctanesulfonic Acid (PFOS)	1.28		ng/g	0.170	0.067	1
Perfluorodecanoic Acid (PFDA)	0.069	J	ng/g	0.170	0.064	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.680	0.329	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.170	0.036	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.170	0.085	1
Perfluoroundecanoic Acid (PFUnA)	0.071	J	ng/g	0.170	0.044	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.170	0.027	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.170	0.037	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.170	0.070	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.170	0.035	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.170	0.045	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.170	0.090	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.680	0.084	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.680	0.124	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.170	0.033	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-17 Date Collected: 12/13/23 13:32

Client ID: TP-15S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.680	0.167	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.680	0.142	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.170	0.085	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.170	0.095	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.70	0.213	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.70	0.434	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.340	0.035	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.340	0.027	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.340	0.071	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.340	0.081	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.850	0.122	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.25	0.429	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.25	1.50	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-17 Date Collected: 12/13/23 13:32

Client ID: TP-15S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	86		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	101		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	86		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	83		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	88		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	97		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	92		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	82		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	74		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	72		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	82		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	80		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	112		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	76		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	73		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	60		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	62		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	54		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	61		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	47		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	47		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	79		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	77		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-18 R
Client ID: TP-16
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 12:45
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/29/23 14:07
Analyst: LMV
Percent Solids: 92%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.780	0.049	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.390	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.195	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.780	0.079	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.195	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.195	0.023	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.195	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.195	0.058	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.195	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.780	0.273	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.195	0.036	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.195	0.076	1
Perfluorooctanesulfonic Acid (PFOS)	0.119	J	ng/g	0.195	0.077	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.195	0.073	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.780	0.378	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.195	0.041	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.195	0.098	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.195	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.195	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.195	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.195	0.080	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.195	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.195	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.195	0.104	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.780	0.096	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.780	0.143	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.195	0.037	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-18 R Date Collected: 12/13/23 12:45

Client ID: TP-16 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.780	0.191	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.780	0.163	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.195	0.098	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.195	0.109	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.95	0.244	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.95	0.498	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.390	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.390	0.030	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.390	0.081	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.390	0.093	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.975	0.140	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.88	0.492	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.88	1.72	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-18 R Date Collected: 12/13/23 12:45

Client ID: TP-16 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	84		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	103		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	89		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	86		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	96		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	96		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	90		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	78		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	81		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	98		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	78		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	80		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	59		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	65		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	70		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	56		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	56		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	50		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	38		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	87		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	37		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	36		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	59		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	60		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-19 R
Client ID: TP-16S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 12:50
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/29/23 14:46
Analyst: LMV
Percent Solids: 83%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.194	J	ng/g	0.787	0.050	1
Perfluoropentanoic Acid (PFPeA)	0.176	J	ng/g	0.394	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.197	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.787	0.080	1
Perfluorohexanoic Acid (PFHxA)	0.197		ng/g	0.197	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.197	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.091	J	ng/g	0.197	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	0.266		ng/g	0.197	0.058	1
Perfluorooctanoic Acid (PFOA)	0.207		ng/g	0.197	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.310	J	ng/g	0.787	0.276	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.197	0.036	1
Perfluorononanoic Acid (PFNA)	0.147	J	ng/g	0.197	0.077	1
Perfluorooctanesulfonic Acid (PFOS)	7.91		ng/g	0.197	0.078	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.197	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.787	0.381	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.197	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.197	0.098	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.197	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.197	0.032	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.197	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.197	0.081	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.197	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.197	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.197	0.105	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.787	0.097	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.787	0.144	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.197	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-19 R Date Collected: 12/13/23 12:50

Client ID: TP-16S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.787	0.193	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.787	0.164	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.197	0.098	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.197	0.110	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.97	0.246	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.97	0.502	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.394	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.394	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.394	0.082	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.394	0.094	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.984	0.142	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.92	0.497	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.92	1.73	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-19 R Date Collected: 12/13/23 12:50

Client ID: TP-16S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	78		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	92		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	88		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	84		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	78		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	76		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	78		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	75		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	68		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	80		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	72		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	62		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	63		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	70		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	62		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	48		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	58		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	50		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	47		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	69		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	46		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	49		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	73		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	78		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-20 R
Client ID: TP-17
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 11:40
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/29/23 14:58
Analyst: LMV
Percent Solids: 92%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.777	0.049	1
Perfluoropentanoic Acid (PFPeA)	0.080	J	ng/g	0.388	0.054	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.194	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.777	0.078	1
Perfluorohexanoic Acid (PFHxA)	0.106	J	ng/g	0.194	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.194	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.063	J	ng/g	0.194	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.194	0.058	1
Perfluorooctanoic Acid (PFOA)	0.071	J	ng/g	0.194	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.777	0.272	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.194	0.036	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.194	0.076	1
Perfluorooctanesulfonic Acid (PFOS)	0.694		ng/g	0.194	0.077	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.194	0.073	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.777	0.376	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.194	0.041	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.194	0.097	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.194	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.194	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.194	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.194	0.080	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.194	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.194	0.051	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.194	0.103	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.777	0.096	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.777	0.142	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.194	0.037	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-20 R Date Collected: 12/13/23 11:40

Client ID: TP-17 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.777	0.190	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.777	0.162	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.194	0.097	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.194	0.109	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.94	0.243	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.94	0.496	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.388	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.388	0.030	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.388	0.081	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.388	0.092	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.971	0.140	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.85	0.490	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.85	1.71	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-20 R Date Collected: 12/13/23 11:40

Client ID: TP-17 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	84		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	104		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	87		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	91		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	76		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	88		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	82		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	77		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	70		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	93		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	87		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	88		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	73		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	87		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	84		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	61		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	74		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	66		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	54		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	78		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	49		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	52		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	76		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	81		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-21 RE
Client ID: TP-17S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 11:50
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 01/09/24 16:25
Analyst: ANH
Percent Solids: 77%

Extraction Method: EPA 1633
Extraction Date: 01/08/24 16:00
Cleanup Method: EPA 1633
Cleanup Date: 01/08/24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.279	J	ng/g	0.779	0.049	1
Perfluoropentanoic Acid (PFPeA)	0.430		ng/g	0.390	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.195	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.779	0.079	1
Perfluorohexanoic Acid (PFHxA)	0.178	J	ng/g	0.195	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.195	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.245		ng/g	0.195	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.195	0.058	1
Perfluorooctanoic Acid (PFOA)	0.810		ng/g	0.195	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.779	0.273	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.195	0.036	1
Perfluorononanoic Acid (PFNA)	2.28		ng/g	0.195	0.076	1
Perfluorooctanesulfonic Acid (PFOS)	3.94		ng/g	0.195	0.077	1
Perfluorodecanoic Acid (PFDA)	0.563		ng/g	0.195	0.073	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.532	J	ng/g	0.779	0.377	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.195	0.041	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.195	0.097	1
Perfluoroundecanoic Acid (PFUnA)	0.437		ng/g	0.195	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.195	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.195	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.195	0.080	1
Perfluorododecanoic Acid (PFDoA)	0.070	J	ng/g	0.195	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.195	0.051	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.195	0.104	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.779	0.096	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.779	0.143	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.195	0.037	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-21 RE Date Collected: 12/13/23 11:50

Client ID: TP-17S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.779	0.191	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.779	0.163	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.195	0.097	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.195	0.109	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.95	0.244	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.95	0.497	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.390	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.390	0.030	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.390	0.081	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.390	0.093	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.974	0.140	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.87	0.492	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.87	1.71	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-21 RE Date Collected: 12/13/23 11:50

Client ID: TP-17S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	88		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	87		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	88		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	99		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	89		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	86		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	89		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	94		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	95		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	92		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	87		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	95		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	126		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	77		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	90		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	67		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	89		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	87		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	65		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	83		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	71		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	78		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	77		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	69		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-22 R
Client ID: TP-17D
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 11:45
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/29/23 15:24
Analyst: LMV
Percent Solids: 89%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.795	0.050	1
Perfluoropentanoic Acid (PFPeA)	0.119	J	ng/g	0.398	0.056	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.199	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.795	0.080	1
Perfluorohexanoic Acid (PFHxA)	0.119	J	ng/g	0.199	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.199	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.089	J	ng/g	0.199	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	0.126	J	ng/g	0.199	0.059	1
Perfluorooctanoic Acid (PFOA)	0.254		ng/g	0.199	0.052	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.321	J	ng/g	0.795	0.278	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.199	0.037	1
Perfluorononanoic Acid (PFNA)	0.131	J	ng/g	0.199	0.078	1
Perfluorooctanesulfonic Acid (PFOS)	3.38		ng/g	0.199	0.079	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.199	0.075	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.795	0.385	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.199	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.199	0.099	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.199	0.051	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.199	0.032	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.199	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.199	0.082	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.199	0.041	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.199	0.053	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.199	0.106	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.795	0.098	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.795	0.146	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.199	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-22 R Date Collected: 12/13/23 11:45

Client ID: TP-17D Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.795	0.195	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.795	0.166	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.199	0.099	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.199	0.111	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.99	0.249	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.99	0.508	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.398	0.041	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.398	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.398	0.083	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.398	0.095	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.994	0.143	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.97	0.502	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.97	1.75	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-22 R Date Collected: 12/13/23 11:45

Client ID: TP-17D Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	97		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	123		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	137		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	136		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	102		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	83		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	105		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	86		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	97		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	88		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	91		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	86		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	117		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	94		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	91		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	67		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	82		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	73		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	66		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	73		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	66		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	65		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	100		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	102		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-23 R
Client ID: TP-18S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:40
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/29/23 15:37
Analyst: LMV
Percent Solids: 79%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.433	J	ng/g	0.786	0.050	1
Perfluoropentanoic Acid (PFPeA)	0.783		ng/g	0.393	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.197	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.786	0.079	1
Perfluorohexanoic Acid (PFHxA)	0.543		ng/g	0.197	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.197	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.447		ng/g	0.197	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	0.117	J	ng/g	0.197	0.058	1
Perfluorooctanoic Acid (PFOA)	0.600		ng/g	0.197	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.786	0.275	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.197	0.036	1
Perfluorononanoic Acid (PFNA)	0.598		ng/g	0.197	0.077	1
Perfluorooctanesulfonic Acid (PFOS)	4.24		ng/g	0.197	0.078	1
Perfluorodecanoic Acid (PFDA)	0.115	J	ng/g	0.197	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.786	0.381	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.197	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.197	0.098	1
Perfluoroundecanoic Acid (PFUnA)	0.10	J	ng/g	0.197	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.197	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.197	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.197	0.081	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.197	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.197	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.197	0.104	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.786	0.097	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.786	0.144	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.197	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-23 R Date Collected: 12/13/23 10:40

Client ID: TP-18S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.786	0.193	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.786	0.164	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.197	0.098	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.197	0.110	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.97	0.246	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.97	0.502	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.393	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.393	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.393	0.082	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.393	0.094	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.983	0.142	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.92	0.496	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.92	1.73	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-23 R Date Collected: 12/13/23 10:40

Client ID: TP-18S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	90		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	119		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	106		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	99		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	91		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	95		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	90		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	91		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	85		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	95		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	83		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	89		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	87		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	95		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	78		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	57		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	70		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	76		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	69		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	67		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	63		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	92		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	90		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-24 R
Client ID: TP-18
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:45
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/29/23 15:50
Analyst: LMV
Percent Solids: 90%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.760	0.048	1
Perfluoropentanoic Acid (PFPeA)	0.122	J	ng/g	0.380	0.053	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.190	0.041	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.760	0.077	1
Perfluorohexanoic Acid (PFHxA)	0.085	J	ng/g	0.190	0.044	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.190	0.022	1
Perfluoroheptanoic Acid (PFHpA)	0.069	J	ng/g	0.190	0.022	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.190	0.056	1
Perfluorooctanoic Acid (PFOA)	0.332		ng/g	0.190	0.049	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.760	0.266	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.190	0.035	1
Perfluorononanoic Acid (PFNA)	0.698		ng/g	0.190	0.074	1
Perfluorooctanesulfonic Acid (PFOS)	1.84		ng/g	0.190	0.075	1
Perfluorodecanoic Acid (PFDA)	0.274		ng/g	0.190	0.071	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.760	0.368	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.190	0.040	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.190	0.095	1
Perfluoroundecanoic Acid (PFUnA)	0.235		ng/g	0.190	0.049	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.190	0.030	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.190	0.041	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.190	0.078	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.190	0.039	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.190	0.050	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.190	0.101	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.760	0.093	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.760	0.139	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.190	0.037	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-24 R Date Collected: 12/13/23 10:45

Client ID: TP-18 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.760	0.186	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.760	0.159	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.190	0.095	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.190	0.106	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.90	0.238	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.90	0.485	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.380	0.039	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.380	0.030	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.380	0.079	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.380	0.090	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.950	0.137	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.75	0.479	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.75	1.67	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-24 R Date Collected: 12/13/23 10:45

Client ID: TP-18 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	99		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	133		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	97		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	90		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	103		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	112		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	107		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	89		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	85		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	102		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	100		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	101		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	105		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	106		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	97		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	69		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	88		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	83		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	66		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	97		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	63		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	64		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	94		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	100		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-25 R
Client ID: TP-19S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 13:45
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 12/29/23 16:03
Analyst: LMV
Percent Solids: 86%

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.787	0.050	1
Perfluoropentanoic Acid (PFPeA)	0.119	J	ng/g	0.393	0.055	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.197	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.787	0.079	1
Perfluorohexanoic Acid (PFHxA)	0.120	J	ng/g	0.197	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.197	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.098	J	ng/g	0.197	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	0.058	J	ng/g	0.197	0.058	1
Perfluorooctanoic Acid (PFOA)	0.199		ng/g	0.197	0.051	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.282	J	ng/g	0.787	0.275	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.197	0.036	1
Perfluorononanoic Acid (PFNA)	0.146	J	ng/g	0.197	0.077	1
Perfluorooctanesulfonic Acid (PFOS)	2.26		ng/g	0.197	0.078	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.197	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.787	0.381	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.197	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.197	0.098	1
Perfluoroundecanoic Acid (PFUnA)	0.068	J	ng/g	0.197	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.197	0.032	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.197	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.197	0.081	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.197	0.040	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.197	0.052	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.197	0.105	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.787	0.097	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.787	0.144	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.197	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-25 R Date Collected: 12/13/23 13:45

Client ID: TP-19S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.787	0.193	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.787	0.164	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.197	0.098	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.197	0.110	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.97	0.246	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.97	0.502	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.393	0.040	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.393	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.393	0.082	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.393	0.094	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.983	0.142	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.92	0.496	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.92	1.73	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-25 R Date Collected: 12/13/23 13:45

Client ID: TP-19S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	87		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	130		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	88		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	90		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	100		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	87		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	82		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	76		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	89		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	89		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	86		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	103		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	77		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	81		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	55		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	66		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	65		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	65		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	51		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	55		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	74		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	81		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-26
Client ID: TP-20S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:50
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 01/03/24 18:33
Analyst: LMV
Percent Solids: 83%

Extraction Method: EPA 1633
Extraction Date: 12/27/23 05:39
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.199	J	ng/g	0.799	0.050	1
Perfluoropentanoic Acid (PFPeA)	0.108	J	ng/g	0.399	0.056	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.200	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.799	0.081	1
Perfluorohexanoic Acid (PFHxA)	0.098	J	ng/g	0.200	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.200	0.023	1
Perfluoroheptanoic Acid (PFHpA)	0.105	J	ng/g	0.200	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	0.078	J	ng/g	0.200	0.059	1
Perfluorooctanoic Acid (PFOA)	0.292		ng/g	0.200	0.052	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.799	0.280	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.200	0.037	1
Perfluorononanoic Acid (PFNA)	0.173	J	ng/g	0.200	0.078	1
Perfluorooctanesulfonic Acid (PFOS)	0.612		ng/g	0.200	0.079	1
Perfluorodecanoic Acid (PFDA)	0.082	J	ng/g	0.200	0.075	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.799	0.387	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.200	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.200	0.100	1
Perfluoroundecanoic Acid (PFUnA)	0.081	J	ng/g	0.200	0.051	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.200	0.032	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.200	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.200	0.082	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.200	0.041	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.200	0.053	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.200	0.106	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.799	0.098	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.799	0.146	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.200	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-26 Date Collected: 12/13/23 10:50

Client ID: TP-20S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.799	0.196	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.799	0.167	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.200	0.100	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.200	0.112	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	2.00	0.250	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	2.00	0.510	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.399	0.041	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.399	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.399	0.083	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.399	0.095	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.999	0.144	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.99	0.504	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.99	1.76	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-26 Date Collected: 12/13/23 10:50

Client ID: TP-20S Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	85		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	86		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	88		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	100		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	82		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	83		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	82		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	83		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	86		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	82		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	89		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	88		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	**169**	Q	20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	89		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	90		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	84		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	105		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	82		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	90		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	76		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	74		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	72		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	91		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	76		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-27
Client ID: TP-20
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:55
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 01/03/24 19:12
Analyst: LMV
Percent Solids: 91%

Extraction Method: EPA 1633
Extraction Date: 12/27/23 05:39
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.774	0.049	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.387	0.054	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.193	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.774	0.078	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.193	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.193	0.022	1
Perfluoroheptanoic Acid (PFHpA)	0.037	J	ng/g	0.193	0.022	1
Perfluorohexanesulfonic Acid (PFHxS)	0.071	J	ng/g	0.193	0.057	1
Perfluorooctanoic Acid (PFOA)	0.089	J	ng/g	0.193	0.050	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.774	0.271	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.193	0.036	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.193	0.076	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.193	0.077	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.193	0.073	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.774	0.374	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.193	0.041	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.193	0.097	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.193	0.050	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.193	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.193	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.193	0.080	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.193	0.039	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.193	0.051	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.193	0.103	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.774	0.095	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.774	0.142	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.193	0.037	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-27 Date Collected: 12/13/23 10:55

Client ID: TP-20 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.774	0.190	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.774	0.162	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.193	0.097	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.193	0.108	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.93	0.242	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.93	0.494	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.387	0.039	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.387	0.030	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.387	0.080	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.387	0.092	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.967	0.139	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.83	0.488	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.83	1.70	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-27 Date Collected: 12/13/23 10:55

Client ID: TP-20 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	74		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	80		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	74		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	77		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	76		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	77		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	74		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	79		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	69		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	78		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	78		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	72		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	85		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	71		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	74		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	67		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	71		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	70		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	64		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	70		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	54		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	47		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	73		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	58		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-28
Client ID: FD01-20231213
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 00:00
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 01/03/24 19:24
Analyst: LMV
Percent Solids: 92%

Extraction Method: EPA 1633
Extraction Date: 12/27/23 05:39
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.770	0.049	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.385	0.054	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.192	0.042	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.770	0.078	1
Perfluorohexanoic Acid (PFHxA)	0.093	J	ng/g	0.192	0.045	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.192	0.022	1
Perfluoroheptanoic Acid (PFHpA)	0.040	J	ng/g	0.192	0.022	1
Perfluorohexanesulfonic Acid (PFHxS)	0.095	J	ng/g	0.192	0.057	1
Perfluorooctanoic Acid (PFOA)	0.100	J	ng/g	0.192	0.050	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.770	0.270	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.192	0.035	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.192	0.076	1
Perfluorooctanesulfonic Acid (PFOS)	1.08		ng/g	0.192	0.076	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.192	0.072	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.770	0.373	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.192	0.041	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.192	0.096	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.192	0.049	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.192	0.031	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.192	0.042	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.192	0.079	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.192	0.039	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.192	0.051	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.192	0.102	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.770	0.095	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.770	0.141	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.192	0.037	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-28 Date Collected: 12/13/23 00:00

Client ID: FD01-20231213 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.770	0.189	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.770	0.161	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.192	0.096	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.192	0.108	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.92	0.241	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.92	0.491	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.385	0.039	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.385	0.030	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.385	0.080	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.385	0.092	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.963	0.139	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.81	0.486	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.81	1.69	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-28 Date Collected: 12/13/23 00:00

Client ID: FD01-20231213 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	78		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	77		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	75		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	75		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	72		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	80		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	75		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	77		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	73		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	74		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	78		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	73		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	82		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	59		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	78		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	66		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	64		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	70		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	63		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	71		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	62		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	59		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	70		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	59		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-29
Client ID: FD02-20231213
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 00:00
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 144,1633
Analytical Date: 01/03/24 19:37
Analyst: LMV
Percent Solids: 91%

Extraction Method: EPA 1633
Extraction Date: 12/27/23 05:39
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.795	0.050	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.398	0.056	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.199	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.795	0.080	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.199	0.046	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.199	0.023	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.199	0.023	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.199	0.059	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.199	0.052	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.795	0.278	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.199	0.037	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.199	0.078	1
Perfluorooctanesulfonic Acid (PFOS)	0.082	J	ng/g	0.199	0.079	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.199	0.075	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.795	0.385	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.199	0.042	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.199	0.099	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.199	0.051	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.199	0.032	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.199	0.043	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.199	0.082	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.199	0.041	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.199	0.053	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.199	0.106	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.795	0.098	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.795	0.146	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.199	0.038	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-29 Date Collected: 12/13/23 00:00

Client ID: FD02-20231213 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.795	0.195	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.795	0.166	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.199	0.099	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.199	0.111	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.99	0.249	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.99	0.507	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.398	0.041	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.398	0.031	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.398	0.083	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.398	0.095	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.994	0.143	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.97	0.502	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.97	1.75	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-29 Date Collected: 12/13/23 00:00

Client ID: FD02-20231213 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	82		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	69		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	83		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	88		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	61		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	57		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	83		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	78		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	78		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	81		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	79		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	79		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	76		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	73		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	88		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	73		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	68		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	74		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	66		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	54		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	59		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	60		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	74		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	65		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-30
Client ID: EQUIPMENT RINSE BLANK 01
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 14:30
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 144,1633
Analytical Date: 01/02/24 20:50
Analyst: ANH

Extraction Method: EPA 1633
Extraction Date: 12/21/23 07:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.65	0.904	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.83	0.756	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.41	0.473	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.65	1.48	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.41	0.417	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.41	0.247	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.41	0.283	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.41	0.339	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.41	0.615	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.65	1.91	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.41	0.382	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.41	0.445	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.41	0.643	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.41	0.572	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.65	2.20	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.41	0.438	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.41	0.770	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.41	0.615	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.41	0.325	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.41	0.382	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.41	0.763	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.41	0.650	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.41	0.530	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.41	0.374	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.65	0.791	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.65	0.890	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.41	0.537	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-30 Date Collected: 12/13/23 14:30

Client ID: EQUIPMENT RINSE BLANK 01 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.65	1.16	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.65	1.16	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.41	0.615	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.41	0.650	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.1	3.32	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.1	1.73	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.83	0.403	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.83	0.374	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.83	0.311	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.83	1.67	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.07	2.33	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	35.3	8.27	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	35.3	5.58	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-30 Date Collected: 12/13/23 14:30

Client ID: EQUIPMENT RINSE BLANK 01 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	86		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	104		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	84		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	86		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	82		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	86		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	77		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	84		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	71		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	103		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	73		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	75		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	67		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	53		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	65		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	54		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	51		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	62		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	60		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	82		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	54		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	45		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	82		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	87		20-150

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-31
Client ID: EQUIPMENT RINSE BLANK 02
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 14:35
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 144,1633
Analytical Date: 01/02/24 21:03
Analyst: ANH

Extraction Method: EPA 1633
Extraction Date: 12/21/23 07:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.89	0.942	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.94	0.787	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.47	0.493	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.89	1.54	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.47	0.434	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.47	0.258	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.47	0.294	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.47	0.353	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.47	0.640	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.89	1.99	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.47	0.397	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.47	0.464	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.47	0.670	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.47	0.596	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.89	2.29	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.47	0.456	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.47	0.802	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.47	0.640	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.47	0.338	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.47	0.397	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.47	0.795	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.47	0.677	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.47	0.552	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.47	0.390	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.89	0.824	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.89	0.927	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.47	0.559	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-31 Date Collected: 12/13/23 14:35

Client ID: EQUIPMENT RINSE BLANK 02 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.89	1.21	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.89	1.21	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.47	0.640	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.47	0.677	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.7	3.46	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.7	1.80	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.94	0.419	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.94	0.390	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.94	0.324	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.94	1.74	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.36	2.43	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	36.8	8.61	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	36.8	5.81	1

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-31 Date Collected: 12/13/23 14:35

Client ID: EQUIPMENT RINSE BLANK 02 Date Received: 12/14/23

Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	85		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	113		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	89		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	90		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	85		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	90		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	78		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	87		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	77		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	91		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	76		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	74		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	53		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	76		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	59		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	67		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	56		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	57		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	59		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	72		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	62		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	59		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	99		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	103		20-150

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 01/03/24 14:15
Analyst: JW

Extraction Method: EPA 1633
Extraction Date: 12/21/23 07:20

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 30-31 Batch: WG1866693-1 R					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	1.02
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	0.856
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	0.536
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	1.67
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	0.472
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	0.280
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	0.320
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	0.384
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	0.696
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	2.16
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	0.432
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	0.504
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	0.728
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	0.648
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	2.49
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	0.496
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	0.872
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	0.696
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	0.368
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	0.432
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	0.864
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	0.736
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	0.600
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	0.424
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	0.896
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	1.01
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	0.608

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 01/03/24 14:15
Analyst: JW

Extraction Method: EPA 1633
Extraction Date: 12/21/23 07:20

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 30-31 Batch: WG1866693-1 R					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	1.32
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	1.32
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	0.696
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	0.736
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	3.76
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	1.96
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	0.456
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	0.424
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	0.352
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	1.89
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	2.64
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	9.36
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	6.31

Project Name: HVRA **Lab Number:** L2373991

Project Number: 18.8090 **Report Date:** 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 01/03/24 14:15
Analyst: JW

Extraction Method: EPA 1633
Extraction Date: 12/21/23 07:20

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 30-31 Batch: WG1866693-1 R					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	97		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	119		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	112		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	124		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	92		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	85		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	90		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	89		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	99		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	103		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	77		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	91		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	87		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	85		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	89		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	59		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	76		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	78		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	68		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	75		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	49		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	56		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	97		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	101		20-150

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 12/31/23 17:48
Analyst: ANH

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-09 Batch: WG1867982-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.800	0.050
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.400	0.056
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.200	0.043
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.800	0.081
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.200	0.046
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.200	0.023
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.200	0.023
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.200	0.059
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.200	0.052
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.800	0.280
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.200	0.037
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.200	0.078
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.200	0.079
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.200	0.075
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.800	0.387
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.200	0.042
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.200	0.100
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.200	0.051
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.200	0.032
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.200	0.043
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.200	0.082
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.200	0.041
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.200	0.053
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.200	0.106
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.800	0.098
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.800	0.146
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.200	0.038

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 12/31/23 17:48
Analyst: ANH

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-09 Batch: WG1867982-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.800	0.196
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.800	0.167
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.200	0.100
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.200	0.112
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	2.00	0.250
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	2.00	0.510
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.400	0.041
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.400	0.031
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.400	0.083
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.400	0.095
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	1.00	0.144
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	5.00	0.505
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	5.00	1.76

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 12/31/23 17:48
Analyst: ANH

Extraction Method: EPA 1633
Extraction Date: 12/26/23 06:49
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-09 Batch: WG1867982-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	92		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	114		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	95		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	107		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	102		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	109		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	101		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	89		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	95		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	90		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	98		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	100		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	105		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	87		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	94		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	59		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	71		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	75		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	55		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	92		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	47		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	50		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	84		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	82		20-150

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 12/27/23 12:30
Analyst: CAP

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 10-20,22-25 Batch: WG1868208-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.800	0.050
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.400	0.056
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.200	0.043
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.800	0.081
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.200	0.046
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.200	0.023
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.200	0.023
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.200	0.059
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.200	0.052
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.800	0.280
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.200	0.037
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.200	0.078
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.200	0.079
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.200	0.075
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.800	0.387
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.200	0.042
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.200	0.100
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.200	0.051
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.200	0.032
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.200	0.043
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.200	0.082
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.200	0.041
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.200	0.053
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.200	0.106
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.800	0.098
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.800	0.146

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 12/27/23 12:30
Analyst: CAP

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 10-20,22-25 Batch: WG1868208-1					
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.200	0.038
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.800	0.196
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.800	0.167
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.200	0.100
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.200	0.112
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	2.00	0.250
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	2.00	0.510
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.400	0.041
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.400	0.031
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.400	0.083
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.400	0.095
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	1.00	0.144
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	5.00	0.505
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	5.00	1.76

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 12/27/23 12:30
Analyst: CAP

Extraction Method: EPA 1633
Extraction Date: 12/26/23 16:55
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 10-20,22-25 Batch: WG1868208-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	83		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	105		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	78		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	69		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	85		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	90		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	83		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	76		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	65		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	85		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	85		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	74		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	58		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	76		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	79		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	65		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	61		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	56		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	36		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	90		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	49		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	47		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	79		20-150

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 01/03/24 17:55
Analyst: LMV

Extraction Method: EPA 1633
Extraction Date: 12/27/23 05:39
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 26-29 Batch: WG1868271-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.800	0.050
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.400	0.056
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.200	0.043
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.800	0.081
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.200	0.046
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.200	0.023
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.200	0.023
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.200	0.059
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.200	0.052
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.800	0.280
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.200	0.037
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.200	0.078
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.200	0.079
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.200	0.075
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.800	0.387
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.200	0.042
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.200	0.100
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.200	0.051
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.200	0.032
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.200	0.043
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.200	0.082
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.200	0.041
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.200	0.053
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.200	0.106
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.800	0.098
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.800	0.146
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.200	0.038

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 01/03/24 17:55
Analyst: LMV

Extraction Method: EPA 1633
Extraction Date: 12/27/23 05:39
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 26-29 Batch: WG1868271-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.800	0.196
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.800	0.167
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.200	0.100
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.200	0.112
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	2.00	0.250
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	2.00	0.510
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.400	0.041
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.400	0.031
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.400	0.083
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.400	0.095
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	1.00	0.144
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	5.00	0.505
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	5.00	1.76

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 01/03/24 17:55
Analyst: LMV

Extraction Method: EPA 1633
Extraction Date: 12/27/23 05:39
Cleanup Method: EPA 1633
Cleanup Date: 12/27/23

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 26-29 Batch: WG1868271-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	87		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	77		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	89		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	79		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	73		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	74		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	89		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	90		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	89		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	82		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	87		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	81		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	81		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	68		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	85		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	76		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	74		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	69		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	58		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	75		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	56		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	55		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	71		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	65		20-150

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 01/09/24 15:47
Analyst: ANH

Extraction Method: EPA 1633
Extraction Date: 01/08/24 16:00
Cleanup Method: EPA 1633
Cleanup Date: 01/08/24

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 21 Batch: WG1872083-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.800	0.050
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.400	0.056
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.200	0.043
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.800	0.081
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.200	0.046
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.200	0.023
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.200	0.023
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.200	0.059
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.200	0.052
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.800	0.280
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.200	0.037
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.200	0.078
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.200	0.079
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.200	0.075
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.800	0.387
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.200	0.042
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.200	0.100
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.200	0.051
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.200	0.032
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.200	0.043
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.200	0.082
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.200	0.041
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.200	0.053
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.200	0.106
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.800	0.098
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.800	0.146
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.200	0.038

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 01/09/24 15:47
Analyst: ANH

Extraction Method: EPA 1633
Extraction Date: 01/08/24 16:00
Cleanup Method: EPA 1633
Cleanup Date: 01/08/24

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 21 Batch: WG1872083-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.800	0.196
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.800	0.167
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.200	0.100
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.200	0.112
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	2.00	0.250
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	2.00	0.510
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.400	0.041
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.400	0.031
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.400	0.083
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.400	0.095
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	1.00	0.144
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	5.00	0.505
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	5.00	1.76

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 01/09/24 15:47
Analyst: ANH

Extraction Method: EPA 1633
Extraction Date: 01/08/24 16:00
Cleanup Method: EPA 1633
Cleanup Date: 01/08/24

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 21 Batch: WG1872083-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	92		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	91		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	95		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	105		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	92		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	92		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	90		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	99		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	99		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	93		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	89		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	91		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	107		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	87		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	86		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	85		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	106		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	85		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	66		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	89		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	78		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	80		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	84		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	84		20-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 30-31 Batch: WG1866693-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	107		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	113		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	120		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	91		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	117		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	117		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	111		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	114		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	114		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	137		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	143		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	128		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	127		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	126		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	105		-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	89		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	87		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	110		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	96		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	96		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	114		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	97		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 30-31 Batch: WG1866693-2 LOW LEVEL								
Perfluorotridecanoic Acid (PFTrDA)	95		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	98		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	116		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	113		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	105		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	93		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	96		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	89		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	92		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	105		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	113		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	92		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	103		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	126		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	140		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	105		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	77		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	47		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 30-31 Batch: WG1866693-2 LOW LEVEL

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	92				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	116				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	91				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	111				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	90				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	96				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	84				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	83				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	84				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	97				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	92				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	75				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	77				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	120				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	79				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	73				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	79				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	75				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	65				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	63				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	70				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	109				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	120				20-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 30-31 Batch: WG1866693-3								
Perfluorobutanoic Acid (PFBA)	104		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	111		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	107		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	102		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	112		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	115		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	104		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	106		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	111		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	109		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	127		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	124		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	110		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	98		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	100		-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	95		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	110		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	114		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	95		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	101		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	109		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	100		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 30-31 Batch: WG1866693-3								
Perfluorotridecanoic Acid (PFTrDA)	99		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	105		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	117		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	109		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	97		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	91		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	86		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	129		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	116		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	124		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	113		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	92		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	111		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	124		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	131		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	103		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	84		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	61		-		40-150	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: HVRA

Project Number: 18.8090

Lab Number: L2373991

Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 30-31 Batch: WG1866693-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	97				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	114				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	113				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	115				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	94				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	100				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	95				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	88				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	90				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	97				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	83				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	116				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	84				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	90				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	97				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	58				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	77				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	90				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	78				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	95				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	49				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	57				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	84				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	99				20-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-09 Batch: WG1867982-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	104		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	102		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	103		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	96		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	103		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	103		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	94		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	101		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	114		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	103		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	116		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	77		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	104		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	106		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	**154**	Q	-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	83		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	109		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	90		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	78		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	90		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	88		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	84		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-09 Batch: WG1867982-2 LOW LEVEL								
Perfluorotridecanoic Acid (PFTrDA)	82		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	104		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	98		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	109		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	79		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	100		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	83		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	104		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	110		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	99		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	108		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	93		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	93		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	113		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	123		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	98		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	86		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	62		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-09 Batch: WG1867982-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	92				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	109				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	98				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	101				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	93				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	99				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	91				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	87				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	87				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	103				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	96				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	78				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	70				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	95				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	85				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	67				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	92				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	78				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	52				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	87				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	59				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	57				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	102				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	92				20-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-09 Batch: WG1867982-3								
Perfluorobutanoic Acid (PFBA)	102		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	106		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	115		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	102		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	98		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	98		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	98		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	95		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	97		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	109		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	95		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	89		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	103		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	89		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	117		-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	90		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	119		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	104		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	76		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	90		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	102		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	96		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-09 Batch: WG1867982-3								
Perfluorotridecanoic Acid (PFTrDA)	81		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	96		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	100		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	102		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	72		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	90		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	87		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	123		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	113		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	101		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	100		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	105		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	93		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	123		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	114		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	91		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	91		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	64		-		40-150	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: HVRA

Project Number: 18.8090

Lab Number: L2373991

Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-09 Batch: WG1867982-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	92				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	121				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	88				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	95				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	100				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	112				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	92				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	87				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	85				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	98				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	90				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	85				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	79				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	81				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	82				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	65				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	84				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	70				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	45				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	100				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	59				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	56				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	95				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	103				20-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 10-20,22-25 Batch: WG1868208-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	120		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	117		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	119		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	122		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	118		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	109		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	119		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	115		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	138		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	113		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	111		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	111		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	137		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	122		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	118		-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	102		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	112		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	130		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	84		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	104		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	121		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	108		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 10-20,22-25 Batch: WG1868208-2 LOW LEVEL								
Perfluorotridecanoic Acid (PFTrDA)	102		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	117		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	108		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	107		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	52		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	96		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	69		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	110		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	125		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	100		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	109		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	100		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	105		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	127		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	134		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	92		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	84		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	66		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 10-20,22-25 Batch: WG1868208-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	83				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	97				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	87				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	73				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	85				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	86				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	81				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	74				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	69				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	85				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	83				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	88				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	53				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	68				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	70				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	63				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	67				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	56				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	34				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	84				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	52				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	51				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	72				20-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 10-20,22-25 Batch: WG1868208-3								
Perfluorobutanoic Acid (PFBA)	103		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	106		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	112		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	110		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	107		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	111		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	102		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	101		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	100		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	107		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	115		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	92		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	107		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	100		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	133		-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	85		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	108		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	106		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	76		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	108		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	123		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	103		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 10-20,22-25 Batch: WG1868208-3								
Perfluorotridecanoic Acid (PFTrDA)	90		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	104		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	107		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	110		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	57		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	91		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	71		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	116		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	113		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	96		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	103		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	90		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	101		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	126		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	128		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	88		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	78		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	56		-		40-150	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: HVRA

Project Number: 18.8090

Lab Number: L2373991

Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 10-20,22-25 Batch: WG1868208-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	85				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	87				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	84				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	76				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	75				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	78				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	83				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	80				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	68				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	84				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	94				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	82				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	50				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	77				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	75				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	63				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	59				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	57				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	35				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	71				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	47				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	50				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	72				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	74				20-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 26-29 Batch: WG1868271-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	108		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	102		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	110		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	124		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	107		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	108		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	113		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	109		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	114		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	115		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	96		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	90		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	102		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	91		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	125		-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	89		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	115		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	113		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	88		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	97		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	111		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	110		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 26-29 Batch: WG1868271-2 LOW LEVEL								
Perfluorotridecanoic Acid (PFTrDA)	104		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	108		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	105		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	106		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	93		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	105		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	105		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	129		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	107		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	100		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	115		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	115		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	108		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	106		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	117		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	86		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	90		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	99		-		40-150	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: HVRA

Project Number: 18.8090

Lab Number: L2373991

Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 26-29 Batch: WG1868271-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	90				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	90				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	89				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	86				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	88				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	82				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	89				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	87				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	90				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	98				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	89				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	90				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	81				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	72				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	98				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	79				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	75				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	74				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	63				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	83				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	65				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	64				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	74				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	65				20-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 26-29 Batch: WG1868271-3								
Perfluorobutanoic Acid (PFBA)	108		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	110		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	109		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	126		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	98		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	111		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	106		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	102		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	88		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	106		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	98		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	97		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	99		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	126		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	123		-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	98		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	116		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	100		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	94		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	94		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	118		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	111		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 26-29 Batch: WG1868271-3								
Perfluorotridecanoic Acid (PFTrDA)	103		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	128		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	102		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	106		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	92		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	106		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	103		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	122		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	121		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	102		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	110		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	113		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	110		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	102		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	99		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	103		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	105		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	109		-		40-150	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: HVRA

Project Number: 18.8090

Lab Number: L2373991

Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 26-29 Batch: WG1868271-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	87				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	83				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	88				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	84				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	82				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	78				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	89				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	89				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	93				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	77				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	86				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	74				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	79				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	73				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	86				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	74				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	77				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	70				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	55				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	63				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	59				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	71				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	68				20-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 21 Batch: WG1872083-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	95		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	92		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	89		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	94		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	97		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	101		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	104		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	99		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	99		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	82		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	90		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	108		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	96		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	89		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	100		-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	86		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	114		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	92		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	85		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	92		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	103		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	100		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 21 Batch: WG1872083-2 LOW LEVEL								
Perfluorotridecanoic Acid (PFTrDA)	90		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	123		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	95		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	105		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	74		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	104		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	94		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	92		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	83		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	94		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	102		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	92		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	101		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	104		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	87		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	86		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	97		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	66		-		40-150	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: HVRA

Project Number: 18.8090

Lab Number: L2373991

Report Date: 01/10/24

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 21 Batch: WG1872083-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	92				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	93				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	100				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	105				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	94				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	92				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	92				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	99				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	105				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	95				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	93				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	93				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	104				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	80				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	94				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	80				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	100				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	88				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	58				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	89				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	72				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	71				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	72				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	72				20-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 21 Batch: WG1872083-3								
Perfluorobutanoic Acid (PFBA)	91		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	89		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	88		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	95		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	91		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	103		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	94		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	92		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	84		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	87		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	94		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	100		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	91		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	83		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	90		-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	92		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	85		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	86		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	88		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	90		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	84		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	90		-		40-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 21 Batch: WG1872083-3								
Perfluorotridecanoic Acid (PFTrDA)	88		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	114		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	95		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	102		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	77		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	96		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	96		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	85		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	89		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	88		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	95		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	99		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	108		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	104		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	88		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	96		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	100		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	82		-		40-150	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: HVRA

Project Number: 18.8090

Lab Number: L2373991

Report Date: 01/10/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 21 Batch: WG1872083-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	94				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	90				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	101				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	109				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	93				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	94				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	92				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	99				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	108				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	92				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	94				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	90				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	113				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	86				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	93				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	87				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	103				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	85				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	58				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	93				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	80				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	72				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	78				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	76				20-150

Matrix Spike Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG1867982-6 WG1867982-7 QC Sample: L2373991-03 Client ID: TP-02												
Perfluorobutanoic Acid (PFBA)	ND	7.99	8.31	104		8.25	103		40-150	1		30
Perfluoropentanoic Acid (PFPeA)	ND	3.99	4.53	113		4.36	109		40-150	4		30
Perfluorobutanesulfonic Acid (PFBS)	ND	1.77	1.76	99		2.15	122		40-150	20		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	7.49	7.23	97		7.99	107		40-150	10		30
Perfluorohexanoic Acid (PFHxA)	0.084J	2	2.35	113		2.34	113		40-150	0		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	1.88	2.05	109		2.02	108		40-150	1		30
Perfluoroheptanoic Acid (PFHpA)	ND	2	2.11	106		2.10	105		40-150	0		30
Perfluorohexanesulfonic Acid (PFHxS)	0.076J	1.82	2.14	113		1.89	100		40-150	12		30
Perfluorooctanoic Acid (PFOA)	0.096J	2	2.29	110		2.00	96		40-150	14		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	7.59	8.16	108		7.76	102		40-150	5		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.9	2.33	122		2.09	110		40-150	11		30
Perfluorononanoic Acid (PFNA)	ND	2	1.99	100		1.93	97		40-150	3		30
Perfluorooctanesulfonic Acid (PFOS)	1.07	1.85	3.13	111		3.22	116		40-150	3		30
Perfluorodecanoic Acid (PFDA)	ND	2	2.14	107		2.14	107		40-150	0		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	7.67	8.36	109		9.11	119		40-150	9		30
Perfluorononanesulfonic Acid (PFNS)	ND	1.92	1.68	88		1.65	86		40-150	2		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	2	2.38	119		1.94	97		40-150	20		30
Perfluoroundecanoic Acid (PFUnA)	ND	2	2.22	111		2.02	101		40-150	9		30
Perfluorodecanesulfonic Acid (PFDS)	ND	1.93	1.67	87		1.51	79		40-150	10		30
Perfluorooctanesulfonamide (PFOSA)	ND	2	2.07	104		1.97F	99		40-150	5		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	2	2.32	116		2.48	124		40-150	7		30
Perfluorododecanoic Acid (PFDoA)	ND	2	2.10	105		2.17	109		40-150	3		30

Matrix Spike Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG1867982-6 WG1867982-7 QC Sample: L2373991-03 Client ID: TP-02												
Perfluorotridecanoic Acid (PFTrDA)	ND	2	1.91	96		2.00	100		40-150	5		30
Perfluorotetradecanoic Acid (PFTeDA)	ND	2	2.13	107		2.29	115		40-150	7		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	7.99	8.82	110		8.38	105		40-150	5		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	7.55	8.52	113		8.58	114		40-150	1		30
Perfluorododecanesulfonic Acid (PFDoS)	ND	1.94	1.62	84		1.59	82		40-150	2		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	7.47	7.30	98		9.36	126		40-150	25		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	7.55	7.34	97		8.32	110		40-150	13		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	2	2.66	133		2.52	126		40-150	5		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	2	2.54	127		2.35	118		40-150	8		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	20	19.8	99		20.8	104		40-150	5		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	20	22.4	112		22.1	111		40-150	1		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	3.99	4.52	113		3.83	96		40-150	17		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	3.99	4.32	108		4.14	104		40-150	4		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	3.55	4.32	122		4.20	118		40-150	3		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	3.99	5.28	132		5.29	133		40-150	0		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND	9.98	9.76	98		8.77	88		40-150	11		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND	49.9	47.1	94		45.1	91		40-150	4		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND	49.9	33.2	67		40.2	81		40-150	19		30

Matrix Spike Analysis

Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG1867982-6 WG1867982-7 QC Sample: L2373991-03 Client ID: TP-02												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	81		77		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	92		89		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	78		83		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	51		48		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	70		72		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	92		83		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	52		47		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	89		93		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	92		83		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	79		87		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	59		54		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	84		79		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	87		80		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	80		89		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	92		94		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	78		85		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	88		97		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	73		70		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	57		50		20-150
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	84		86		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	91		105		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	80		92		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	99		90		20-150

Matrix Spike Analysis

Batch Quality Control

Project Name: HVRA

Project Number: 18.8090

Lab Number: L2373991

Report Date: 01/10/24

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG1867982-6 WG1867982-7 QC Sample: L2373991-03 Client ID: TP-02												

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	73		81		20-150

Matrix Spike Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 10-20,22-25 QC Batch ID: WG1868208-6 WG1868208-7 QC Sample: L2373991-18 Client ID: TP-16												
Perfluorobutanoic Acid (PFBA)	ND	7.9	7.45	94		6.82	88		40-150	9		30
Perfluoropentanoic Acid (PFPeA)	ND	3.95	4.02	102		3.69	95		40-150	9		30
Perfluorobutanesulfonic Acid (PFBS)	ND	1.75	1.68	96		1.50	87		40-150	11		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	7.4	7.00	95		6.49	89		40-150	8		30
Perfluorohexanoic Acid (PFHxA)	ND	1.97	1.87	95		1.88	97		40-150	1		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	1.86	2.13	115		1.71	94		40-150	22		30
Perfluoroheptanoic Acid (PFHpA)	ND	1.97	1.93	98		1.71	88		40-150	12		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	1.8	1.77	98		1.68	95		40-150	5		30
Perfluorooctanoic Acid (PFOA)	ND	1.97	1.90	96		1.77	91		40-150	7		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	7.5	7.58	101		6.81	92		40-150	11		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.88	2.10	112		1.83	99		40-150	14		30
Perfluorononanoic Acid (PFNA)	ND	1.97	1.75	89		1.57	81		40-150	11		30
Perfluorooctanesulfonic Acid (PFOS)	0.119J	1.83	1.98	102		3.22	**172**	Q	40-150	**48**	Q	30
Perfluorodecanoic Acid (PFDA)	ND	1.97	2.00	101		1.76	91		40-150	13		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	7.58	8.19	108		7.34	99		40-150	11		30
Perfluorononanesulfonic Acid (PFNS)	ND	1.9	1.79	94		1.24	67		40-150	**36**	Q	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	1.97	1.92	97		1.76	91		40-150	9		30
Perfluoroundecanoic Acid (PFUnA)	ND	1.97	1.91	97		1.76	91		40-150	8		30
Perfluorodecanesulfonic Acid (PFDS)	ND	1.9	1.33	70		1.19	64		40-150	11		30
Perfluorooctanesulfonamide (PFOSA)	ND	1.97	1.92	97		1.62F	84		40-150	17		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.97	2.09	106		1.90	98		40-150	10		30
Perfluorododecanoic Acid (PFDoA)	ND	1.97	1.79	91		1.77	91		40-150	1		30

Matrix Spike Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 10-20,22-25 QC Batch ID: WG1868208-6 WG1868208-7 QC Sample: L2373991-18 Client ID: TP-16												
Perfluorotridecanoic Acid (PFTrDA)	ND	1.97	1.49	75		1.40	72		40-150	6		30
Perfluorotetradecanoic Acid (PFTeDA)	ND	1.97	1.84	93		1.84	95		40-150	0		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	7.9	7.68	97		6.27	81		40-150	20		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	7.46	6.42	86		5.66	77		40-150	13		30
Perfluorododecanesulfonic Acid (PFDoS)	ND	1.92	1.05	55		1.13	60		40-150	7		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	7.39	4.94	67		5.15	71		40-150	4		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	7.46	3.84	51		4.05	55		40-150	5		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	1.97	2.40	122		2.24	115		40-150	7		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	1.97	2.10	106		1.92	99		40-150	9		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	19.7	18.7	95		16.7	86		40-150	11		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	19.7	19.9	101		17.1	88		40-150	15		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	3.95	3.37	85		2.94	76		40-150	14		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	3.95	3.73	94		3.07	79		40-150	19		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	3.52	3.67	104		3.39	98		40-150	8		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	3.95	4.77	121		4.20	108		40-150	13		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND	9.87	8.28	84		7.43	77		40-150	11		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND	49.4	31.3	63		30.1	62		40-150	4		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND	49.4	19.3	**39**	Q	21.0	43		40-150	8		30

Matrix Spike Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 10-20,22-25 QC Batch ID: WG1868208-6 WG1868208-7 QC Sample: L2373991-18 Client ID: TP-16

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	63		69		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	105		88		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	81		79		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	43		53		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	62		82		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	70		87		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	43		49		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	76		82		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	71		80		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	88		88		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	59		60		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	81		93		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	112		98		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	68		87		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	80		100		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	96		87		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	91		90		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	51		75		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	35		57		20-150
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	87		91		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	107		100		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	83		86		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	87		95		20-150

Matrix Spike Analysis

Batch Quality Control

Project Name: HVRA

Project Number: 18.8090

Lab Number: L2373991

Report Date: 01/10/24

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 10-20,22-25 QC Batch ID: WG1868208-6 WG1868208-7 QC Sample: L2373991-18 Client ID: TP-16												

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	90		89		20-150

Matrix Spike Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 26-29 QC Batch ID: WG1868271-4 WG1868271-5 QC Sample: L2373991-26 Client ID: TP-20S												
Perfluorobutanoic Acid (PFBA)	0.199J	7.98	9.19	113		9.58	117		40-150	4		30
Perfluoropentanoic Acid (PFPeA)	0.108J	3.99	3.98	97		4.50	110		40-150	12		30
Perfluorobutanesulfonic Acid (PFBS)	ND	1.77	2.01	114		2.15	121		40-150	7		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	7.48	8.58	115		9.60	128		40-150	11		30
Perfluorohexanoic Acid (PFHxA)	0.098J	1.99	2.42	116		2.36	113		40-150	3		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	1.88	2.27	121		2.38	127		40-150	5		30
Perfluoroheptanoic Acid (PFHpA)	0.105J	1.99	2.31	111		2.41	115		40-150	4		30
Perfluorohexanesulfonic Acid (PFHxS)	0.078J	1.82	2.18	115		2.24	118		40-150	3		30
Perfluorooctanoic Acid (PFOA)	0.292	1.99	2.08	90		2.25	98		40-150	8		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	7.58	8.50	112		9.49	125		40-150	11		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.9	1.98	104		2.04	107		40-150	3		30
Perfluorononanoic Acid (PFNA)	0.173J	1.99	2.15	99		2.06	95		40-150	4		30
Perfluorooctanesulfonic Acid (PFOS)	0.612	1.85	2.70	113		2.94	126		40-150	9		30
Perfluorodecanoic Acid (PFDA)	0.082J	1.99	2.47	120		2.33	113		40-150	6		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	7.66	13.2	**172**	Q	11.2	146		40-150	16		30
Perfluorononanesulfonic Acid (PFNS)	ND	1.92	1.84	96		2.11	110		40-150	14		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	1.99	2.82	141		2.79	140		40-150	1		30
Perfluoroundecanoic Acid (PFUnA)	0.081J	1.99	2.02	97		2.12	102		40-150	5		30
Perfluorodecanesulfonic Acid (PFDS)	ND	1.92	2.08	108		2.16	112		40-150	4		30
Perfluorooctanesulfonamide (PFOSA)	ND	1.99	1.96	98		2.11	106		40-150	7		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.99	2.20	110		2.51	126		40-150	13		30
Perfluorododecanoic Acid (PFDoA)	ND	1.99	2.43	122		2.26	113		40-150	7		30

Matrix Spike Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090
Lab Number: L2373991
Report Date: 01/10/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 26-29 QC Batch ID: WG1868271-4 WG1868271-5 QC Sample: L2373991-26 Client ID: TP-20S												
Perfluorotridecanoic Acid (PFTrDA)	ND	1.99	2.51	126		2.59	130		40-150	3		30
Perfluorotetradecanoic Acid (PFTeDA)	ND	1.99	2.32	116		2.12	106		40-150	9		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	7.98	8.88	111		9.07	114		40-150	2		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	7.54	8.88	118		9.82	130		40-150	10		30
Perfluorododecanesulfonic Acid (PFDoS)	ND	1.93	2.48	128		2.74	141		40-150	10		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	7.46	8.24	110		9.23	124		40-150	11		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	7.54	9.31	124		9.85	130		40-150	6		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	1.99	2.35	118		2.73	137		40-150	15		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	1.99	2.45	123		2.85	143		40-150	15		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	19.9	20.9	105		22.6	113		40-150	8		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	19.9	23.2	116		24.5	123		40-150	5		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	3.99	4.48	112		4.97	124		40-150	10		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	3.99	4.14	104		4.65	116		40-150	12		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	3.55	3.76	106		4.25	120		40-150	12		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	3.99	4.16	104		4.31	108		40-150	4		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND	9.97	8.18	82		9.88	99		40-150	19		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND	49.8	47.7	96		51.8	104		40-150	8		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND	49.8	60.0	120		66.7	134		40-150	11		30

Matrix Spike Analysis

Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 26-29 QC Batch ID: WG1868271-4 WG1868271-5 QC Sample: L2373991-26 Client ID: TP-20S												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	114		144		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	104		96		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	90		81		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	65		59		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	107		95		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	73		68		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	72		62		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	83		82		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	94		92		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	80		75		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	83		77		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	81		79		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	81		79		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	91		80		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	84		78		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	81		72		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	84		76		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	80		79		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	86		86		20-150
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	84		79		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	86		75		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	92		75		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	79		78		20-150

Matrix Spike Analysis

Batch Quality Control

Project Name: HVRA

Project Number: 18.8090

Lab Number: L2373991

Report Date: 01/10/24

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 26-29 QC Batch ID: WG1868271-4 WG1868271-5 QC Sample: L2373991-26 Client ID: TP-20S												

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	76		66		20-150

Matrix Spike Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 21 QC Batch ID: WG1872083-4 WG1872083-5 QC Sample: L2373991-21 Client ID: TP-17S												
Perfluorobutanoic Acid (PFBA)	0.279J	7.84	6.72	82		7.28	92		40-150	8		30
Perfluoropentanoic Acid (PFPeA)	0.430	3.92	3.62	81		4.37	103		40-150	19		30
Perfluorobutanesulfonic Acid (PFBS)	ND	1.74	1.38	79		1.45	86		40-150	5		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	7.35	6.35	86		6.51	91		40-150	2		30
Perfluorohexanoic Acid (PFHxA)	0.178J	1.96	1.76	81		1.89	90		40-150	7		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	1.84	1.68	91		1.82	101		40-150	8		30
Perfluoroheptanoic Acid (PFHpA)	0.245	1.96	1.92	86		2.06	95		40-150	7		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	1.79	1.49	83		1.63	93		40-150	9		30
Perfluorooctanoic Acid (PFOA)	0.810	1.96	2.37	80		2.60	94		40-150	9		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	7.45	5.82	78		6.19	85		40-150	6		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.87	1.60	86		1.72	94		40-150	7		30
Perfluorononanoic Acid (PFNA)	2.28	1.96	4.18	97		4.73	128		40-150	12		30
Perfluorooctanesulfonic Acid (PFOS)	3.94	1.82	5.55	89		6.10	122		40-150	9		30
Perfluorodecanoic Acid (PFDA)	0.563	1.96	2.15	81		2.26	89		40-150	5		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.532J	7.52	6.84	84		7.68	97		40-150	12		30
Perfluorononanesulfonic Acid (PFNS)	ND	1.88	1.55	82		1.59	87		40-150	3		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	1.96	1.74	89		2.01	105		40-150	14		30
Perfluoroundecanoic Acid (PFUnA)	0.437	1.96	1.96	78		2.14	89		40-150	9		30
Perfluorodecanesulfonic Acid (PFDS)	ND	1.89	1.52	80		1.60	87		40-150	5		30
Perfluorooctanesulfonamide (PFOSA)	ND	1.96	1.58	81		1.60	84		40-150	1		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.96	1.67	85		1.78	93		40-150	6		30
Perfluorododecanoic Acid (PFDoA)	0.070J	1.96	1.67	82		1.80	91		40-150	7		30

Matrix Spike Analysis
Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 21 QC Batch ID: WG1872083-4 WG1872083-5 QC Sample: L2373991-21 Client ID: TP-17S												
Perfluorotridecanoic Acid (PFTrDA)	ND	1.96	1.59	81		1.68	88		40-150	6		30
Perfluorotetradecanoic Acid (PFTeDA)	ND	1.96	1.92	98		2.03	106		40-150	6		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	7.84	6.68	85		7.22	94		40-150	8		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	7.41	6.82	92		7.31	101		40-150	7		30
Perfluorododecanesulfonic Acid (PFDoS)	ND	1.9	1.38	73		1.48	80		40-150	7		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	7.33	6.72	92		7.25	101		40-150	8		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	7.41	6.95	94		7.37	102		40-150	6		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	1.96	1.62	83		1.66	87		40-150	2		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	1.96	1.43	73		1.38	72		40-150	4		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	19.6	15.9	81		16.8	88		40-150	6		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	19.6	16.9	86		17.7	93		40-150	5		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	3.92	3.39	87		3.59	94		40-150	6		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	3.92	3.68	94		4.02	105		40-150	9		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	3.49	3.18	91		3.35	99		40-150	5		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	3.92	3.05	78		3.26	85		40-150	7		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND	9.8	7.39	75		8.05	84		40-150	9		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND	49	38.9	79		40.9	86		40-150	5		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND	49	33.6	69		36.0	75		40-150	7		30

Matrix Spike Analysis

Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 21 QC Batch ID: WG1872083-4 WG1872083-5 QC Sample: L2373991-21 Client ID: TP-17S

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	**151**	Q	133		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	112		99		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	111		96		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	93		95		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	103		105		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	87		84		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	86		81		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	90		78		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	107		102		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	95		83		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	84		80		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	93		88		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	101		91		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	106		84		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	97		85		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	102		90		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	99		90		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	94		84		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	76		65		20-150
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	96		88		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	100		86		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	100		90		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	105		93		20-150

Matrix Spike Analysis

Batch Quality Control

Project Name: HVRA

Project Number: 18.8090

Lab Number: L2373991

Report Date: 01/10/24

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 21 QC Batch ID: WG1872083-4 WG1872083-5 QC Sample: L2373991-21 Client ID: TP-17S												

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	98		86		20-150

INORGANICS
&
MISCELLANEOUS

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-01
Client ID: TP-01S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 08:45
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	66.5		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-02
Client ID: TP-02S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 09:00
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	83.4		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-03
Client ID: TP-02
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 08:58
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	90.9		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-04
Client ID: TP-03S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 09:35
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	81.6		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-05
Client ID: TP-04S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:05
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.7		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-06
Client ID: TP-05S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 09:25
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	61.0		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-07
Client ID: TP-06S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 09:50
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	82.4		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-08
Client ID: TP-07S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 14:20
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.1		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-09
Client ID: TP-07
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 14:15
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	87.2		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-10
Client ID: TP-08S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 13:20
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	80.3		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-11
Client ID: TP-09S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 13:10
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	84.1		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-12
Client ID: TP-10S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 12:15
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	84.9		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-13
Client ID: TP-11S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:25
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	77.3		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-14
Client ID: TP-12S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 12:30
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	72.4		%	0.100	0.100	1	-	12/18/23 20:36	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-15
Client ID: TP-13S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 11:20
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	80.2		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-16
Client ID: TP-14S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 14:00
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	88.1		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-17
Client ID: TP-15S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 13:32
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	85.0		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-18
Client ID: TP-16
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 12:45
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.4		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-19
Client ID: TP-16S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 12:50
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	83.0		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-20
Client ID: TP-17
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 11:40
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.3		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-21
Client ID: TP-17S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 11:50
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	76.5		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-22
Client ID: TP-17D
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 11:45
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	89.0		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-23
Client ID: TP-18S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:40
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	79.1		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-24
Client ID: TP-18
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:45
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	89.7		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-25
Client ID: TP-19S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 13:45
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	85.6		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-26
Client ID: TP-20S
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:50
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	83.3		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-27
Client ID: TP-20
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 10:55
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.2		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-28
Client ID: FD01-20231213
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 00:00
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.9		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

SAMPLE RESULTS

Lab ID: L2373991-29
Client ID: FD02-20231213
Sample Location: 18 GRIFFITH WAY, WAPPINGERS FALLS, NY

Date Collected: 12/13/23 00:00
Date Received: 12/14/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.1		%	0.100	0.100	1	-	12/18/23 20:53	121,2540G	CLF

Lab Duplicate Analysis

Batch Quality Control

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1865488-1 QC Sample: L2373991-03 Client ID: TP-02						
Solids, Total	90.9	90.9	%	0		10
General Chemistry - Mansfield Lab Associated sample(s): 15-29 QC Batch ID: WG1865489-1 QC Sample: L2373991-18 Client ID: TP-16						
Solids, Total	92.4	93.0	%	1		10

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2373991-01A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-01B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-02A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-02B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-03A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-03A1	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-03A2	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-03B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-03B1	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-03B2	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-04A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-04B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-05A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-05B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-06A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-06B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-07A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-07B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-08A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-08B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-09A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-09B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)

*Values in parentheses indicate holding time in days

Project Name: HVRA
Project Number: 18.8090

Lab Number: L2373991
Report Date: 01/10/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2373991-10A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-10B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-11A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-11B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-12A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-12B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-13A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-13B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-14A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-14B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-15A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-15B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-16A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-16B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-17A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-17B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-18A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-18A1	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-18A2	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-18B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-18B1	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-18B2	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-19A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-19B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-20A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-20B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-21A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-21B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2373991-22A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-22B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-23A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-23B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-24A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-24B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-25A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-25B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-26A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-26B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-27A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-27B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-28A	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(90)
L2373991-28B	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		A2-TS(7)
L2373991-29A	Plastic 8oz unpreserved	B	NA		2.3	Y	Absent		A2-1633-DRAFT(90)
L2373991-29B	Plastic 2oz unpreserved for TS	B	NA		2.3	Y	Absent		A2-TS(7)
L2373991-30A	Plastic 500ml unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(28)
L2373991-30B	Plastic 500ml unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(28)
L2373991-31A	Plastic 500ml unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(28)
L2373991-31B	Plastic 500ml unpreserved	A	NA		3.4	Y	Absent		A2-1633-DRAFT(28)

*Values in parentheses indicate holding time in days

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PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

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PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

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Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

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REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

144 Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. Draft EPA Method 1633, EPA Document 821-D-22-001, June 2022.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

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FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 4

Date Rec'd in Lab: 12/15/23

ALPHA Job #: L2373991

Client Information

Client: C.T. Male Associates
Address: 50 Century Hill Dr.
Latham, NY 12110
Phone: 518-786-7400
Fax:
Email: j.mciver@ctmale.com

Project Information

Project Name: HVRA
Project Location: 18 Griffith Way, Wappingers Falls, NY
Project # 18.8090
(Use Project name as Project #) ☐
Project Manager: Jim Mciver / Eric White
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☒ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☒ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please also send results to m.loughlin@ctmale.com & E.white@Ctmale.com

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS EPA method 1633	TS	Sample Specific Comments	Total Bottle
73991 -01	TP-01S	12/13/23	08:45	Soil	ML	✓	✓		2
-02	TP-02S		09:00		ML	✓	✓		2
-03	TP-02		08:58		ML	✓	✓	MS/MSD	6
-04	TP-03S		09:35		ML	✓	✓		2
-05	TP-04S		10:05		ML	✓	✓		2
-06	TP-06S		09:25		ML	✓	✓		2
-07	TP-06S		09:50		ML	✓	✓		2
-08	TP-07S		14:20		ML	✓	✓		2
-09	TP-07		14:15		ML	✓	✓		2
-10	TP-08S		13:20		ML	✓	✓		2
					Container Type	P	P		
					Preservative	A	A		

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	12/14/23 14:52		
	12/14/23 19:52	Anthony Green	DEC 14 2023 2134
Anthony Green	12/15 0045		12/15 0045
	12/15/23 0245		12/15 0245
F. Mendoza ASL	12/15 500 12/15/23 0720	F. Mendoza ASL	12/15/23 0720 12/15/23 07:20

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

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TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2 of 34

Date Rec'd in Lab: 12/15/23

ALPHA Job #: L2373991

Client Information
Client: C.T. Male Associates
Address: 50 century Hill Dr.
Latham, NY 12110
Phone: 618-786-7400
Fax:
Email: j.maver@ctmale.com

Project Information
Project Name: HVRA
Project Location: 18 Griffith Way, Wappingers Falls, NY
Project # 18.8090
(Use Project name as Project #) ☐
Project Manager: J.Maver / Eric White
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☒ EQuIS (4 File)
☐ Other

Billing Information
☒ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
Please also send results to m.loughlin@ctmale.com and to e.white@ctmale.com.

Please specify Metals or TAL.

ANALYSIS
PFAS EPA 1633
TS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS EPA 1633	TS	Sample Specific Comments	Total Bottle
73991-11	TP-09S	12/13/23	13:10	Soil	ML	✓	✓		2
-12	TP-10S		12:15			✓	✓		2
-13	TP-11S		10:25			✓	✓		2
-14	TP-12S		12:30			✓	✓		2
-15	TP-13S		11:20			✓	✓		2
-16	TP-14S		14:00			✓	✓		2
-17	TP-15S		13:32			✓	✓		2
-18	TP-16		12:45			✓	✓	MS/MSD	6
-19	TP-16S		12:50			✓	✓		2
-20	TP-17		11:40			✓	✓		2

Container Type	P	P
Preservative	A	A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	12/14/23 14:52	AAL	12/14/23 14:52
AAL 12/14/23	19:50	Anthony Green	DEC 14 2023 2134
Anthony Green	12/15 0245		12/15 0045
	12/15/23 0245		12/15 0245
	12/15 500		
R Mendoza AAL	12/15/23 0720	R Mendoza AAL	12/15/23 0500
			12/15/23 07:20

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Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 3 of 4

Date Rec'd in Lab: 12/15/23

ALPHA Job #: L2373991

Client Information

Client: C.T. Male Associates
Address: 50 century Hill Dr. Latham, NY 12110
Phone: 518-786-7400
Fax:
Email: j.mciver@ctmale.com

Project Information

Project Name: HVRA
Project Location: 18 Griffith Way, Wappingers Falls, NY
Project # 18.8090
(Use Project name as Project #) ☐
Project Manager: Jim McIver / Eric White
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☒ EQuIS (4 File)
☐ Other

Billing Information

☒ Same as Client Info
PO #

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

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☐ Other:

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Please specify Metals or TAL.

ANALYSIS

PFAS EPA 1633
TS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS EPA 1633	TS	Sample Specific Comments	Total Bottle
73991-21	TP-17S	12/13/23	11:50	Soil	ML	✓	✓		2
-22	TP-17D		11:45			✓	✓		2
-23	TP-18S		10:40			✓	✓		2
-24	TP-18		10:45			✓	✓		2
-25	TP-19S		13:45			✓	✓		2
-26	TP-20S		10:50			✓	✓		2
-27	TP-20		10:55			✓	✓		2
-28	FD01-20231213		—			✓	✓		2
-29	FD02-20231213		—			✓	✓		2
-30	Equipment Rinse Blank 01		14:30	Water		✓			2

Container Type: P P
Preservative: A A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	12/14/23 14:52	AAL 12/14/23 14:52	
AAL 12/14/23	19:50	Anthony Green	DEC 14 2023 9:34
Anthony Green	12/15 0045		12/15 0045
	12/15/23 0245		12/15 0245
	12/15 SM		
AAL Mendoza	12/15/23 0720	AAL Mendoza	12/15/23 0705
			12/15/23 07:20

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Page 4 of 4

Date Rec'd in Lab: 12/5/23

ALPHA Job #: L2373991

Client Information

Client: C.T. Male Associates
Address: 50 century Hill Dr.
Latham, NY 12110
Phone: 518 - 786 - 7400
Fax:
Email: j.mciver@ctmale.com

Project Information

Project Name: HVRA
Project Location: 18 Griffith Way, Wappingers Falls, NY
Project # 18.8090
(Use Project name as Project #) ☐
Project Manager: Jim McIver / Eric White
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☒ EQuIS (4 File)
☐ Other

Billing Information

☒ Same as Client Info
PO #

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
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Please specify Metals or TAL.

ANALYSIS

PFAS EPA 1633 ✓
TS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	Total Bottle
73991 -31	Equipment Rinse Blank 02	12/13/23	14:35	Water	ML		2

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	P	P							
Preservative	A	A							

Relinquished By:	Date/Time	Received By:	Date/Time
	12/14/23 14:52	AAL - 12/14/23	14:52
AAL - 12/14/23	19:50	Anthony Green	DEC 14 2023 2134
Anthony Green	12/15 0045		12/15 0045
	12/15/23 0245		12/15 0245
	12/15 500		
B Mendoza ASL	12/15/23 0720	B Mendoza ASL	12/15/23 0700
			12/15/23 07:20

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