

SCOPE OF WORK

Laboratory will conduct PFAS Analyses (29 analytes) in accordance with applicable EPA Methods 533 and 537.1 to acceptable minimum reporting levels (MRL) consistent with the requirements of UCMR5.

Analyte	Abbreviation	CASRN	Method 533	Method 537.1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	763051-92-9	x	x
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9Cl-PF3ONS	756426-58-1	x	x
4,8-Dioxa-3H-perfluorononanoic acid	ADONA	919005-14-4	x	x
Hexafluoropropylene oxide dimer acid	HFPO-DA	13252-13-6	x	x
Perfluorobutanesulfonic acid	PFBS	375-73-5	x	x
Perfluorodecanoic acid	PFDA	335-76-2	x	x
Perfluorododecanoic acid	PFDoA	307-55-1	x	x
Perfluoroheptanoic acid	PFHpA	375-85-9	x	x
Perfluorohexanoic acid	PFHxA	307-24-4	x	x
Perfluorohexanesulfonic acid	PFHxS	355-46-4	x	x
Perfluorononanoic acid	PFNA	375-95-1	x	x
Perfluorooctanoic acid	PFOA	335-67-1	x	x
Perfluorooctanesulfonic acid	PFOS	1763-23-1	x	x
Perfluoroundecanoic acid	PFUnA	2058-94-8	x	x
1H,1H, 2H, 2H-Perfluorohexane sulfonic acid	4:2FTS	757124-72-4	x	
1H,1H, 2H, 2H-Perfluorooctane sulfonic acid	6:2FTS	27619-97-2	x	
1H,1H, 2H, 2H-Perfluorodecane sulfonic acid	8:2FTS	39108-34-4	x	
Nonafluoro-3,6-dioxaheptanoic acid	NFDHA	151772-58-6	x	
Perfluorobutanoic acid	PFBA	375-22-4	x	
Perfluoro(2-ethoxyethane)sulfonic acid	PFEESA	113507-82-7	x	
Perfluoroheptanesulfonic acid	PFHpS	375-92-8	x	
Perfluoro-4-methoxybutanoic acid	PFMBA	863090-89-5	x	
Perfluoro-3-methoxypropanoic acid	PFMPA	377-73-1	x	
Perfluoropentanoic acid	PFPeA	2706-90-3	x	
Perfluoropentanesulfonic acid	PFPeS	2706-91-4	x	
N-ethyl perfluorooctanesulfonamidoacetic acid	NEtFOSAA	2991-50-6		x
N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA	2355-31-9		x
Perfluorotetradecanoic acid	PFTA	376-06-7		x
Perfluorotridecanoic acid	PFTDA	72629-94-8		x

EPA METHOD 537.1

ANALYTE	METHOD	CONTAINER & PRESERVATIVES	HOLDING TIME	MRL	MDL	UNITS	LCS RANGE	MS RANGE	CAS #
11-chloroicosafuoro-3-oxaundecane-sulfoni	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	763051-92-9
4,8-dioxa-3H-perfluorononanoic acid (ADON/	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	919005-14-4
9-chlorohexadecafluoro-3-oxanone-sulfonic a	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	756426-58-1
Hexafluoropropylene oxide dimer acid (HFPO	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	13252-13-6
N-ethyl Perfluorooctanesulfonamidoacetic aci	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	2991-50-6
N-methyl Perfluorooctanesulfonamidoacetic a	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	2355-31-9
Perfluorobutanesulfonic acid	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	375-73-5
Perfluorodecanoic acid (PFDA)	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	335-76-2
Perfluorododecanoic acid (PFDoA)	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	307-55-1
Perfluoroheptanoic acid (PFHpA)	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	375-85-9
Perfluorohexanesulfonic acid (PFHxS)	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	355-46-4
Perfluorohexanoic acid (PFHxA)	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	307-24-4
Perfluorononanoic acid (PFNA)	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	375-95-1
Perfluorooctanesulfonic acid (PFOS)	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	1763-23-1
Perfluorooctanoic acid (PFOA)	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	335-67-1
Perfluorotetradecanoic acid (PFTA)	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	376-06-7
Perfluorotridecanoic acid (PFTrDA)	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	72629-94-8
Perfluoroundecanoic acid (PFUnA)	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L	70 - 130	50 - 150	2058-94-8
PFOS+PFOA	EPA 537.1	275 ml polypro w polypro cap 1.4 g Trisma	28 DAY	2		ng/L			

EPA METHOD 533

ANALYTE	METHOD	CONTAINER & PRESERVATIVES	HOLDING TIME	MRL	MDL	UNITS	LCS RANGE	MS RANGE	CAS #
11-chloroicosafuoro-3-oxaundecane-sulfoni	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000377	ug/L	70 - 130	50 - 150	763051-92-9
1H,1H,2H,2H-Perfluorodecane sulfonic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000381	ug/L	70 - 130	50 - 150	39108-34-4
1H,1H,2H,2H-Perfluorohexane sulfonic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000366	ug/L	70 - 130	50 - 150	757124-72-4
1H,1H,2H,2H-Perfluorooctane sulfonic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000476	ug/L	70 - 130	50 - 150	27619-97-2
4,8-dioxa-3H-perfluorononanoic acid (ADON/	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000146	ug/L	70 - 130	50 - 150	919005-14-4
9-chlorohexadecafluoro-3-oxanone-sulfonic a	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000245	ug/L	70 - 130	50 - 150	756426-58-1
Hexafluoropropylene oxide dimer acid (HFPO	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.005	0.000756	ug/L	70 - 130	50 - 150	13252-13-6
Nonafuoro-3,6-dioxaheptanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000466	ug/L	70 - 130	50 - 150	151772-58-6
Perfluoro(2-ethoxyethane)sulfonic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000247	ug/L	70 - 130	50 - 150	113507-82-7
Perfluoro-3-methoxypropanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000460	ug/L	70 - 130	50 - 150	377-73-1
Perfluoro-4-methoxybutanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000152	ug/L	70 - 130	50 - 150	
Perfluorobutanesulfonic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000250	ug/L	70 - 130	50 - 150	375-73-5
Perfluorobutanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.005	0.000688	ug/L	70 - 130	50 - 150	375-22-4
Perfluorodecanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000358	ug/L	70 - 130	50 - 150	335-76-2
Perfluorododecanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000344	ug/L	70 - 130	50 - 150	307-55-1
Perfluoroheptanesulfonic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000355	ug/L	70 - 130	50 - 150	375-92-8
Perfluoroheptanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000189	ug/L	70 - 130	50 - 150	375-85-9
Perfluorohexanesulfonic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000218	ug/L	70 - 130	50 - 150	355-46-4
Perfluorohexanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000207	ug/L	70 - 130	50 - 150	307-24-4
Perfluorononanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000268	ug/L	70 - 130	50 - 150	375-95-1

EPA METHOD 533 (continued)

<u>ANALYTE</u>	<u>METHOD</u>	<u>CONTAINER & PRESERVATIVES</u>	<u>HOLDING TIME</u>	<u>MRL</u>	<u>MDL</u>	<u>UNITS</u>	<u>LCS RANGE</u>	<u>MS RANGE</u>	<u>CAS #</u>
Perfluorooctanesulfonic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000169	ug/L	70 - 130	50 - 150	1763-23-1
Perfluorooctanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000275	ug/L	70 - 130	50 - 150	335-67-1
Perfluoropentanesulfonic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000385	ug/L	70 - 130	50 - 150	2706-91-4
Perfluoropentanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000376	ug/L	70 - 130	50 - 150	2706-90-3
Perfluoroundecanoic acid	EPA 533	250 ml polypro w polypro cap 0.25g ammonium acetate	28 DAY	0.002	0.000315	ug/L	70 - 130	50 - 150	2058-94-8

In addition to the Sample Analyses, the Laboratory shall provide miscellaneous items and services to include the following: EDD – Standard, Field Blank Extraction & Analyses*, Hardcopy Reports (via PDF), QC Level II, Sample Kits, Delivery of Sample Kits, Sample Disposition/Disposal, and Data Tracking & Management.

***Note:** PFAS Field Blanks will be extracted and analyzed if the associated sample has detections greater than the MRL.

Client will be responsible for sample collection and delivery to the laboratory in acceptable condition. Laboratory to provide coolers and all associated containers, with shipping costs to Hawaii included in the bid offer. Shipment costs back to the laboratory shall be borne by the client. Sample disposal shall be inclusive with the bid offer.

ADDITIONAL INSTRUCTIONS

Laboratory must be approved by EPA to Support PFAS Analyses under UCMR5 and be certified for analysis of PFAS in drinking water by the State of Hawaii.

PROJECT TIMEFRAME:

START DATE: July1, 2022
SAMPLE COLLECTION: July 1,2022 to August 15, 2022
FINAL LAB ANALYSES REPORTS: August 30, 2022
END DATE: September 15, 2022 (including final invoicing by lab)